

**SUMMARY OF THE 2ND
MEETING OF THE
SOUTHEAST QUAIL
STUDY GROUP**

**Ramada Inn North
Tallahassee, Florida**



September 3-6, 1996

SPONSORED BY

**Tall Timbers Research Station
Florida Game and Fresh Water Fish Commission
Quail Unlimited**

Compiled and edited by

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and

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PREFACE

A Strategic Plan for Quail Management and Research in the United States was developed at the Third National Quail Symposium in Kansas City, Missouri in 1992. A key recommendation of this plan called for the formation of "regional working groups" to address problems and factors that were limiting quail populations and quail hunting opportunities. The formation of the Southeast Quail Study Group has been a critical step in meeting a major recommendation of this plan, the Group has developed rapidly, and members have accomplished many good things for quail in a very short period of time.

Tall Timbers Research Station, Florida Game and Fresh Water Fish Commission, and Quail Unlimited, sponsored and hosted the second annual meeting in Tallahassee September 3-6, 1997. More than 80 professionals attended. Gratitude is due to Foshalee Plantation and Millpond/Sedgewick Land Company for hosting the field trips. There are nearly 300,000 acres of private land in the Tallahassee, FL and Thomasville, GA region that are managed exclusively for the production of wild northern bobwhite for hunting. Quail Study Group members were able to view good quail habitat on a grand scale. Although this kind of quail management (and the resultant 3-6+ coveys found per hour of hunting) can not happen on a landscape scale throughout the southeastern states, it provides a benchmark for comparisons with other areas. Concrete examples of good quail habitat and populations also provide a ray of hope (despite the prohibitive cost) on what has lately been a very dim landscape for quail.

The bobwhite decline is a direct function of loss of habitat from changing land use. A major thrust of the Southeast Quail Study Group has been, and will continue to be, efforts to modify land use *vis-a-vis* influencing components and language in the Farm Bill and other federal legislation. Farm Bill measures have positively impacted waterfowl in the prairie potholes and pheasant in the Midwest. With the right components and incentives, Farm Bill legislation can also have a positive impact on northern bobwhite.

Until recently, there was limited quail research or management interest in the Southeast. Other species were the top priority. In less than a decade, however, the emphasis on quail has increased to the point where this 6-ounce bird is now a top priority with many resource agencies. Figuring out how to reverse the northern bobwhite population decline is one of our most important wildlife management priorities as we enter the next century.

Leonard A. Brennan
Tall Timbers Research Station
Tallahassee, FL

ELECTRONIC FORMAT

The Publicity/Information/Education Committee has constructed a web page for the Southeast Quail Study Group. This page is intended to provide a number of functions. It will publicize the existence of the SEQSG to net users, and allow rapid access to the various components included in the pages/links. It will also provide information about the group and about research and management of bobwhite quail. In addition to a general overview of the SEQSG it can include sections on committee reports, meetings, minutes/proceedings, publications, and links to other important quail sites. A draft web page can be accessed at the URL shown below.

<http://www.ces.msstate.edu/~johng/sequail>

Another way to access the page is through the Mississippi Cooperative Extension Service web site shown below.

<http://www.ces.msstate.edu/ces.html>

The minutes/proceedings from the 2nd annual meeting of the SEQSG are on the web page. This page is designed to be low maintenance, but can be updated as needed. Changes and additions should be submitted to Dean Stewart as a windows WordPerfect 6.0 file, either on disk (Department of Wildlife and Fisheries, Box 9690, MS State, MS 39762) or in ASCII format by e-mail (deans@mc.es.msstate.edu). The specific location on the web should be stated, and the format should fit current font style and size, etc... of the information on that web page.

**SOUTHEAST QUAIL STUDY GROUP MEETING
SEPTEMBER 3-6, 1996
TALLAHASSEE, FLORIDA**

AGENDA

WEDNESDAY, 4 SEPTEMBER

8:00-8:30 am Welcome and Comments

Dr. Allan L. Egbert, Executive Director, Florida Game and Fresh
Water Fish Commission
Mr. Lane Green, Executive Director, Tall Timbers Research, Inc.
Mr. Rocky Evans, Executive Vice-President, Quail Unlimited

8:30-10:00 am Committee Reports

Mr. Breck Carmichael, Chair, Steering Committee
Mr. Reggie Thackston, Chair, Agricultural Policy Committee
Mr. Rocky Evans, Chair, Funding Committee
Mr. Richard Hines, Chair, Grazing, Range and Pasture Management
Committee
Mr. Jeff Sole, Chair, Habitat Improvement Implementation Committee
Mr. Dean Stewart, Chair, Publicity, Information, and Education
Committee
Dr. Wes Burger, Chair, Research Committee

10:00-10:30 am Break

10:30-12:00 am State Reports/Updates/Highlights

Mr. Stan Stewart, Alabama
Mr. Rick Chastain, Arkansas
Mr. William Whitman, Delaware
Mr. Larry Campbell, Florida
Mr. Haven Barnhill, Georgia
Mr. Jeff Sole, Kentucky
Mr. Mike Olinde, Louisiana
Mr. Joe Shugars, Maryland
Mr. Dave Godwin, Mississippi
Dr. Tom Dailey, Missouri
Mr. Mark Jones, North Carolina
Mr. Steve DeMaso, Oklahoma
Mr. Breck Carmichael, South Carolina
Mr. Mark Gudlin, Tennessee
Dr. Marcus Peterson, Texas
Ms. Patricia Moore, Virginia
Mr. Tom Datsun, West Virginia

12:00-1:00 pm Lunch

1:00-2:50 pm Research Reports/Updates/Highlights

Dr. Ralph Dimmick, University of Tennessee
Dr. Wes Burger, Mississippi State University
Mr. Clay Sisson, Albany Area Game Management Project,
Auburn University (rescheduled for Thursday)
Mr. Steve DeMaso, Oklahoma Dept. of Wildlife Conservation

2:50-3:20 pm Break

3:20-5:00 pm Research Reports Continued

Dr. Tom Dailey, Missouri Dept. of Conservation
Mr. Michael Fies, Virginia Dept. of Game and Inland Fisheries
Dr. Bill Palmer, North Carolina State University
Dr. Lenny Brennan, Tall Timbers Research, Inc.

5:00-6:00 pm Travel to Tall Timbers
6:00-Until Barbecue on the grounds at Tall Timbers.

THURSDAY, 5 SEPTEMBER

8:00-9:30 am Farm Bill Implementation Briefing
Mr. Don McKenzie, Wildlife Management Institute
Mr. Chester McConnell, Wildlife Management Institute
Mr. Mike Anderson, National Biologist, Natural Resources
Conservation Service
Mr. Dennis Thompson, US Department of Agriculture

9:30-10:00 am Farm Bill Questions and Discussion

10:00-10:30 am Break

10:30-11:00 am The Virginia Quail Management Plan
Mr. Steve Capel

11:00-11:30 am The Future of Fire in the Southeast
Mr. Frank Cole, Southeast Regional Fire Ecologist,
U. S. Fish and Wildlife Service

11:30-12:00 am Right to Burn Legislation
Mr. Dubose Ausley, Attorney at Law

12:00-1:00 pm Lunch on your own.

1:00-2:00 pm Success Stories
Mr. Haven Barnhill, Georgia Department of Natural Resources
Dr. Wes Burger, Mississippi State University

2:00-3:30 pm Committee Working Groups

3:30-4:00 pm Break

4:00-4:30 pm Committee issues and plans that need floor attention or
discussion.

4:30-5:00 pm Closing remarks

5:00-Until Dinner on your own.

FRIDAY, 6 SEPTEMBER FIELD TRIPS

8:30-12:00 am Morning Tour of Foshalee Plantation Depart from Tall Timbers

12:00-1:00 pm Lunch

1:00-5:00 pm Afternoon Tour of Millpond/Sedgewick Land Company Plantation

EXECUTIVE SUMMARY

Southeast Quail Study Group Second Annual Meeting
September 4-6, 1996

The second annual meeting of the Southeast Quail Study Group (SEQSG) was held in Tallahassee, Florida on September 4, 5 and 6, 1996. The meeting was co-hosted by the Florida Game and Fresh Water Fish Commission (FGFWFC), Tall Timbers Research, Inc., and Quail Unlimited. The meeting was attended by approximately 80 professional quail managers and researchers representing state and federal agencies, university and private research, and private land management interests.

Dr. Allan Egbert, Executive Director of the FGFWFC and President of the Southeastern Association of Fish and Wildlife Agencies (SEAFWA), opened the meeting by welcoming participants, expressing his support for the SEQSG, and stressing the need to reverse quail population declines throughout the Southeast. Dr. Egbert also discussed the recent establishment of the Southeast Quail Study Group Technical Committee comprising representatives from the SEQSG. Mr. Lane Green, Executive Director of Tall Timbers, Inc., and Mr. Rocky Evans, Executive Vice-President of Quail Unlimited also provided opening remarks expressing strong support for the SEQSG and hope for a productive and enjoyable meeting.

Under the direction of Mr. Breck Carmichael, Steering Committee Chair, working sessions began with reports from each SEQSG working committee. These committee reports provided an overview of the organizational approach and activities the SEQSG has implemented to address quail management and research challenges. Following committee reports, a representative from each of the 16 participating states provided an update on quail management and research activities in his/her respective state. This session provided a forum for and stimulated interchange of information and ideas between states.

On the afternoon of September 4, representatives from eight major bobwhite research projects across the Southeast reported on current research findings. This session provided an excellent update of recently completed and ongoing bobwhite research. The reports stimulated informative discussions and supplied useful information for on-the-ground bobwhite management.

On the morning of September 5, representatives from the Natural Resources Conservation Service (NRCS) and the Wildlife Management Institute (WMI) conducted a session on implementing the 1996 Farm Bill. Mr. Mike Anderson, NRCS National Wildlife Biologist, and Mr. Dennis Thompson, NRCS Grazing Lands Specialist, presented the NRCS perspective on Farm Bill implementation. Mr. Chester McConnell and Mr. Don McKenzie (WMI) provided some ideas, guidance and motivation to mobilize troops and get the most out of the Farm Bill on the state level.

Following the Farm Bill session, Mr. Steve Capel provided a detailed report on Virginia's quail management plan. Mr. Frank Cole, USFWS Southeast Regional Fire Ecologist, presented an overview on the status of prescribed fire in the Southeast, and Mr. Dubose Ausley, attorney and plantation owner, discussed right-to-burn legislation and fire liability issues. Bobwhite management success stories were presented by Mr. Haven Barnhill, Georgia DNR, Dr. Wes Burger, Mississippi State University and Mr. Steve Barras, Bienville Plantation. For the final working session, individual working committees met to focus on committee issues and specific plans for action. Many meeting participants elected to stay in Tallahassee through September 6 and participate in an informative field trip to local bobwhite hunting plantations.

***Minutes from the 2nd Annual
Southeast Quail Study Group Meeting
Ramada Inn North 3-6 September 1996
Tallahassee, Florida**

Wednesday, 4 September

Welcome and Comments

Dr. Allan Egbert, Executive Director, Florida Game and Fresh Water Fish Commission made the opening remarks. As President of the Southeastern Association of Fish and Wildlife Agencies, Dr. Egbert expressed support for the Southeast Quail Study Group (SEQSG) and that the Southeastern Association of Fish and Wildlife Agencies expected positive results relative to the status of bobwhite quail in the Southeast.

Lane Green, Executive Director, Tall Timbers Research, Inc., also made opening remarks. He discussed the overall decline of the quail population, commented on the "leveling-off" of the quail population in the Red Hills Region, and gave an overview of the mission of Tall Timbers Research.

Rocky Evans, Executive Vice-President, Quail Unlimited, also made opening remarks, and introduced those of his staff that were present. He asked for ideas from attendees for research projects they would like to see funded. Evans also noted that in the Midwest and West efforts similar to the SEQSG were being initiated.

Committee Reports

Steering Committee - Breck Carmichael, Chair, covered the activities of the Steering Committee since the first SEQSG meeting. Complete minutes of the Steering Committee's February 22, 1996 meeting can be found in the Appendix. Carmichael reported that a Southeastern Association of Fish and Wildlife Agencies (SEAFWA) Quail Study Group Technical Committee would be formed, primarily as a liaison between the SEQSG and the Directors of the state fish and wildlife agencies. The importance of keeping the Director's informed, and maintaining their support was emphasized. (Minutes of the first meeting of this committee and a report to the SEAFWA Directors can also be found in the Appendix.)

Carmichael concluded his remarks by quoting a passage from Havilah Babcock's "My Health Is Better In November", written in 1947, in which Babcock laments the "modern" land-use practices and the resultant declining bobwhite numbers.

**Because of the lack of peer review, and preliminary results of ongoing research are presented, this document should not be considered as a "published proceedings". It is provided for the benefit of Southeast Quail Study Group participants and others interested in bobwhite management.*

Carmichael noted that even in the era of what most people consider the "good ole days" of quail hunting, many of the same problems bobwhite managers face today were present, and the current quail decline did not occur overnight, nor will it be fixed overnight.

Agricultural Policy Committee - Reggie Thackston, Chair, read the charge of the committee and summarized major committee activities during the year:

Committee Purpose: The Southeast Quail Study Group Agricultural Policy Committee charge is to monitor agriculture policy with respect to its potential impact on the habitat of northern bobwhite quail. In coordination with the SEQSG Steering Committee, the Agricultural committee will draft position statements and provide recommendations relative to the formulation and implementation of agriculture programs and provisions. Additionally, the committee will work with appropriate state and federal agencies and private conservation organizations to facilitate information transfer regarding the impacts of agriculture policy on southeastern quail habitat.

Committee Activities 1995 - 1996: During the past year the committee was very active in providing input into the legislative and regulatory processes involving the development of the conservation programs and provisions for the 1996 Farm Bill. Listed below are the primary activities that the committee participated in.

- Letters were written to key congressmen during the legislative process concerning changes in Farm Bill Conservation Provisions.
- A position statement was developed for the SEQSG on the 1996 Farm Bill.
- Several committee members attended a Farm Bill training and lobbying session in Washington D.C. during September 18-19, 1995. Committee members met with legislators and discussed changes needed in the Farm Bill. Materials were handed out detailing the purpose of the SEQSG and the groups' technical recommendations to improve conservation provisions for quail.
- The Southeast Region, USDA - Natural Resource Conservation Service, Strategic Planning Partnership Work Session was attended in Atlanta on November 14, 1995. The purpose of this meeting was to identify and prioritize natural resource concerns for the Southeast Region.
- During April 22-24, 1996 several committee members attended a training session, coordinated by the

International Association of Fish and Wildlife Agencies, in Washington D.C. on Farm Bill Conservation Provisions. In addition to training, specific recommendations were developed for the regulation writing process.

- On April 23, 1996 in Washington D.C., input was provided at the USDA Forum "Implementing The 1996 Farm Bill: Listening To The Grass Roots" concerning the decline in quail populations and changes needed in Farm Bill Conservation Provision implementation to address quail habitat concerns. A follow up letter was written to NRCS Chief, Paul Johnson, reiterating the points made at the forum.

Plans For Coming Year: Coordinate information exchange between southeastern states concerning strategies for involvement in the Farm Bill implementation process.

Grazing, Range and Pasture Management Committee - Richard Hines, Chair, reported on the native warm-season grasses research project. The Committee wanted to distribute information on the uses of these grasses. They developed an outline that would help other groups develop their own brochure regarding warm-season grasses. He also noted that he is looking for members.

Habitat Improvement Implementation Committee - Jeff Sole, Chair, gave the mission of the Committee, or general charge - to get landowners to use and implement the information they are distributing from the Southeast Quail Study Group. The Committee is looking for ideas for regional training workshops on the state level. He asked for ideas from the states.

They are also looking for ways to let constituents know that they can help with the ideas and implementation of the Farm Bill Programs and what can be done on CRP lands to make them better habitat.

Publicity, Information and Education Committee - Dean Stewart, Chair, mentioned that he had several handouts on the table and went over various things that were accomplished by the committee during the past year. They are looking at developing a newsletter for the Southeast Quail Study Group. One concern is the funding for the newsletter. It was determined that 1000 copies, distributed quarterly, would cost just under \$3,000. Another option would be to use the Quail Unlimited resources by putting an insert in the QU magazine. He also mentioned the need to recruit young people in the interest of maintaining traditional recreation use support bases. He discussed development of an on-line database - a web page for the Southeast Quail Study Group.

The committee charge and objectives follow:

Objectives:

1. Communicate existence and mission of The Southeast Quail Study Group to public resource management agencies, private nongovernmental organizations, and public user groups and constituencies via use of:
 - promotional pamphlets
 - periodic newsletters
 - electronic media
 - professional outlets
 - personal involvement
2. Inform and educate the bobwhite quail constituency about status, reasons for decline, and opportunities for restoration of quail, using various communication, educational, and informational outlets. Specifically, these can include:
 - utilization of Quail Unlimited magazine and member list as needed. Gathering, compilation, and dissemination of currently available resource materials.
 - development of new publications, videos, workshops, and synthesis of available educational information as needed along with identification and addressing of gaps in subject matter.
 - development of a poster/central contact system in each state that can direct landowners and managers to sources of technical assistance.
3. Create a forum for information exchange among study group members, bobwhite quail resource professionals, and other interested parties. Disseminate information about new and existing research, management and extension publications and other resource materials.
4. Assist Ag Policy Committee as needed by responding to emerging issues through dissemination of information to constituency groups, and others as needed.

Research Committee - Dr. Wes Burger, Chair, reported that he had a handout of who the Committee is composed of, what their charge is and their research priorities. Following are the research priorities and future research directions:

Research Priorities

The Southeast Quail Study Group identified 5 broad research topics that should receive priority attention to elucidate causes of bobwhite population declines and facilitate population restoration.

These priorities are:

1. Bobwhite brood ecology and survival. Specific needs identified included mechanisms affecting brood habitat use and survival (i.e. invertebrate distribution and abundance, predation, fire ants, etc.), role of brood survival in determining population trends, marking and monitoring techniques for broods, adequate brood survival estimators.

Studies: n = 20

States: FL, GA, TX, MO, MS, NC, OK, VA

2. Effects of landscape pattern (structure and composition) on bobwhite population dynamics. Specifically, the effects of habitat fragmentation, isolation, and distribution on dispersal rates, colonization rates, extinction rates, equilibrium population size, and population viability.

Studies: n = 5

States: MO, MS, TX, VA

3. Human dimensions of bobwhite management and harvest. Specific research needs identified included trends in hunter participation, factors contributing to declining bobwhite hunter constituency, economic value of bobwhite resource, and economics of habitat management.

Studies: n = 3

States: MS, NC

4. Effects of harvest on bobwhite population dynamics. Specifically, identify sustainable harvest levels, effects of landscape context and habitat quality on sustainable harvest level, additive/compensatory nature of harvest/natural mortality and role of density dependent reproduction in compensating for harvest mortality.

Studies: n = 5

States: FL, MO, MS, TX

5. Identify components of optimal habitat composition in forested, agricultural, and range ecosystems and develop population/habitat/weather models with reasonable predictive capabilities.

Studies: n = 7

States: GA, FL, MO, MS, NC, TX, VA

Principal investigator, project objectives, and duration were identified in an associated document that was distributed (see Appendix). It was noted by Dr. Markus Peterson that this listing was incomplete with respect to Texas research activities. This deficiency was acknowledged.

Burger noted that his committee would be striving to consolidate the above priority list into a set of specific topics around which regional research projects should be developed. It was acknowledged that the number of participating states would vary among regional projects in relation to fiscal resources, state defined priorities, and local applicability. A "Superfund" concept was envisioned to which individual states could apply for matching funds to implement a within state replication of one of the SEQSG sanctioned regional projects.

State Reports

Stan Stewart, Alabama, showed 30-year quail trends in Alabama. They were harvesting 2.5 million quail a year ('65-'75); 2.4 million ('75-'85); 1.4 million ('85-'95); 500,000 ('95-present). He is seeing an increased interest in the decline in the quail population. There are currently about 18,000 quail hunters in the state, but he is encouraged. Regarding Farm Bill issues - identify quail as a conservation priority. They are trying to develop a quail research project with the USDA Forest Service but they are having problems with environmental groups in thinning longleaf pine forest stands that would provide good quail habitat.

Fred Ward, Arkansas, reported that the quail book "Bobwhite Quail Management in Arkansas" should be available early 1997. He also reported that most quail work is centered around a program called Agricultural Wildlife. This program has been around for about 20 years. They distributed about 20,000 lbs. of seed mix to landowners. An 1/8 of a percent sales tax targeted for wildlife is going before the voters and should provide funds for private lands research. It should bring about \$17,000,000 to the program. They now have about a \$35,000,000 budget. Private lands will be given about \$3.4 million of this money.

William Whitman, Delaware, reported that in 1995 he started a Small Game Survey. It was reported there are currently 2,000 birds and 1,600 hunters in Delaware. They have a spring call

count and it covers about 500 miles. There are also wing surveys, rural route postal carriers surveys, and pre and post-season studies. He stated that if you use the call count and wing survey, they estimate a population of 500,000 birds in the state. Therefore, they are hunting only 1% of the population. He doesn't feel that the hunting is causing the decline of the quail population. He believes that hunters don't have access to the properties and/or most of the lands are in state agency hands and it's being mismanaged. They do landowner consultations, and they have experimented with radio telemetry. Funding is a problem and the radio-telemetry work will be discontinued this year if additional funding is not found.

Haven Barnhill, Georgia, reported that they have expended significant time and money in the past two decades on big game-deer and turkey. They now have a small game booklet available. They will be selling license tags with a quail flushing under longleaf pine. This money will go to the non-game fund, but should bring a lot of attention to the longleaf pine community and quail. This past year they had 42,000+ hunters and 630,000 birds harvested in Georgia. The number of hunting days increased from 1992 to present. They have also started a research project on habitat improvement study with Dr. Sara Sweitzer from the University of Georgia. This is due to the fact that a great portion of Georgia lands are in CRP pines.

Jeff Sole, Kentucky, reported on his state's Habitat Improvement Program and Forest Stewardship Program. Efforts are concentrated on converting fescue to more beneficial grass-legume mixtures. The Kentucky Private Lands Council is made up of state and federal agencies, and conservation organizations that have banded together to provide technical and financial assistance to private landowners. Sole also described the various quail survey instruments used in Kentucky and ongoing research.

Mike Olinde, Louisiana, reported on two population surveys- a wing survey and call count survey. They also have a pen-reared study. They conducted a fall count and found that 10-20% of those birds had left the hunting area by opening day of hunting. Pen-reared birds have about an 84% mortality rate. The numbers of the hunters in the state have declined from a high of 30,000 to 3,000, currently.

Joe Shugars, Maryland, reported on the annual population decline of 5% since mid-'70s. There has also been a decline in the number of hunters. The decline has been due to the habitat but also to severe weather. 200,000 quail in the early '70s to 52,000 in the most recent survey. He also reported on a hunter pressure research project on the harvest of quail. They all completed a draft of the Comprehensive Quail Management Plan. He stated that quail have lost ground to big game programs in the state. He thanked QU for the money and equipment provided to help establish warm-season grasses.

Dave Godwin, Mississippi, noted a paper in the registration packet by Jeffrey Lee and Lenny Brennan. He stated that this was a good representation of what is going on in Mississippi as well as other states. There has been land acquisition to help with quail research and quail habitat. Workshops and short courses that are aimed at quail management have been conducted. The state wildlife agency doesn't do much quail research, but rather conducts research through a cooperative agreement they have with Mississippi State University.

Tom Dailey, Missouri, reported on a Citizens Initiative presented to the committee regarding their concerns with wildlife and ecosystem management. He reported on long-term trends - 3.5 million birds in the late '60s to 1.4 million birds at present, as well as a decline in hunter participation. They have started a hunter recruitment program with young people.

Mark Jones, North Carolina, reported 35,000 quail hunters in the state and they are "on fire" regarding quail hunting. They have been conducting a research project with North Carolina State on effects of nest predators on bobwhite quail. They are developing specific recommendations on each portion of the Farm Bill (62-pg. document). He also reported on hunter education and the work that his agency is doing in the form of a newsletter to be issued 3 times per year.

Steve DeMaso, Oklahoma, reported they have 97,000 hunters and are harvesting 1.4 million birds in the state. This is the lowest on record yet. The good news is that a game farm was shut down. They are working with Oklahoma State University.

Breck Carmichael, South Carolina, reported that his agency is providing direct technical assistance by helping private landowners write and implement quail management plans. He also commented that not much research has been done because of staff availability. They have a cooperative agreement with Clemson University. Most of the research money goes to big game research. They just started a quail brood survey. He also reported that their state is down to 28,000 hunters and a harvest of less than 500,000 quail annually. He believes that a lot of these may be released birds. They are also working with Quail Unlimited-there are 13 chapters in his state as well as the National Headquarters.

Mark Gudlin, Tennessee, reported that a new wildlife management area was started in Tennessee. The 2,000 acres in the upland portion will be managed for quail. He is working with the University of Tennessee Wildlife Extension helping to teach wildlife biology to students.

Markus Peterson, Texas, reported that according to their roadside count (August) and harvest count there hasn't been a tremendous decline in the northern bobwhite population. Very few people,

especially under the age of 45, are hunting quail. They harvested only 500,000 bobwhite last year. He believes that the decline in hunters is due to the fact that hunting fee leases are expensive and people are being "priced-out" of quail hunting.

He stated that there aren't many wildlife management areas in the state and won't be getting any unless they can find a way to pay the taxes in perpetuity.

Patty Moore, Virginia, reported on the Virginia Bobwhite Quail Management Plan. It identifies 12 problems and how they propose to solve them. It is a 5-year program with a budget of about \$4,000,000. They are also working on eradicating fescue and planting warm-season grasses.

Research Reports/Updates/Highlights

Dr. Lenny Brennan, Tall Timbers Research Station, gave his report on research of quail populations in the Red Hills Region. He gave a review of several game bird harvest books from Foshalee, Mistletoe, Kelly Pond and Ayavalla Plantations showing their quail population trends. He stated that populations have remained steady, with most seeing a considerable decline in the 70's, but recovering in the late 70's and early 80's. He also spoke of fire and management for quail. Dr. Brennan showed that burning was much more cost effective compared to other management techniques. There were slightly more birds in the lightning-seasoned burned plots than others. He also discussed the difference in quail numbers in strip-disked plots compared to feed patches. He also compared fall vs. spring disking. He discussed nest predator removal and showed how removing these nest predators increased quail populations. He compared research on types of transmitters. PIT tags were not recommended because of the high mortality rate. Wing bands were recommended because they didn't seem to affect weight or mortality, and they are very inexpensive.

Dr. Wes Burger, Mississippi State University, gave an overview of several research projects: Brood ecology, landscape ecology, human dimensions, harvest studies and optimal habitat composition. He discussed the Marion County Wildlife Management Area study plot and design as well as the Black Land Wildlife Management Area study plot and design. He discussed the economic impacts of bobwhite hunting by showing that quail hunting positively impacts the economy.

Dr. Tom Dailey, Missouri Department of Conservation, covered a pilot study on the effects of harvest level on overwinter mortality that was started in Missouri, and reported that they had also done a study of line transect sampling for estimating quail population levels.

Steve DeMaso, Oklahoma Department of Wildlife Conservation, reported on the survival of bobwhite chicks in north Oklahoma. He covered past research techniques and then went over the current research objectives. He discussed the Packsaddle Wildlife Management Area in western Oklahoma.

Dr. Ralph Dimmick, University of Tennessee, reported on four research projects being conducted in Tennessee: 1) supplementation by relocation; 2) field trial disturbance and quail behavior; 3) nesting ecology and survival; and 4) aflatoxin and quail.

Mike Fies, Virginia Department of Game and Inland Fisheries, reported on a quail nest study. He stated that previous research in this area has not been conducted in Virginia. He reported on 2 study areas - Amelia and James City. He exhibited slides of 24-hrs. in the life of a quail nest showing various predator visits.

Dr. Bill Palmer, North Carolina State University, reported on a study of quail and modern agriculture: a research/extension program. He stated that research has determined: 1) direct insecticide effects are not significant; 2) indirect effects are significant; and 3) row-crop agriculture shifts quail productivity. Two areas they look at for opportunities for improving quail production are: field borders and no-till agriculture practices. The effects of field border systems on farms: quail and songbirds response to field borders on farms; 2 landscape configurations; water quality response; economic evaluation, economics of borders: costs of controlling woody vegetation; yield reduction from borders; IPM implications. Predator management: habitat is limited on farms; is predator management enough?; interaction of field borders and predator removal; songbird response. Develop an alternative to telemetry for estimating productivity: use of fall collection for aging hatch; first-light covey call counts. Economics of quail hunting: expectations of quail hunters; willingness to pay; costs of quail management, farmer interest; market viability; decision aides to farmers. Benefits of no-till as brood habitat: bioassay; different crops; mechanisms; temporal changes. What are the effects of round-up-ready soybeans.

Meeting adjourned at 5:00 p.m.

Thursday, 5 September

Rocky Evans, Executive Vice President of Quail Unlimited (QU), recognized Breck Carmichael, South Carolina Department of Natural Resources, for his efforts in bringing the Southeast Quail Study Group together. Carmichael was presented a plaque on behalf of the SEQSG.

Farm Bill Implementation

Chester McConnell, Wildlife Management Institute, briefly discussed the Federal Agriculture Improvement and Reform Act, or 1996 Farm Bill. He reported that biologists have let previous farm bills pass by without taking advantage of them. He stated, "We have learned our lesson and all the states did a great job to have input to the 1996 Farm Bill, which is the best one we have ever had." McConnell also reported the initiative now is in our hands and more money is available to manage quail adequately. He said members have to ride the coat tail of the ag-program to use it to benefit wildlife.

McConnell noted the difficult time is ahead, in working at the county level, because this is where the "rubber meets the road" and where final decisions are made on how the money will be used. The county-level agricultural people do not have the interest that biologists have. He urged participants to learn to diplomatically work at the county level to get the program off the ground. One person or state biologist will not and cannot do it. Individuals are needed in each county. He said we need to change priorities, have people in various divisions, and train individuals to support this initiative. He advised that members need "to just get out there and do the work."

Don McKenzie, Wildlife Management Institute, Washington, DC, also spoke on the 1996 Farm Bill. He reported that these programs are funded well enough to play a large role in restoring quail numbers. Funds totaling some \$3 billion per year are available for conservation on private lands. McKenzie stated that for the folks in Washington, the job is almost done. Now it is up to state/county people to "pick up the ball and run with it". McKenzie reported that wildlife groups from the Midwest and Southwest have done a better job in using available money. He urged everyone to talk to Mark Jones of North Carolina about how his state is planning to use ag program money for wildlife management and how they are taking it down to the county level.

McKenzie advised that the key to funding is persistence because you are never going to get what you asked for the first time or even the fifteenth time. **Persistence is the key!**

He reported nothing sells in Washington, DC like success stories, so, therefore, states should work to get program funds that are available for wildlife management and then demonstrate their success stories at the federal level.

McKenzie also recommended that the group write a letter to Secretary of Agriculture, Dan Glickman, urging the continued emphasis on wildlife management in federal ag programs. He further recommended this letter state that cover types are critical to the success of farm bill conservation programs.

Mike Anderson, National Biologist, Natural Resources Conservation Service (NRCS). He said regulations are now being written to implement the conservation provisions of the 1996 Farm Bill. These regulations will go out to the public for comments, and there will be some changes. Proposed regulations can be viewed on the Internet on the NRCS home page.

Anderson reiterated that the key to making the CRP and other programs work for wildlife is at the county level and that things appear to be changing for the better. Excellent opportunities exist for wildlife. One key area is making sure landowners understand the programs. He advised that the group should initiate dialogue with farmers about their needs.

Anderson also reported the Wetlands Reserve Program and Swampbuster provisions are more flexible than in the past. WRP is authorized for 975,000 acres, with options for permanent and 30-year easements, and restoration- only cost-share agreements.

Anderson said the Wildlife Habitat Incentive Program's (WHIP) rules are not published, but they are trying to make the rules as flexible as possible. He explained this will be a cost-share program strictly for restoring and enhancing wildlife habitat on private lands.

Dennis Thompson, USDA, NRCS Grazing Lands Specialist. Thompson noted that in the United States among private agriculture, there are 634 million acres of grazed land, of which 40 percent are represented in the Southeast. Groups such as the National Cattlemen's Association and the Society of Range Management recognize the problems in the grazing programs, and technical assistance is needed to provide wildlife management information to these groups. He advised that NRCS will not likely get more employees, rather we need to work cooperatively, and deliver the programs to the farmers together.

- Key Points:
- Provide technical assistance
 - Education on alternatives (such as warm-season grasses)
 - Diversify production
 - Environmental Quality Incentives Program (EQIP) will be funded at \$200 million annually- 50 percent earmarked for livestock related practices
 - Replace pasture with native grasses -- diversity
 - Decrease run-off
 - Decrease chemicals

The Virginia Quail Management Plan

Steve Capel, Virginia Department Game and Inland Fisheries, discussed The Virginia Quail Management Plan. Capel reported about 1½ years ago that the issue of quail started coming into focus in Virginia. He said they investigated what it would take to reverse the decline of quail in their state. The result was the Virginia Quail Management Plan. A survey of 32 states was conducted, and public meetings were held to discuss the situation. It was recognized that in addition to quail population declines, songbirds were also declining.

Twelve objectives were identified:

1. Encourage use of native warm season grasses.
2. Improve acceptance of fire as a management tool and improve landowners' ability to utilize controlled burning.
3. Evaluate economics of pine thinning and develop demonstration areas.
4. Encourage farming practices beneficial to quail.
5. Develop closer working relationships with ag community.
6. Encourage public utilities to manage right-of-ways consistent with good quail habitat.
7. Develop quail habitat demonstration areas.
8. Education of the public as well as other state and federal agency personnel on good quail habitat.
9. Obtain better information on quail population trends and habitat changes.
10. Improve understanding of impacts of predation and hunting on bobwhite populations.
11. Quantify impacts of pesticides on quail in Virginia.
12. Obtain information on general health of pen-raised quail in Virginia.

The Virginia Quail Management Plan identifies a funding need of approximately \$ 4 million over 5 years. The first year's allocation of \$ 416,000 has been secured. Additional manpower will be utilized in the form of quail habitat biologists located in Farmville and Williamsburg, and reassignment of duties of existing personnel. Funds will also be made available for hiring of temporary labor as needed. Other agencies such as the VA Department of Forestry will be cooperators in the Quail Plan.

A number of trial counties have been selected for initial plan implementation to see if a positive impact on quail numbers can be measured.

The Future of Fire in the Southeast

Frank Cole, Southeastern Region Fire Ecologist, USFWS, discussed the future of fire in the Southeast. He began his presentation by saying, "You got the money, I got the time, you cut the hardwoods, I'll burn the pine," an old Southern folk saying, and "A match is a terrible thing to waste."

Cole discussed how fire sets back plant succession. Cole said fire as an ecological process may be used as a tool in habitat management, and a fire program is essential to having quail. Prescribed fire is an integral part of quail habitat management.

The objectives of the burn are important, and a number of ignition strategies can be employed. On private lands, a blend of archaic/old ways of burning and modern techniques are used. There are a variety of ways in which objectives are met to get the results needed for wildlife management.

Smoke, when burning larger tracts, becomes a problem, especially with regard to visibility and liability (on highways). He explained how even a carefully-planned burn on the Apalachicola National Forest in Florida resulted in smoke that shut down highways.

Cole described the considerations in properly planning for a prescribed burn, especially stressing safety. He outlined a number of items that will help insure the availability of fire as a management tool for the future:

- 1) Review fire management modes
- 2) Demonstrate professionalism to your superiors
- 3) Shape public attitudes
- 4) Provide multi-disciplinary planning
- 5) Employ fire ecology
- 6) Know the regulators
- 7) Prescribed Fire Councils
 - a) In Florida, there are 3 Prescribed Fire Councils working together (made up of knowledgeable fire practitioners)
 - b) They have contact with the county commissioners
 - c) They have established a burning resolution within the county
- 8) Cultivate a media garden (positive public relations)
- 9) Make operational safety work
- 10) Assess, monitor, and evaluate

Right to Burn Legislation

Dubose Ausley, Attorney at Law, discussed the Florida Prescribed Burning Act. Ausley gave each participant a copy of the Florida Prescribed Burning Act passed by the state legislature. He stated he was raised in the Red Hills Region and was taught burning is natural and didn't have to be sold on it, but "we do have to sell it." He explained people now live in an extremely litigious society. He gave an example of a lawsuit involving smoke that went to the Supreme Court. It was ruled that burning was inherently dangerous and the landowner was responsible. Based on this case, the legislature passed the Florida Prescribed Burning Act. He covered the legal requirements of the legislation and the benefit to certified burners who use precautions. He stated people do not understand that prescribed fire is good and managers have done a good job using it. We have to communicate the benefits of fire to the general public.

Ausley advised of the need to take precautions. "Look at your state laws; post signs when burning; get permits; contact your neighbors; and keep the public informed." He said there have been very few cases where people were held liable for damages when conducting a carefully prescribed burn. There have been a number of litigations where novice burn applicators did not take reasonable precautions and were held liable when the fire or smoke caused damage to someone else.

He commented on the status of right-to-burn laws in several states:

Alabama, Tennessee, and North Carolina do not have laws protecting prescribed burning, and he urged those states to develop legislation.

Georgia, Mississippi and South Carolina have laws similar to Florida.

Other states have old statutes pertaining to fires (such as camp fires).

Research Report (rescheduled from Wednesday)

Clay Sisson, Albany Area Quail Management Project, gave an overview of the quail project ongoing at Pineland and Nilo Plantations conducted by Auburn University.

Sisson reported the effects of using radio telemetry on quail. The retrieval rate over 7 hunting seasons has not drastically changed. Of 700 radio-tagged birds, harvest rate return is 7.7 percent. There is a 1.5 percent higher harvest rate from radio-tagged birds than from banded birds.

The number of radio-tagged quail to date in this project is:

Pineland	746
Nilo	475
Pen-raised	192
Total	1,413 birds radio-tagged

The mortality rate of adult quail due to predation shows 47 percent- mammals, 34%- avian, and 3%- snake (remainder unknown).

The nest mortality (with 400 nest sites of main focus) shows the nest fate as hatched 50%, mammalian predation 13%; avian predation 18%; snake predation 15%; and ant predation 4%.

Supplemental Feeding Project: This study has shown that supplemental feeding of quail in the winter localizes the coveys and may make them less vulnerable to predation. The supplemental feeding provides abundant high energy food in late winter when most needed. Birds on the supplementally fed courses also had higher spring body weights and initiated reproduction earlier. The effectiveness of using feeders opposed to spreading (broadcasting) the feed will be studied this fall.

Brood Habitat Project: Quail production depends on providing a significant percentage of high quality summer brood habitat. Data clearly shows that quail highly prefer fields containing a lush growth of annual weeds when broods are hatching, due to the abundance of insects and good cover. Fall and winter disking produces this habitat for quail. Insect volumes are highest in weed fields, followed by bird patches, burned pine woods, and corn strips in that order.

Feed Patch Project: This study was conducted on Pineland Plantation where more than 1,500 feed patches were planted at significant cost to the owner. Hunting courses with planted patches were compared to hunting courses without planted patches. This study showed that small, woodland feed patches have no effect on the number of chicks produced during the summer or on the hunting success the following fall and winter. As a result, the owner has discontinued the planting of small feed patches.

Prescribed Burning Study: This study was designed to find the best techniques for leaving post-burn cover. Differing percentages of burned vs. unburned cover were examined relative to nest success and predation loss. Study areas included 80% burned vs. 20% cover, 60% burned vs. 40% cover, 92% burned vs. 8% cover. The 92% burned area had the most nests produced but also had the highest mortality. The study has shown thus far that the more cover left the higher the nesting success. Less cover yielded, more predation.

Pen-Released Birds: It has long been known that a small percentage of released pen-raised birds will survive into the following breeding season, depending on the techniques used for release.

Sisson stated beginning this fall they will investigate the benefits of the Smith/O'Neil type release system, versus a simple "dump-release".

Hunting Studies: The behavior of radio-tagged quail while being hunted is also being monitored. To date 49% of the coveys that were available have not been found while hunting.

Other Information: The Albany Area Game Management Project name has changed to the Albany Area Quail Management Project. This was done to emphasize that the focus of the project is quail. When the program first began in 1992 other studies were to be conducted. The quail research has become the main focus. The Albany Area Quail Management Project Newsletter is published three times per year, and is available free-of-charge to interested people.

Success Stories

Haven Barnhill, Georgia Department of Natural Resources, explained the success story of Di-Lane Plantation, an 8,275 acre plantation, that was purchased by the U.S. Army Corps of Engineers as part of the mitigation agreement for the construction of Lake Russell, a large hydro-electric reservoir along the Savannah River. During the 1980's Di-Lane was under agricultural management and management authority was granted to Georgia DNR in 1992. It is located near Waynesboro, Georgia, which is known as the "bird dog capital of the world". Mr. Harry Berol of Berol's Pencil Company was the original owner. The activities on Di-Lane include hunting, fishing, dog field trials, nature trails and bird watching. The deer hunting consists of quota hunts, with hunter success at 30% and total harvest at 180 annually. The percentage of does killed is 65%. The turkey hunting has no quota; 2 gobblers per season are allowed during the state season; success rate is 20%. The dove fields are very popular. Quail hunting, by drawing, has increased from 6 hunts in 1993, to 10 in 1996. Field trials are also permitted on the area. The habitat management program includes prescribed burning, liming, mowing/discing, and planting food plots. Forty have been planted to encourage native cover for birds. Conservation Reserve Program pine plantations have been heavily thinned as part of a quail research project.

Wes Burger, Mississippi State University, Department of Wildlife and Fisheries discussed several public and private management success stories. Marion County Wildlife Management Area is 98% forested with longleaf pine and thinned to a basal area of 70

square feet per acre. A study was begun in 1994 to compare quail response on managed versus unmanaged portions of the property.

The focus on the managed area has been on agricultural openings and fallow field management. The quail call results on Marion County Wildlife Management Area in 1995 and 1996 were:

Year	1995	1996
Unmanaged	1.5/ac	1.75/ac
Managed	3.25/ac	3.75/ac

Noxubee Wildlife Refuge: USFWS, Quail Unlimited, Mississippi State University, and MDWFP are the cooperators. The study area is primarily forested in loblolly pines that have colonies of Red-cockaded Woodpeckers. Management began in 1994. Twenty fire lanes were seeded. Strip-discing and rotation food plotting was practiced on 20 small fields. Quail call counts were as follows:

Year	1994	1995	1996
Unmanaged	1.15/ac	0.30/ac	0.60/ac
Managed	1.10/ac	1.10/ac	1.40/ac

Private Lands: The Rainey Farm, a 3,400 acre tract in northeast Mississippi, increased from 16 coveys to 120 coveys within 4 years. Strip discing of old fields, prescribed burning and food plot establishment were the main management techniques used.

T. Jack Robinson in north Mississippi has 3,600 acres, half of which is under quail management. Nineteen coveys were counted the first year, with 35-40 the 2nd year, 50 the 3rd year and 60-70 the 4th year. Due to difficulty of finding coveys on several courses, Robinson estimates there may be as many as 130 coveys on the area. The management consists of intensive prescribed fire, patchy burns, extensive small-field agriculture, and forest management. CRP trees are 8-years old. Every 3rd row was removed and trees were thinned on remaining rows.

Candewick Acres had few birds on the property at all when purchased and placed under management. The following year 4-5 coveys could be documented and now 10-12 coveys are present.

Cameron Plantation is 10,000 acres in size and released up to 5,000 birds per year prior to 1992. In 1992 strip discing was added to the ongoing management practices of rotational agricultural plots and prescribed burning. They have had a 400% increase in wild bird numbers.

Steve Barras, Bienville Plantation, Florida reported this land was heavily mined for phosphate and has a number of lakes on it. A large amount of the land was taken out of timber and put under management for quail. Every acre is maximized on Bienville

Plantation. The pine plantations were thinned and perennial plantings are being used. Annual food plots are planted primarily for aesthetics. They use no-till planting and prefer clover, Kobe lespedeza, and switch grass. Trapping is used to control nest predators. Raccoons are thought to be the major nest predators. Hunts at Bienville are offered for wild birds, but when the quota is reached they use released birds.



SOUTHEAST QUAIL STUDY GROUP STEERING COMMITTEE

Minutes of February 22, 1996 Meeting

Quail Unlimited National Headquarters - Edgefield, S.C.

The meeting was called to order at 10:00 am. Steering Committee members present were: Breck Carmichael, Lenny Brennan, Nick Wiley (ad hoc), Ralph Dimmick, Bert Shiflet, Mark Gudlin, Rocky Evans.

Discussion was held relative to Quail Study Group's status with Directors of Southeast Fish and Wildlife Agencies (SEAFWA) and Southeast Section of The Wildlife Society (SETWS). Decided to draft formal recommendations to go to both groups that Quail Study Group be recognized as a joint committee of SEAFWA and SETWS. Dimmick agreed to draft wording and circulate for review.

Steering Committee discussed influence Quail Study Group might have on research priorities. Study group should guide quail research direction, but probably not act as fund-raising entity except where large-scale multi-state research project is involved.

Need for good communication network between study group participants and to output information to landowners. Newsletter concept was proposed and agreed to ask chair of PR/Info/Education Committee (Dean Stewart) to present action plan at 1996 study group meeting.

1996 meeting plans formulated: Dates Sept. 4-6, 1996 in Tallahassee, Florida. Utilize hotel with meeting facilities; tour and social event at Tall Timbers; optional tour of local plantation on Sept. 6. Brennan and Wiley will handle details of meeting. Carmichael to provide mailing label file on disk to Brennan. Quail Unlimited to provide travel funding for "hardship cases" - i.e. study group participants that cannot secure funding via their employers.

Potential agenda items: committee reports, state status reports, research updates, farm bill implementation, newsletter, prescribed burning issues, success stories.

Funding needs for study group then discussed: printing and mailing costs for newsletter; research money for broad scale projects.

Need for study group letterhead and stationery noted. Brennan agreed to develop letterhead design for review by Steering Committee.

Fourth National Quail Symposium will be in April 1997. Whether Southeast Quail Study Group should meet in conjunction discussed. No decision made at this time.

Efforts in Midwest and western United States to form study groups modeled after Southeast Quail Study Group. Representatives from the regions welcome to attend Tallahassee if desired.

Meeting adjourned approximately 4:00 pm. Followed by tour of Quail Unlimited/U.S. Forest Service Demonstration Area.

Respectfully Submitted By: D. Breck Carmichael, Jr.

MINUTES OF SEAFWA QUAIL STUDY GROUP

TECHNICAL COMMITTEE MEETING

7 October 1996 - Hot Springs, Arkansas

The initial meeting of the Southeastern Association of Fish and Wildlife Agencies (SEAFWA) Quail Study Group Technical Committee was held at the Arlington Resort in Hot Springs, Arkansas on October 7, 1996.

The meeting was called to order at approximately 4:30 pm by chairman Breck Carmichael. Attendees introduced themselves with 25 persons present (list following).

Carmichael briefly explained how the Southeast Quail Study Group (SEQSG) had come into being and distributed a summary of the 2nd SEQSG meeting, which was held in Tallahassee, Florida in early September 1996.

An informational sheet on the SEAFWA Quail Study Group Technical Committee was also distributed. The committee's charge of serving as a liaison between the SEQSG and the Southeastern Directors was discussed. Carmichael reported that he had asked Reggie Thackston, Agricultural and Forest Industry Liaison for the Georgia Department of Natural Resources, to serve as vice-chair of the technical committee.

It was noted that several state fish and wildlife agencies had yet to make appointments to the technical committee, but remaining appointments are expected soon. Carmichael noted he would be addressing the Director's Business Meeting the following day and would try to encourage those appointments.

Bob Duncan of Virginia Department of Game and Inland Fisheries confirmed that Virginia would host the 1997 SEQSG meeting. The date and place is to be announced later. Tennessee has expressed desire to host the meeting in 1998.

Dr. Wes Burger, of Mississippi State University, and chair of the Research Committee for the SEQSG then provided information on his committee's activities. The top 5 research priorities for quail in the Southeast (as identified by participants in the 1st SEQSG meeting in August 1995) were: (1) brood habitat and survival; (2) landscape ecology; (3) human dimensions; (4) determining sustainable harvest; and (5) development of a habitat suitability model for quail.

Burger also reported for Dean Stewart, chair of the SEQSG Publicity Committee. Publicity Committee activities include a three part article on the Ecology and Management of Bobwhite Quail for QU's magazine, development of a newsletter to be included in Quail Unlimited magazine and establishment of an Internet Web Site.

Thackston, chair of the SEQSG Agricultural Policy Committee reported on the many activities involved with the 1996 Farm Bill. The Ag Policy Committee has been extremely active throughout and continues to provide comments and suggestions to USDA as Farm Bill rule-making progresses. Following Thackston's report a general discussion ensued regarding how Farm Bill implementation is progressing in various states.

Carmichael then thanked the meeting attendees and encouraged everyone to remain active on the technical committee and the SEQSG as a whole.

The meeting was adjourned at approximately 5:30 pm.

MEETING ATTENDEES

SEAFWA QUAIL STUDY GROUP

TECHNICAL COMMITTEE

7 OCTOBER 1996 - HOT SPRINGS, ARKANSAS

Carl Betsill - North Carolina Wildlife Resources Commission
Wes Burger - Mississippi State University
Breck Carmichael - South Carolina Department of Natural Resources
Steve DeMaso - Oklahoma Department of Wildlife Conservation
Bob Duncan - Virginia Department of Game & Inland Fisheries
Dan Forster - Georgia Department of Natural Resources
Dave Godwin - Mississippi Department Wildlife, Fisheries & Parks
Isaac Harrold - North Carolina Wildlife Resources
David Hoge - USDA - Forest Service
Chuck Hunter - Partners in Flight, Georgia Department of Natural Resources
Fred Kimmel - Louisiana Department of Wildlife & Fisheries

Lynn Lewis - University of Georgia
Eddie Linebarger - Arkansas Game & Fish Commission
David Long - Arkansas Game & Fish Commission
Martin Lowney - USDA, APHIS, ADC
Tom Matthews - Maryland Department of Natural Resources
Chester McConnell - Wildlife Management Institute
Mike Olinde - Louisiana Department of Wildlife & Fisheries
Alan Peoples - Oklahoma Department of Wildlife
Rich Rogers - West Virginia Department of Natural Resources
Scott Sanders - Florida Game & Fish Commission
Sara Schweitzer - University of Georgia
Reggie Thackston - Georgia Department of Natural Resources
Fred Ward - Arkansas Game & Fish Commission
E. J. Williams - Georgia Department of Natural Resources

REPORT TO THE DIRECTORS
SEAFWA QUAIL STUDY GROUP COMMITTEE
8 October 1996 - Hot Springs, Arkansas

The formation of the Southeast Quail Study Group is a result of a meeting held in South Carolina in August 1995 where over 70 quail biologists, managers and researchers gathered to discuss issues, problems and potential solutions regarding the quail resource in the Southeast. At that meeting, 5 basic objectives for the Southeast Quail Study Group were laid out; (1) identifying factors responsible for declines in wild quail populations in the Southeast; (2) identifying gaps in knowledge about quail population dynamics, ecology and habitat management; (3) developing solutions to specific problems; (4) prioritizing regional research and quail management efforts; and (5) providing sound, scientifically-based information about quail problems to administrators and policy makers.

The Quail Study Group feels strongly that to have any chance of stabilizing and reversing the decline of bobwhite, and associated early succession species, a more coordinated and cooperative effort is necessary in order to effect positive changes on a landscape scale. Two important points about the quail decline in the Southeast need to be emphasized. This is not just a decline in one species of bird. There are anywhere between 13 and 30 species, depending on how you define them, of early successional or grassland bird species declining at the same rate and at the same time as the bobwhite in our region. Secondly, this is not just a biological problem, but an economic one as well. There are millions of dollars being lost to rural economies in each of our states every year due to the loss of bobwhite hunting opportunities.

The organizational structure of the Southeast Quail Study Group is as follows: an 8-member Steering Committee has been selected to provide leadership for the group. Four members of the Steering Committee must represent Southeast state fish and wildlife agencies - 3 regular members and 1 ad hoc member from the state hosting the annual meeting that year. Two members of the Steering Committee are to represent private quail conservation interests, 1 member is to represent academia and 1 member is to represent Quail Unlimited.

For your information, the individuals currently serving on the Southeast Quail Study Group Steering Committee are: Breck Carmichael as chair and representing South Carolina Department of Natural Resources; Terry Sharpe, North Carolina Wildlife Resources Commission; Mark Gudlin, Tennessee Wildlife Resources Agency; Steve Capel ad hoc, Virginia Department of Game and Inland Fisheries; Dr. Leonard Brennan, Tall Timbers; Bert Shiflet manager of Okeetee Club in Ridgeland, South Carolina; Dr. Ralph Dimmick, University of Tennessee Knoxville; and Rocky Evans, Executive Vice President of Quail Unlimited. Additionally, there are 6 working committees formed to address the following issues: Agricultural Policy; Research; Habitat Implementation; Grazing, Range & Pasture Management; Publicity/information/education; and Funding.

Subsequent to the Quail Study Group meeting in South Carolina, the Steering Committee met in February of 1996 at Quail Unlimited Headquarters in Edgefield, South Carolina to discuss, among other things, the need for an effective mechanism of communication between the Southeast Quail Study Group and the Southeastern Directors. It was proposed to form a new committee of the Southeastern Association of Fish and Wildlife Agencies called the Quail Study Group Technical Committee. The technical committee met October 7, 1996 with 25 people in attendance. The primary charge for this committee will be to serve as liaison between the larger Southeast Quail Study Group and the Directors. The Quail Study Group Technical Committee will be expected to keep the Directors informed concerning all study group initiatives and activities. Likewise, the Southeast Quail Study Group will request support of the SEAFWA Directors in striving to implement programs to stabilize and hopefully reverse the decline of quail in the southeastern United States.

The SEAFWA Quail Study Group Technical Committee will be composed of one representative from each of the Agencies in the Association, plus the 8 member Southeast Quail Study Group Steering Committee (7 regular members, 1 ad hoc) and the chairpersons of the 6 working committees of the Southeast Quail Study Group. Dr. Egbert has asked Breck Carmichael to chair the technical committee since he is currently serving as Steering Committee chair for the Quail Study Group. Breck has taken the liberty of asking Reggie Thackston of the Georgia Department of Natural Resources to serve as vice-chair of the technical committee. They will be responsible for providing written and/or oral reports on committee activities at your discretion.

CURRENT BOBWHITE RESEARCH IN SOUTHEAST THAT ADDRESSES QUAIL STUDY GROUP PRIORITIES

1. BOBWHITE BROOD ECOLOGY

State: Texas
PI: Guthery
Study title: Contribution of multiple brooding to production.
Objectives: Develop theoretical models of age ratios and multiple-brooding that incorporate brood survival.
Status: In progress

State: Texas
PI: Guthery
Study title: Effects of heat stress on bobwhite productivity and population fluctuations.
Objectives: Using both lab and field studies, evaluate the role of heat stress in bobwhite productivity and population fluctuations.
Status: Just initiated

State: Georgia
PI: Sisson/Stribling
Title: Bobwhite brood ecology and survival in a managed forested landscape
Objectives: 1. Estimate productivity, nest success, and brood survival in relation to forest and old field management practices.
2. Determine bobwhite brood habitat use in relation to forest and old field habitat management practices.
3. Determine relationships among management practices, vegetation, invertebrate abundance, brood movements, and brood survival.
Status: Ongoing

State: Florida
PI: Brennan/Burger
Study title: Bobwhite brood habitat use, movements, and survival in relation to old field disking and prescribed fire regimes.
Objectives: 1. Compare vegetation structure and composition between fall and spring disced treatment plots.
2. Compare arthropod abundance and biomass between fall and spring disking treatment plots.
3. Compare proportional use vs. availability of fall and spring disced old fields, and growing season burned, dormant season burned, and unburned pine forests by radio-tagged bobwhite broods.
4. To determine habitat composition and spatial characteristics within brood ranges.
5. To identify relationships among management practices, vegetation conditions, invertebrate abundance, and bobwhite movement processes.
6. To relate brood specific survival to brood range habitat composition and spatial characteristics.
Status: Field work just completed

State: Mississippi
PI: Burger
Study title: Bobwhite habitat use and reproductive success in managed old field habitats in Mississippi.
Objectives: 1. Determine habitat use of bobwhite for nesting and brood rearing in relation to discing and burning practices.
2. Estimate habitat specific nest success and chick survival of bobwhite in relation to discing and burning practices.
3. Determine relationships among vegetation structure and nest success.
4. Determine relationships among invertebrate abundance, brood movements, and chick survival.
5. Estimate relative contribution to production from female-incubated first nests, female-incubated renests, male-incubated nests, and double-clutching.
Status: Field work just completed

State: Mississippi (Field work being conducted in Mississippi and Missouri)
PI: Burger
Title: Effects of discing and burning on vegetation structure and invertebrate abundance in Conservation Reserve Program fields.
Objectives: 1. Determine the effects of fall and spring discing, winter and spring burning, and burning/herbicide on vegetation structure and floristics in CRP fields dominated by fescue in Mississippi, 1 and 2 growing seasons following management practices designed to improve brood habitat value for bobwhite.
2. Determine the effects of fall and spring discing and winter and spring burning and burning/herbicide on invertebrate relative abundance and biomass in CRP fields dominated by fescue in Mississippi, 1 and 2 growing seasons following management practices designed to improve brood habitat value for bobwhite.
3. Determine the effects of fall and spring discing and winter and spring burning and burning/herbicide on soil erosion in CRP fields dominated by fescue in Mississippi, 1 and 2 growing seasons following management practices designed to improve brood habitat value for bobwhite.
Status:

State: North Carolina/Virginia
PI: Palmer/Bromely/Anderson
Study Title: Value of continuous and seasonal no-till agricultural practices as bobwhite nesting and brood habitat.
Objectives: 1. Determine foraging rate of imprinted bobwhite chicks in no-till soybeans, corn, cotton, and peanuts.
2. Quantify relative abundance of bobwhite in relation to no-till agricultural practices.
Status: Just initiated

State: North Carolina
PI: Palmer/Bromely/Anderson
Study Title: Effects of ROW management practices on bobwhite brood habitat quality.

Objectives: 1. Determine foraging rate of imprinted bobwhite chicks in ROW managed with herbicide, mowing, or disking.
2. Determine effects of herbicide, mowing, and disking on ROW vegetation conditions.
Status: Expected completion 1997.

State: North Carolina
PI: Palmer/Bromely/Anderson
Study Title: Arthropod intake needed to meet daily nutritional requirements of bobwhite chicks.
Objectives: 1. Determine daily arthropod intake requirements (g) for bobwhite chick growth, feather development, and maintenance.
Status: Field work completed, manuscript in review.

State: North Carolina
PI: Palmer/Bromely/Anderson
Study Title: Bobwhite chick foraging rates in agricultural fields.
Objectives: 1. Determine foraging rate of 1-12 day old bobwhite chicks in conventionally and no-tilled agricultural fields.
2. In modern agricultural landscape determine seasonal availability of habitats capable of providing sufficient invertebrate resources to meet daily nutritional requirements of chicks.
3. Determine if foraging rates of imprinted chicks accurately predicts habitat use of free-ranging wild bobwhite.
Status: Field work completed, manuscript in review.

State: North Carolina
PI: Palmer/Bromely/Anderson
Study Title: Direct effects of foliar applications of pesticides on bobwhite chicks.
Objectives: 1. Determine direct effects (lethal, sublethal) of foliar applications of pesticides on 1-12 day old bobwhite chicks in agricultural fields.
2. Determine exposure of wild, free-ranging radio-tagged bobwhite to foliar applications of pesticides in agricultural fields.
3. Determine effects of fallow filter strips on habitat use of soybean fields by radio-tagged bobwhite
Status: Field work completed, manuscript in review.

State: Florida
PI: Brennan
Study Title: Effects of season of burn on brood habitat quality and hunting success in managed forested landscape.
Objectives: 1. Determine effects of season of burn (dormant season vs. Growing season) on vegetation structure and composition in longleaf/wiregrass and loblolly/old field systems.
2. Determine effects of season of burn (dormant season vs. Growing season) on invertebrate abundance, biomass, and diversity in longleaf/wiregrass and loblolly/old field systems.
3. Determine effects of season of burn (dormant season vs. Growing season) on hunting success (coveys/hour) in longleaf/wiregrass and loblolly/old field systems
Status: Field work completed, manuscript in prep.

State: Florida
PI: Brennan
Study Title: Effects of foodplot planting on brood habitat quality and hunting success in managed forested landscape.
Objectives: 1. Determine effects of food plot plantings (grain planting vs. disc only) on vegetation structure and composition in longleaf/wiregrass and loblolly/old field systems.
2. Determine effects of food plot plantings (grain planting vs. disc only) on invertebrate abundance, biomass, and diversity in longleaf/wiregrass and loblolly/old field systems.
3. Determine effects of food plot plantings (grain planting vs. disc only) on hunting success (coveys/hour) in longleaf/wiregrass and loblolly/old field systems
Status: Field work completed, manuscript in prep.

State: Florida
PI: Burger/Brennan
Study Title: Evaluation of bobwhite chick-marking techniques.
Objectives: 1. Determine effects Passive Integrated Transponder (PIT) and wing tag markers on survival 1-84 day old bobwhite chicks.
2. Determine effects Passive Integrated Transponder (PIT) and wing tag markers on weight gain of 1-84 day old bobwhite chicks.
3. Determine tag retention of Passive Integrated Transponder (PIT) and wing tag markers on 1-84 day old bobwhite chicks.
Status: Field work completed, manuscript in prep.

State: Oklahoma
PI: Peoples/DeMaso
Study Title: Bobwhite Survival on Packsaddle Wildlife Management Area
Objectives: 1. Estimate survival of bobwhite broods.
2. Determine effects of parental care (male, female, both) on survival of bobwhite broods.
3. Determine seasonal effects on survival of bobwhite broods.
Status: First 5 year cycle completed, manuscript in press, project ongoing.

State: Oklahoma
PI: Peoples/DeMaso
Study Title: Chick-based estimates of bobwhite brood survival on Packsaddle Wildlife Management Area
Objectives: 1. Apply radio-telemetry and wing tag markers to estimate survival of bobwhite chicks.
2. Estimate cause-specific mortality of bobwhite chicks.
3. Determine effects of wetting on young chicks.
4. Determine harvest rate of young-of-the year wing-tagged chicks.
Status: Recently initiated.

State: Oklahoma
PI: Peoples/DeMaso
Study Title: Bobwhite brood ecology on Packsaddle Wildlife Management Area.

Objectives: 1. Quantify brood rearing habitat use.
2. Evaluate food habits of bobwhite chicks.
Status: Recently initiated.

State: Virginia
PI: Fies
Study Title: Effects of seasonal disking on quail habitat
Objectives: Determine the effect of disking date on plant species composition, insect abundance, and seed availability
Status: Field work completed

State: Virginia
PI: Fies
Study Title: Effects of chemical pine release on quail habitat
Objectives: Determine the effect of selected herbicide treatments used for loblolly pine release on bobwhite quail habitat.
Status: Field work completed

State: Virginia
PI: Fies
Study Title: Quail nesting and brood ecology
Objectives: Determine nest success, causes of nest failure, hatching chronology, and brood survival for bobwhite in Virginia
Status: Ongoing, expected completion date 1997.

2. LANDSCAPE ECOLOGY

State: Texas
PI: Guthrey
Study title: A philosophy of habitat management for northern bobwhite.
Objectives: Develop conceptual framework for habitat management programs focusing on structural characteristics of landscape such as interspersions and juxtaposition.
Status: In press

State: Missouri
PI: Burger/Dailey
Study title: Relationships among habitat composition, spatial distribution, and bobwhite overwinter survival.
Objectives: 1. To determine habitat composition and spatial characteristics within winter covey ranges of radio-marked bobwhite.
2. To estimate covey range specific overwinter survival of radio-marked bobwhite.
3. To relate covey range specific overwinter survival of radio-marked bobwhite to covey range habitat composition and spatial characteristics.
Status: Ongoing near completion.

State: Mississippi
PI: Burger
Study title: Effects of Red-Cockaded Woodpecker habitat management practices on landscape level bobwhite abundance.

Objectives: 1. Determine relative abundance of bobwhite in forested landscapes under 3 levels of management intensity for RCWs.
Status: In year 4 of ongoing project.

State: Virginia
PI: Fies
Study Title: Identification of quail habitat using Landsat imagery.
Objectives: 1. Investigate the feasibility of using Landsat Imagery to identify quail habitat.
2. Produce digital quail habitat maps for the Piedmont and Coastal Plain regions.
3. Develop a GIS for quantifying availability of quail habitat statewide and to monitor changes.
4. To compare trends in quail habitat with changes in population indices.
Status: Just initiated

State: Virginia/Mississippi
PI: Burger/Fies
Study Title: Spatially explicit bobwhite population model.
Objectives: 1. Develop stochastic individual-based population model incorporating all components of recruitment and survival using parameter estimates and distributions from state and regional radio-telemetry studies.
2. Conduct sensitivity analysis to identify relative population consequences of variation in each population parameter.
3. Evaluate feasibility of linking stochastic population model to GIS models of real-world landscape pattern in a spatially explicit population model.
Status: Projected start date 7/97.

3. HUMAN DIMENSIONS

State: Mississippi
PI: Burger
Study title: Economic impact of bobwhite hunting in the Southeast.
Objectives: 1. Determine regional and state demographic profiles of bobwhite hunters in the southeastern United States.
2. Estimate regional and state level economic impact of bobwhite hunters in the southeastern United States.
Status: Project completed, manuscript in prep.

State: North Carolina
PI: Palmer/Morris
Study title: Economic Value of bobwhite in North Carolina
Objectives: 1. Quantify recreational value of bobwhite hunting.
2. Determine which hunt attributes contribute to hunt satisfaction.
3. Identify attributes that hunters are willing to pay for.
4. Determine willingness of farmers to modify management practices in return for estimated income from quail hunting leases.
5. Conduct supply and demand analysis to determine market viability for quail hunting in North Carolina.
Status: Expected completion date 1998

State: Mississippi
PI: Burger/Godwin/Minnis
Study title: Bobwhite hunter attrition and recruitment.
Objectives: 1. Determine bobwhite hunter attrition rate in Mississippi and Southeast.
2. Identify causes of hunter attrition.
3. Determine bobwhite hunter recruitment rate in Mississippi and Southeast.
4. Identify sources of hunter recruitment.
Status: Anticipated start date 7/1/97

4. EFFECTS OF HARVEST

State: Texas
PI: Guthrey
Study title: Bobwhite harvest management
Objectives: Develop and apply theoretical and mathematical models to harvest management issues.
Status: Ongoing

State: Missouri
PI: Dailey
Study title: Effects of harvest level on overwinter mortality of bobwhite on Blind Pony Conservation Area.
Objectives: 1. Evaluate survival of radio-tagged quail during 1993-96 on sites at Blind Pony Conservation Area (BPCA) subjected to harvest rates of 35 and >55%.
Ha: Post hunting-season survival of radio-tagged quail will be higher on a site subjected to >55% harvest compared with a site limited to 35% harvest.
2. Evaluate body fat levels of quail during 1993-96 on sites at BPCA subjected to harvest rates of 35 and >55%.
Ha: Post hunting-season body fat level will be greater in quail inhabiting the lightly-hunted zone compared with quail in the heavily-hunted zone.
Ha: By nesting time, there will be no difference in body fat levels between quail inhabiting the 2 hunting zones.
Ha: Male quail have more body fat compared with female quail.
Status: Field work completed.

Projects associated with the Midwest Bobwhite Research Initiative Harvest Study Step down Plan

State: Mississippi
PI: Burger
Study title: Effects of radio-transmitters on body-condition, harvest rate, and survival of bobwhite on Divide Section Wildlife Management Area, NE Mississippi.
Objectives: 1. Estimate annual survival and harvest rate of wild, free ranging bobwhite that have been radio-tagged or banded only.
2. Determine body weight and lipid levels of wild, free-ranging bobwhite, with and without radio-transmitters, prior to banding and radio-marking and 1 year following banding and radio-marking.
Status: Ongoing

State: Florida
PI: Brennan/Burger
Study title: Effects of radio-transmitters on body-condition, harvest rate, and survival of bobwhite on Tall Timbers Research Station, FL..
Objectives: 1. Estimate annual survival and harvest rate of wild, free-ranging bobwhite that have been radio-tagged or banded only.
2. Determine body weight of wild, free-ranging bobwhite, with and without radio-transmitters, prior to banding and radio-marking and 1 year following banding and radio-marking.
Status: Ongoing

State: Missouri
PI: Dailey
Study title: Efficiency of modified line transect estimators in Missouri.
Objectives: 1. Determine efficiency of using trained dogs to develop detection functions for line-transect sampling of northern bobwhite on BPCA during October and February 1994-96.
Status: Fieldwork Completed

5. OPTIMAL HABITAT COMPOSITION/MODELING

State: Texas
PI: Guthery
Study title: Bobwhite habitat structure and composition
Objectives: Develop theoretical framework to identify optimal arrangement of habitat objects or patches at landscape level.
Status: Ongoing

State: Georgia
PI: Sisson/Stribling
Study title: Effect of landscape composition on bobwhite abundance and hunting success.
Objectives: 1. Determine the relationship between percent of forested landscape in agricultural openings and bobwhite abundance and hunting success.
2. Determine the effects of experimentally increasing the percent agricultural openings on bobwhite abundance and hunting success.
Status: Ongoing

State: Missouri
PI: Dailey
Study title: Habitat use and thermal value of native warm-season grasses for nocturnal winter roosting by bobwhite.
Objectives: 1. Determine vegetative composition and structure of nocturnal roost sites used by bobwhite on BPCA during January-March 1996.
2. Evaluate nocturnal roosting by quail of adjacent hayed and unhayed stands of native warm-season grass (NWSG) on BPCA during January-March 1996.

3. Determine the thermal characteristics of hayed and unhayed NWSG during December 1996.

Status: Fieldwork completed

State: North Carolina/Virginia
PI: Palmer/Bromely/Anderson/Fies
Study Title: Effects of field border management and predator control on bobwhite productivity and abundance.
Objectives: 1. Determine bobwhite population response to factorial combinations of field border management and predator control.
2. Validate indices of bobwhite productivity.
3. Quantify Integrated Pest Management costs and benefits of fallow field border management.
4. Quantify costs of different fallow field border management practices.
5. Quantify effects of field border management on water quality.
Status: Fieldwork completed

State: Mississippi
PI: Burger/Godwin
Study Title: Effects of landscape composition on bobwhite population and habitat ecology.
Objectives: 1. Annually determine fall and spring bobwhite population size on Blackland Prairie WMA
2. Determine habitat use of bobwhite for nesting and brood rearing in relation to varying levels of woody cover establishment 10%, 20%, 30% , rotational agriculture, prescribed fire, and stripdiscing.
3. Estimate habitat specific nest success and chick survival of bobwhite in relation in relation to varying levels of woody cover establishment, rotational agriculture, prescribed fire, and stripdiscing.
4. Determine relationships among vegetation structure and nest success.
5. Determine relationships among invertebrate abundance, brood movements, and chick survival.
6. Estimate relative contribution to production from female-incubated first nests, female-incubated renests, male-incubated nests, and double-clutching.
7. Annually index small mammal and predator population levels in relation to varying levels of woody cover establishment, rotational agriculture, prescribed fire, and stripdiscing.
Status: Projected start date 1/97

State: Mississippi
PI: Burger/Godwin
Study Title: Population and habitat ecology of bobwhite in relation to fallow agricultural field management on Marian County Wildlife Management Area, Mississippi.
Objectives: 1. Annually index fall and spring bobwhite population size on Marian County WMA.
2. Determine habitat use of bobwhite for nesting and brood rearing in relation to fallow field management practices (Conversion of 10% of forested landscape to small rotational agricultural fields).

3. Estimate habitat specific nest success and chick survival of bobwhite in relation in relation to fallow field management practices.
4. Determine relationships among vegetation structure and nest success.
5. Determine relationships among vertebrate abundance, brood movements, and chick survival.
6. Estimate relative contribution to production from female-incubated first nests, female-incubated renests, male-incubated nests, and double-clutching.

Status: Ongoing

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1996-97

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