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Taking the Northern Bobwhite Conservation Initiative to the Next Level

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During the last few decades of the 20th century, changing and intensifying human uses of land converted and rendered unsuitable hundreds of millions of acres of northern bobwhite (*Colinus virginianus*) habitats, resulting in a long-term population decline of 3.8% per year across the Southeast. During that period, bobwhite conservation efforts were largely ineffectual. Following the success of other national bird conservation initiatives, the Southeastern Association of Fish and Wildlife Agencies (SEAFWA) in 1998 charged its technical arm, the Southeast Quail Study Group (SEQSG) to develop a regional, habitat-based bobwhite recovery plan with population goals and habitat objectives. The Northern Bobwhite Conservation Initiative (NBCI) was published in March 2002, as the first-ever ecosystem-based regional management plan for a resident game bird in the U.S. The NBCI catalyzed immediate major successes in conservation policy, priority, energy and actions, such as the new "Habitat Buffers for Upland Birds" practice in the Conservation Reserve Program. The NBCI also stimulated unprecedented unity of purpose and collective will across the bobwhite community, under the leadership of the SEQSG. A thorough revision of the NBCI already is in progress, coordinated by Tall Timbers Research Station.

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Introduction

The job of stabilizing and restoring northern bobwhite (*Colinus virginianus*) populations across most of the species' range is major unfinished business of the wildlife management profession. Wildlife conservationists already have succeeded in stabilizing and restoring numerous species of wildlife whose populations once were severely diminished. For example, white-tailed deer (*Odocoileus virginianus*), wild turkey (*Meleagris gallopavo*), American alligator (*Alligator mississippiensis*), bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), giant Canada geese (*Branta canadensis maxima*), river otter (*Lutra canadensis*), and wood duck (*Aix sponsa*) populations have been restored to secure or even abundant levels. Populations of bobwhites and several species of grassland and early successional migratory birds, however, are experiencing serious long-term declines across much of the U.S.A. Here I provide an overview of the Northern Bobwhite Conser-

vation Initiative (NBCI Dimmick et al. 2002), where we were, where we are, and where we are going.

Where Were We?

Bobwhites are one of the most researched wildlife species in North America. Thousands of scientific papers and several major books have been published about the species over more than a half-century, including *The Bobwhite Quail* (Stoddard 1931), *The Bobwhite Quail: It's Life and Management* (Rosene 1969), *Population Ecology of the Bobwhite* (Roseberry and Klimstra 1984), and *Bobwhites in the Rio Grande Plain of Texas* (Lehmann 1984). Thus, it is unlikely that a lack of scientific information limits wildlife managers from restoring the species.

Instead, for the first several decades of the existence of the wildlife management profession, the bobwhite conservation community has operated in a manner that can be characterized as "anarchy." As a resident wildlife species, bobwhites are the

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sole jurisdiction and responsibility of as many as 39 sovereign, independent states. No overarching authority exists to provide unified vision, leadership, coordination, funding, technical services, and other fundamental functions. This institutional complexity contributed to a long period of inertia and stagnation coinciding with a corresponding lack of urgency, a high degree of disorganization, and myriad repetitively failing attempts to solve the problem with simplistic tactics.

Some of the tactics employed over the years were patterned after those that had proven successful for white-tailed deer, wild turkey and other restored species. In retrospect, it has become apparent that bobwhite restoration is a different and much more difficult challenge. For white-tailed deer and turkey, the solution largely involved trapping and relocating wild individuals from where they were to areas of vacant suitable habitat, then protecting the transplants until the new populations reached sustainable levels. In contrast, the central challenge confronting bobwhite restoration is landscape-scale habitat degradation. Wildlife managers have a weak track record of restoring widespread species diminished by habitat degradation.

A brief glimpse into the past illuminates the magnitude of the landscape-scale habitat challenge. Aldo Leopold conducted a statewide game survey of Mississippi in 1929, on contract with the Game Restoration Committee of the Sporting Arms & Ammunition Manufacturers' Institute. His unpublished February 1, 1929 "Report on a Game Survey of Mississippi" estimates that 85% of the land area of the state was suitable quail habitat. Bobwhite conservationists estimate in 2006 that less than 5% of the state now is suitable habitat. Leopold also reported official estimates that about 50% of the forested area of the state burned each year. He further cited unofficial estimates by local observers that 50 to 90% of uncultivated land burned every year. In contrast, only a token acreage of the state is burned annually today. These findings and contrasts are roughly applicable across much, if not most, of the core bobwhite range.

This extreme and widespread reduction in suit-

able habitat is evident from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) National Resources Inventory. Across 22 core bobwhite states in 1997, there were some 210 million acres (85 million ha) of annually cultivated cropland, 120 million acres (49 million ha) of tame pasture and 35-40 million acres (14-16 million ha) of loblolly pine plantation. Each of these land-use types is so intensively converted and managed that the effective result is 370 million acres (150 million ha) of unsuitable habitat. This expansive conversion does not include additional tens of millions of acres (ha) of degraded (by overgrazing or brush encroachment, or both) rangeland; millions of acres (ha) of unmanaged closed-canopy hardwood and mixed pine/hardwood forestland; and the virtual elimination of fire as an ecologically beneficial force. The remaining areas of suitable bobwhite habitats across most of the historic range are so fragmented that many quail populations are isolated.

The well-known consequence of this intensive, widespread and long-term conversion and degradation of habitat is a significant (about 3.8% per year average, according to the Breeding Bird Survey, 1966 - 2005), widespread and long-term decline in bobwhite populations across most of the species' range. Populations of wild bobwhites apparently already have been extirpated from several states across the northern fringe of the historic range.

By the late 1990s, bobwhite conservationists were confronted with 2 basic choices. First, we could keep doing the same thing—anarchy by default—and accept the inevitability of widespread recreational extinction of bobwhites. Alternatively, we could do something radically different. In taking a bold different approach we obviously risk failure, but gain the only viable opportunity for meaningful success.

The NBCI Era

The psychological stimulus toward a radically different approach for stabilizing and restoring bobwhite populations arguably began with the publication of the North American Waterfowl Management Plan (NAWMP) in 1986. This continental restora-

tion strategy was developed during the grim period of historically low duck populations throughout the 1980s. At the time, the NAWMP's ambitious population recovery goals, the calculated habitat restoration objectives and the \$1.5 billion cost estimate seemed implausible. A decade later, major money for implementation was materializing from myriad unanticipated sources, habitat restoration was occurring by the hundreds of thousands of acres per year, and duck populations already were responding and recovering.

The first step in the transition from bobwhite anarchy to strategy may have been the Brennan (1991) paper in the *Wildlife Society Bulletin*, entitled, "How can we reverse the northern bobwhite population decline?", which raised widespread awareness with the prediction that bobwhites soon would become unhuntable across most of the species' historic range. Following that wake-up call, Tom Dailley and Kevin Church arranged a strategic quail planning workshop at the Quail III National Quail Symposium in Kansas City, Missouri in July 1992. The resulting "Strategic plan for quail management and research in the United States: introduction and background", edited by Brennan and published in the 1993 symposium proceedings, constituted the first attempt to develop a national framework for addressing declining populations for all six North American quail species.

The transition accelerated in August 1995 with the formation of the Southeast Quail Study Group (SEQSG). The charter meeting-initiated and organized by Breck Carmichael [South Carolina Department of Natural Resources (SCDNR)], hosted by the SCDNR, and sponsored by Quail Unlimited-was attended by 62 bobwhite conservationists from across the Southeast. The impetus for convening to form the SEQSG seems to have been a critical mass of coinciding awareness and interest among the directors and wildlife chiefs of the Southeastern Association of Fish and Wildlife Agencies (SEAFWA) and the participants in the 1993 strategic planning workshop. By the end of the 4-day inaugural meeting, the SEQSG was organized, a Steering Committee

was appointed (with Carmichael as Chair), a series of working committees was formed and committee chairs selected. The SEAFWA Directors promptly endorsed the SEQSG and recognized it as a technical committee of the Southeastern Association.

The SEQSG quickly became the first unifying regional force to provide effective leadership for bobwhite conservation. Still lacking, however, was vision, purpose and direction.

The pivotal milestone that culminated the beginning of the strategic era for bobwhites was the autumn 1998 business meeting of the SEAFWA Directors. The directors, lead by Tennessee Wildlife Resources Agency Director Gary Myers, issued a verbal charge to the SEQSG to develop a regional, quantitative, habitat-oriented plan to restore bobwhites. A year later, the SEAFWA Directors clarified their charge by endorsing a goal of restoring bobwhites to 1980 levels. The long-term vision that was requisite for the SEAFWA Directors to make this watershed charge to the SEQSG could be the dawning of vital regional leadership on conservation of bobwhites and other resident wildlife species.

Following the charge from the SEAFWA Directors, the SEQSG Steering Committee tapped Ralph Dimmick, recently retired from the University of Tennessee, to lead the strategic planning effort. Dimmick assembled a core planning team of about a dozen professionals, but more than 50 biologists ultimately participated in development of the plan.

Although the SEAFWA represents 16 southeastern states, and the SEQSG is a technical arm of the SEAFWA, the members of Dimmick's planning team recognized the shortcoming of developing a bobwhite conservation plan that stopped at the artificial SEAFWA administrative boundaries. The planning team deliberately-but not lightly-decided to exceed its authority by including several non-SEAFWA midwestern "core" quail states for which basic data was available and in which at least one professional biologist was willing to participate. The plan ultimately covered 22 states.

A key paradigm-shifting early decision of the planning team was the recognition of the need to

rise above the traditionally constraining view of the world within sideboards defined by politically based state boundaries. Instead, the planning team adopted the North American Bird Conservation Initiative's (NABCI) ecologically based "bird conservation regions" (BCRs) as the basic planning unit for bobwhite restoration. The NABCI, launched in 1999, was striving for unity, coordination and collaboration among all bird conservation initiatives by winning broad acceptance of common, ecologically based planning units. The planning team recognized the long-term value that adopting BCRs would secure for bobwhite conservation, itself, as well as the credibility, integration and partnerships that would be fostered with other bird initiatives.

The "Northern Bobwhite Conservation Initiative" (NBCI) was published March 2002, some 3 1/2 years after the initial charge from the SEAFWA Directors. The Initiative was promptly endorsed and adopted by the SEAFWA in May of that year, and by the International Association of Fish and Wildlife Agencies (IAFWA) in September 2002.

The NBCI vision to stabilize and then to restore bobwhites to 1980 levels was acknowledged to be a long-term task, requiring at least a quarter-century of sustained effort. This vision was specified by a restoration goal of adding about 2.8 million new coveys to the landscape above the 1999 populations. Achieving this bobwhite population increase would require restoration of suitable habitats on some 81 million acres (33 million ha) across 22 states. The NBCI framed BCR habitat objectives based on three major land-use types for which the technology exists to restore usable habitat for bobwhites: cropland, grazing lands and forest land (especially pine forests).

An important tenet of the NBCI is the determination that, across most of bobwhite range, the major limiting factor is inadequate recruitment, due to insufficient nesting and brood-rearing habitat. The NBCI defined this limiting habitat type as diverse stands of properly managed native, warm-season grasses with abundant forbs, legumes and wildflowers. Put another way, the NBCI calls for restoration

of millions of acres of native grassland habitats in cropland, grazing land and forested landscapes.

A final key tenet is the overriding NBCI philosophy of the necessity to reconnect bobwhites with working agricultural lands. Because some nine-tenths of the land in the core bobwhite range is privately owned, bobwhite restoration ultimately is dependent on private lands for widespread success. Setting land aside and prohibiting human uses is neither necessary nor effective for bobwhites.

The first significant accomplishment of the new NBCI was the unprecedented unity of vision, mission, purpose and hope that it instilled quickly across most of the bobwhite conservation community. For the first time, most of the bobwhite community across numerous states was facing the same direction, agreeing on the need to pull together. This unity soon was bolstered with heightened interest and excitement. For example, the registered attendance at the annual August meeting of the SEQSG increased from 105 people in 2000 (the 2001 attendance is un-interpretable due to being postponed and combined with the Quail V conference) to an average of 185 in the years 2005 and 2006.

This feeling of community and excitement, in turn, translated into invigorated leadership and activity among the SEQSG and the SEAFWA. A coordinator position soon was proposed by SEAFWA Directors to foster implementation. The new NBCI Coordinator position was funded with a three-year Multi-state Conservation Grant from the IAFWA, supplemented with annual \$2,000 contributions from each of the SEAFWA states plus \$15,000 per year from the NRCS Wildlife Habitat Management Institute. Breck Carmichael was hired in January 2003, on loan from the SCDNR, to be the first NBCI Coordinator. When Carmichael was promoted to Deputy Director of SCDNR in summer 2004, the author was hired to fill the vacancy beginning in September 2004.

So many significant NBCI accomplishments have occurred in the first 4 1/2 years that it would be overkill to describe them all. The single biggest accomplishment has been the "CP33 Habitat Buffers

for Upland Birds” practice created for the Continuous Conservation Reserve Program (CRP) in August 2004. The practice originally was conceived, written and proposed by the SEQSG in 1996, but soon was rejected by the Farm Service Agency (FSA). Following publication of the NBCI in 2002, the NBCI Coordinator, the author and the SEQSG refined the proposal and resubmitted it in July 2003. This time—with the backing of the NBCI and supportive managers’ report language from the 2002 Farm Bill—not only did FSA accept the proposal, but President George W. Bush, himself, announced the new practice at a ceremony on a farm in Minnesota. FSA earmarked 250,000 acres (101,250 ha) of CRP authority to the CP33 practice across 35 states, a quail habitat practice worth more than \$200,000,000. By the time of this conference, more than 115,000 acres (46,575 ha) of native-vegetation cropland field borders had been enrolled in 25 states.

Where Are We Now: Notable NBCI Accomplishments Since 2002

1. Bobwhite restoration now is a national issue.
2. Bobwhite restoration now is a priority for many states.
3. Bobwhite restoration and NBCI implementation were explicitly endorsed and supported by Congress in the 2002 Farm Bill Managers’ Report.
4. Three \$0.5 million federal appropriations were earmarked for bobwhite research, in fiscal years 2003 through 2005.
5. About 15 states now have active quail restoration initiatives.
6. NBCI stimulated creation of a position to represent resident game birds in the North American Bird Conservation Initiative.
7. NBCI stimulated IAFWA to create the Resident Game Bird Working Group.
8. Working relations with other conservation groups, such as Partners in Flight and the southeastern forestry community, are improving and purposeful.
9. The first-ever cooperative interstate bobwhite monitoring protocol was developed, funded and implemented in more than a dozen states for CP33.
10. A new longleaf pine practice has been developed and proposed for the Continuous CRP, and apparently is nearing approval.
11. NBCI is becoming an active presence in joint ventures.
12. The NBCI and CP33 were featured at the August 2005 White House Conference on Cooperative Conservation.
13. SEAFWA Directors created in May 2005 a “Directors’ NBCI Committee”, Chaired by Dan Forster (Director, Georgia Wildlife Resources Division).
14. A second Multi-state Conservation Grant was awarded in autumn 2005 from IAFWA to NBCI, to build interstate capacity:
 - hire a “National Advocate”
 - conduct regional and state NBCI step-down workshops
 - revise, upgrade, and expand the NBCI
15. Other bird initiatives are following the NBCI’s lead approach:
 - woodcock
 - prairie grouse
 - ruffed grouse
 - western quail
16. USDA NRCS Plant Materials Centers are partnering with NBCI conservationists in 6 southeastern states to promote native, warm-season grasses.

17. Two non-government quail organizations are increasingly active, engaged and contributing.
18. Texas amended its state mineland reclamation regulations to promote quail habitat.

Much of the most important progress in NBCI implementation has, of necessity, occurred in the form of upgraded bureaucracy and infrastructure within state wildlife agencies. Even though the NBCI utilized BCRs as strategic planning units, the legal authority, responsibility and management capacity for implementing the NBCI still resides with the states. To aid the states with this task, the SEQSG developed a detailed questionnaire as a tool for internal use by state wildlife agencies, to provide specific guidance to states striving to better implement the NBCI, as well as to provide a mechanism for self assessment. The summarized results of an informal survey conducted of all 22 NBCI states by the author in 2006, based on eight questions selected from the assessment tool, are presented below.

Results Of Questionnaire To State Agencies On Implementation Of NBCI.

The state of implementation and administration of the Northern Bobwhite Conservation Initiative

1. *Has your state agency directorate and/or governing Board or Commission publicly committed that bobwhite restoration is a state priority?*
10 of 22 states answered "yes" (compared with ≈ 2 pre-NBCI).
2. *Does your state have some form of state-level inter-agency council, committee or task force focused on implementing the NBCI and restoring early successional/grassland habitats?*
9 of 22 states answered "yes" (compared with ≈ 0 pre-NBCI).
3. *Does your agency employ or have the benefit of a dedicated, full-time statewide quail program coordinator that is not distracted or diluted by other*

somewhat-related duties (e.g., small game coordination or farm bill liaison) but is focused on NBCI implementation and bobwhite restoration in the state?

5 of 22 states answered "yes" (compared with ≈ 2 pre-NBCI).

4. *Does your agency employ or have the benefit of a dedicated, full-time statewide agricultural liaison or farm bill coordinator whose sole responsibility is to engage and improve state-level farm bill conservation programs for wildlife?*

8 of 22 states answered "yes" (compared with ≈ 6 pre-NBCI).

5. *Does your agency employ or have the benefit of an adequate and effective network of private lands biologists (PLBs) capable of, dedicated to and actually focused on delivering habitat conservation on private lands at a meaningful scale?*

6 of 22 states responded that they have a very effective network of PLBs; 12 of 22 states responded that they have a somewhat effective network of PLBs (these 18 total PLB states compare with a total of ≈ 12 pre-NBCI).

6. *Has your agency officially designated and initiated concentrated quail habitat management efforts in one or more actual on-the-ground quail habitat restoration focal areas, especially including private lands?*

14 of 22 states responded "yes" (compared with ≈ 4 pre-NBCI).

7. *Has your agency "stepped down" or tailored the NBCI to a more-detailed state-level bobwhite habitat restoration plan, with specific habitat objectives?*

7 of 22 states answered "yes" (compared with ≈ 0 pre-NBCI).

8. *Is your agency actively representing NBCI and/or state step-down bobwhite habitat objectives with the joint ventures and bird conservation regions in your state?*

6 of 22 states answered "yes" (compared with ≈ 0 pre-NBCI).

Where Are We Going: Taking The NBCI To The Next Level

The SEQSG has informally adopted the theme "raising our game" to characterize and inspire collective efforts to build capacity and momentum necessary over the long term for the NBCI to succeed. The entire community of resident game bird conservationists has a limited track record of experience in collaborating across state and regional boundaries, when compared with the community of migratory bird conservationists. This lack of experience is a serious impediment when facing the need for effective interaction at multiple levels of society and government, including the federal government, regional associations of states across the bobwhite range, joint ventures, state governments, state-level coalitions, local governments and private landowners.

To further complicate the ability of bobwhite conservationists to raise our game, there is little existing infrastructure at any level to provide the capacity capable of dealing with these multiple layers of society and government. What infrastructure does exist—for example, the SEQSG—is not a good fit with the administrative challenges. For example, the SEQSG officially represents the 16 SEAFWA states, leaving the 6 midwestern NBCI states without formal representation. This administrative inadequacy inadvertently causes some states and bobwhite conservationists outside the administrative boundaries of the SEAFWA to consider the NBCI to be a southeastern initiative that is not relevant elsewhere.

Some meaningful steps are being taken to begin addressing a series of such serious administrative and infrastructure limitations. The first step was the extension of the NBCI Coordinator position for another three years, through spring 2009. The 16 SEAFWA states contributed \$100,000 per year for three years, while Quail Unlimited pledged another \$75,000 per year for three years.

The SEAFWA Directors' NBCI Committee was expanded by two seats in 2006 to add official repre-

sentation by a Director from both the Midwest Association of Fish and Wildlife Agencies (MAFWA) and the Northeast Association of Fish and Wildlife Agencies (NEAFWA). This measure already has borne fruit. The Directors of the Midwestern Association of Fish and Wildlife Agencies unanimously passed a resolution in 2006 endorsing the NBCI and pledging to support its revision and implementation. Likewise, the SEQSG Steering Committee was expanded by two seats to add official representation by technical staff from each of the MAFWA and NEAFWA.

The next major step is for the SEQSG to revise the NBCI, to ensure the plan stays current and continues to stimulate progress. Tall Timbers Research Station's Bill Palmer has been contracted by the SEQSG to coordinate the national NBCI revision process. The NBCI will be revised based on the knowledge, experiences and attention gained in the first 4 years of implementation. For example, it will include additional states, address additional land-use types (such as western rangelands and mineland reclamation), include more professional participants, and feature improved assumptions and landscape analyses. The NBCI revision process officially began at the Gamebird 2006 conference in June 2006, with an open input session attended by about 55 people the first evening. The NBCI revision is expected to be completed by the end of 2007 or early 2008.

Conclusions

In its first 4 1/2 years, the NBCI has made more progress and achievements than anyone could have anticipated. Yet, the bobwhite community still is very early in what will be a long and challenging restoration process. Bobwhite restoration may be the most difficult challenge ever confronted by the wildlife management profession in North America; however, it is not a challenge of science. We have the technical knowledge on *how* to restore bobwhite habitats and populations. What we lack is the capacity to get it done on a large enough scale. Thus, bobwhite restoration is a challenge of *will-will* conservationists and society muster the resolve necessary to restore bobwhites?

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