

**NBCI's**

# *Bobwhite* *Almanac*

*State of the Bobwhite 2016*



**"Natives First"  
Launches**

**Quailcount.org a Major Step**

**USFS Joins Bobwhite Effort**

**70 Years of Habitat Change  
on a Kentucky Farm**



“So tell me, Grandpa ...  
what’s a *bobwhite*?”



Our generation has the last chance to reconnect wild quail  
with the land ... and with people.

Don't let bobwhites become just another  
faded memory on a mug!



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The Bobwhite Foundation is a 501(c)3 that supports and empowers the mission of the National Bobwhite Conservation Initiative. NBCI is the unified strategy of 25 state wildlife agencies\* to restore widespread wild bobwhite populations to huntable levels ... which is becoming a reality in many places.

More information at [www.bobwhitefoundation.org](http://www.bobwhitefoundation.org)



\*Alabama Department of Conservation & Natural Resources, Arkansas Game & Fish Commission, Delaware Division of Fish & Wildlife, Florida Fish & Wildlife Conservation Commission, Georgia Department of Natural Resources, Illinois Department of Natural Resources, Indiana Division of Fish & Wildlife, Iowa Department of Natural Resources, Kansas Department of Wildlife, Parks & Tourism, Kentucky Department of Fish & Wildlife Resources, Louisiana Department of Wildlife & Fisheries, Maryland Department of Natural Resources, Mississippi Department of Wildlife, Fisheries and Parks, Missouri Department of Conservation, Nebraska Game & Parks Commission, New Jersey Division of Fish & Wildlife, North Carolina Wildlife Resources Commission, Ohio Division of Wildlife, Oklahoma Department of Wildlife Conservation, Pennsylvania Game Commission, South Carolina Department of Natural Resources, Tennessee Wildlife Resources Agency, Texas Parks & Wildlife Department, Virginia Department of Game & Inland Fisheries, and West Virginia Division of Natural Resources

**NBCI's**

# *Bobwhite Almanac*

## **State of the Bobwhite 2016**



*... the unified strategy to restore wild quail*

[www.bringbackbobwhites.org](http://www.bringbackbobwhites.org)



NBCI's Bobwhite Almanac/State of the Bobwhite Report is an annual publication of the National Bobwhite Conservation Initiative (NBCI) to provide a range-wide snapshot of population, hunting and conservation status of the northern bobwhite, *Colinus virginianus*, as well as a sampling of major efforts underway to reverse the bobwhite decline. This report is made possible by the financial support of participating state agencies, the Federal Aid in Wildlife Restoration Program, the

University of Tennessee, the Joe Crafton Family Endowment for Quail Restoration and Park Cities Quail.

NBCI is an initiative by and for the National Bobwhite Technical Committee—25 state wildlife management agencies, along with numerous conservation groups, research institutions and federal partners—to provide national leadership, coordination and capacity to catalyze large-scale, strategic restoration of native habitats as the long-term means to restore widespread populations of wild bobwhite quail and, consequently, other species dependent on native grassland habitat. NBCI is headquartered at the University of Tennessee.

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COVER PHOTO: Our sincere thanks to wildlife biologist and photographer Dr. John Brunjes, KY Department of Fish and Wildlife Resources, for his cover photo contribution ([www.johnbrunjes.com](http://www.johnbrunjes.com)).



# FOREWORD

## ‘Now is NOT the Time to Blink’



It is a distinct honor for me to join the excellent staff, our great partners at the University of Tennessee, dedicated bobwhite biologists with agencies and NGOs, and the many other loyal supporters for the National Bobwhite Conservation Initiative (NBCI) in presenting the NBCI's Bobwhite Almanac, State of the Bobwhite 2016.

Back in the day when small pea patch farms dotted the landscape and bobwhites were so plentiful, South Georgia farmers like my Granddaddy Wiley eagerly awaited the newest edition of the Farmers' Almanac. This cherished and trusted publication provided a wealth of information helping farmers face the tough challenges of making a living working the land.

Much like the hardworking farmers in the heyday of bobwhite populations anticipated their almanac, I now look forward to reading the latest edition of the Bobwhite Almanac each year. This publication provides strong inspiration for facing today's bobwhite restoration challenges and serves as an excellent forum for sharing and celebrating successes while rallying much needed sustainable support for this honorable cause.

Thanks to continuing support from state fish and wildlife agencies, the University of Tennessee and Park Cities Quail, NBCI is fully staffed and making accelerated progress on a number of big projects. [Quailcount.org](http://Quailcount.org) is established and now serving as the central database for all NBCI-related data storage and retrieval. NBCI is developing Coordinated Implementation Plan training manuals, tutorials, tools, databases, and providing training workshops for states. A five-part documentary focused on bobwhite conservation was completed for "This American Land," a syndicated PBS series, and it will be aired this upcoming season.

It is also exciting to see growing support from our federal partners. Following initial success with the National Park Service, the U.S. Forest Service is stepping up and working with states by providing sites and funding to establish NBCI focal areas on national forests starting in Georgia and South Carolina. And on the topic of federal support, I don't want to miss an opportunity to remind and encourage states and NGO partners to seize the hard-earned opportunity for landowners to automatically enroll pivot corners into CP33 quail habitat. There is still more than 200,000 acres on the table, waiting to be enrolled; so what are we waiting for?

In closing, it is important to recognize that NBCI and states are two years into the three-year trial Pittman-Robertson commitment. As we assess NBCI's progress with a first-ever State Bobwhite Leadership Workshop convened by the NBCI Management Board, we need to do some deep soul searching about our commitment to the long term future of NBCI and bobwhite restoration. In my view, with all the positive traction and success you will read about in this edition of the Bobwhite Almanac, now is NOT the time to blink. Now, more than ever, we need broad and continuing support from state and federal agencies, NGO partners, and sportsmen.

And as we begin to turn the corner and build on our initial successes, the call of the bobwhite will once again become a familiar sound echoing across rural America. And my Granddaddy Wiley and all of our forefathers who enjoyed this call and the anticipation of a covey flush at the end of a pointer's nose will surely be smiling on our endeavors.

Nick Wiley  
Executive Director, Florida Fish & Wildlife Conservation Commission  
Chair, NBCI Management Board





# INTRODUCTION

## ... Everybody loves bobwhites



Bobwhites are more universally beloved than any other wildlife in North America. Their whistle is commonly known and enjoyed; covey flushes cause an adrenaline rush that people recount with laughter; observing pairs — or especially broods — provides delight; and of course, bird hunting is a cherished tradition. I contend nobody doesn't want more bobwhites — farmers, ranchers, rural landowners, birdwatchers and bird hunters.

The phrase "nuisance bobwhites" has never been used seriously. No one complains about bobwhite/vehicle collisions, or dangerous bobwhites, or bobwhite droppings in public spaces. And the only person I have ever heard complain about bobwhite crop depredation was my Grandmother McKenzie in southwest Alabama, when I was very young; I recollect her complaining about "potteridges" pecking the strawberries in her garden.

This beloved status of bobwhites is one of our most valuable assets in the struggle to restore the species, making it is easy to find enthusiastic partners. The perennial challenge, and the NBCI's burden, is mustering the resources and collective capability to take advantage of a deluge of partnership opportunities.

It's worth briefly reviewing the list of upcoming NBCI priorities presented in this space last year:

- Establishing official NBCI focal areas in all 25 states: *current count is 12 states*;
- Creating a national database at UT for bobwhite landscapes, habitats and populations data: *done (see [www.quailcount.org](http://www.quailcount.org))*;
- Producing a national documentary on the bobwhite decline and conservation strategies: *done (to be aired in 5 separate segments on PBS this summer/autumn)*;
- Promoting native, wildlife-friendly vegetation across USDA programs: *incremental progress is ongoing, down a long road*;
- Pursuing new quail habitat partnerships with unique federal, state and private partners: *major unique and valuable bobwhite conservation partnerships are blossoming at an accelerating pace, too many to list here*;
- Promoting active forest management with frequent prescribed fire on federal, state and private lands: *another long road, but NBCI, the U.S. Forest Service, Georgia Wildlife Resource Division and South Carolina Department of Natural Resources established this year the first NBCI focal areas on national forests, which already are attracting additional federal money for forest habitat management*;
- Fostering a serious national dialogue on creating a new, sustainable funding mechanism to the states for upland game bird conservation: *back to the drawing board*.



Clearly, the bobwhite conservation movement is gaining speed and momentum. The states continue standing taller in facing and embracing their responsibility to this irreplaceable bird and all it represents. Success creates success; the more progress we demonstrate, the more supporters and partners are coming to help and be part of the growing movement. As Nick Wiley says on the facing page, now is not the time to blink! The NBCI is proud to present this 2016 Bobwhite Almanac to provide information, gratification and inspiration to all who share our passion for the universally beloved bobwhite.

Don McKenzie  
Director  
NBCI





### ALABAMA

Alabama Department of Conservation and Natural Resources is working with the U.S. Forest Service and a “very active” Quail Forever chapter to establish its first NBCI focal area in Alabama. State Quail Coordinator Mark Sasser says the area will encompass approximately 7,500 acres of Conecuh National Forest. The Conecuh National Forest is the southern-most national forest in Alabama, encompassing 84,000 acres between Andalusia, Alabama, and the Florida line. The quail focal area will become an addition to the state’s existing 25,000-acre Blue Spring Wildlife Management Area on the forest. Sasser hopes to have the area established and new regulations in place by the 2017-2018 hunting season.

### ARKANSAS

In July, the new chair of the Arkansas Game & Fish Commission publicly committed to bobwhite restoration in the state as his top priority for his remaining time on the commission (<http://bringbackbobwhites.org/2016/07/25/nw-ar-democrat-gazette-report-new-agfc-chair-committed-to-bobwhite-revival/>). The commission is forming a quail task force with two commissioners as co-chairs and the state just revised its Strategic Quail Management Plan to more closely align it with NBCI’s Coordinated Implementation Program for focal areas. Meanwhile, progress is continuing on the state’s first NBCI focal area at Pea Ridge National Military Park with students from Northwest Arkansas Community College assisting with habitat assessment, GIS mapping of sampling points and population monitoring. (See story on page 16.)

### DELAWARE

Thanks to a very persistent bobwhite population, 1,500 acres of the 5,500-acre Cedar Swamp Wildlife Area in New Castle County is on track to become the state’s first NBCI focal area. Required covey point counts were conducted during the fall 2015 season, as well as the required spring call counts this past spring. Habitat work in the area is scheduled to begin in November. The Ted Harvey Wildlife Area has been designed as the required reference area. Spring surveys were conducted on both sites this year and plans are to complete habitat surveys this year as well.

### FLORIDA

The Florida Fish and Wildlife Conservation Commission (FWC) and partnering agencies (Florida Forest Service and U.S. Forest Service) continue to provide numerous hunting opportunities on public lands throughout the state. Collectively, Florida has over 190,000 acres of public land under favorable bobwhite management (frequent prescribe fire, roller chopping, timber harvests, etc.), providing for the long-term sustainability of not only bobwhites but all associated early successional species. In addition, FWC private land biologists provided technical assistance and cost share opportunities to create over 4,900 acres of new bobwhite habitat throughout the state.

### GEORGIA

In an agreement between the Georgia Wildlife Resources Division, NBCI and the U.S. Forest Service, Georgia is creating a new NBCI focal area on the Oconee Ranger District of the Chattahoochee-Oconee National Forest in Georgia (the Oconee Quail Focal Area). Special funds contributed by the Forest Service’s national office will be used for mid-story hardwood removal on 200 acres of pine, as well as development of a management plan that may be used as a template for focal areas on other national forest lands. (See also South Carolina.)

### ILLINOIS

As of June 1, Illinois is #2 in the country for the number of CP42 (pollinator) acres with 51,362 and #1 for the number of CP33 acres (quail buffer acres) with 62,631. The Illinois Department of Natural Resources has plans on the drawing board to develop bobwhite focal areas but work has been delayed because of the state’s overall budget status.

### INDIANA

Indiana continued to manage for bobwhite in 2015. The Private Lands Unit continued working with landowners via the Habitat Incentive Program to create habitat in county priority areas across the state, creating a total of 4,555 acres that benefited bobwhite quail. The Private Lands Unit partnered with FSA, NRCS, and Indiana Division of Fish and Wildlife (IDFW), and enrolled 65,655 farm bill acres, and the Public Lands Unit improved approximately 4,540 acres on 19 IDFW properties that benefited quail.





## IOWA

Iowa's 2015 quail roadside count index was the highest in 21 years, according to State Quail Coordinator Todd Bogenschutz. The quail index jumped to a statewide average of 1.44 birds per survey route, its highest since 1994. The highest quail counts were 4.8 birds per route in the southeast region, followed by 4 birds per route in southwest and just under 4 birds per route in south central Iowa. "If you ever wanted to go quail hunting, this is the year," said Bogenschutz.

## KANSAS

The manager of the Smoky Hills Wildlife Area has begun a five-year project to evaluate the success of an alternative grazing regime. The manager was initially interested in implementing a patch-burn grazing rotation to increase diversity on the area, however, frequent burn bans in the county makes burning unreliable to complete the required annual burns. In attempts to create similar diversity, a rotational strategy was devised using five pastures totaling 1,255 acres. One receives full season rest and moderate grazing pressure is spread out across the other four pastures through the primary grazing season. For the final two-three weeks of the grazing season all grazing pressure shifts to one pasture. This late intensive grazing pressure is designed to mimic the patch-burn grazing by increasing grazing pressure and hoof action in a single pasture going into the dormant season that will receive rest the following year. Spring whistle and fall covey counts are being used to evaluate the birds' response compared to a nearby private ranch managed under the traditional season long, homogeneous grazing pressure.

## KENTUCKY

The Kentucky Department of Fish & Wildlife Resources is establishing a new state focal area at the Civil War-era Perryville Battlefield State Park. Baseline bird data has been collected and approximately 700 acres of fescue are being converted to native prairie. In other news, the department was instrumental in the passage of state fire legislation, in partnership with the KY Prescribed Fire Council, to open the door for the private sector to become more active in prescribed burning, a key bobwhite management activity.

## LOUISIANA

Interest in bobwhites and bobwhite habitat has increased considerably this past year in Louisiana. Several new and exciting opportunities have been developed by numerous partners coming together for the benefit of bobwhites. With the help of NBCI, Louisiana Department of Wildlife and Fisheries and the United States Forest Service have agreed to develop a quail focal area in the Kisatchie National Forest (KNF). Although this same area, located in the Vernon Unit of KNF, has been an emphasis area for quail since 2010, it will now be expanded and established as an official NBCI Focal Area. Work on the project has begun with planning and mapping the expanded focal reference areas. NBCI-recommended habitat treatments and monitoring guidelines as outlined in the range-wide protocol developed by NBCI will be implemented to improve habitat for quail and assess accomplishments over a 10-year period. Collectively, this data along with information from other states, can then be analyzed across the range of bobwhites to evaluate successes. Additional partners have expressed support and offered assistance for this project and others, including both the Southwest Louisiana Chapter and the Atchafalaya Region Chapter of Quail Forever.

## MARYLAND

Bobwhites have made a dramatic comeback on some wildlife management areas (WMAs) in Maryland. In recent years, the Maryland Department of Natural Resources has been actively establishing and reclaiming habitat on several popular WMAs in the Eastern Region. Management efforts have been shifted toward using more frequent prescribed fire to manage larger blocks of habitat. While populations continue to decline on unmanaged areas, monitoring on the WMAs has documented an excellent response to the habitat work. Breeding season surveys show that the number of whistling males increased 211% in the last two years on two well-managed WMAs. Fall covey numbers in 2015 were at the highest level recorded since the surveys began in 2004. Much more habitat restoration work is planned in the next few years on these and other public lands.



## MISSISSIPPI

Charles Ray Nix Wildlife Management Area near Sardis, MS is managed by the Mississippi Department of Wildlife, Fisheries, and Parks with an emphasis on early successional habitat for bobwhite quail and other wildlife. However, habitat conditions began to stagnate after several years of limited staff and poor prescribed burning conditions. After having two full-time area staff committed to the area for a full year, capacity has increased dramatically. After struggling to get just less than 1,000 acres burned with prescribed fire during 2013 and 2014, acreage managed with prescribed fire increased to almost 1,800 acres in 2015. Despite hot, dry conditions this summer, this boost in habitat management capacity should increase quail population productivity going forward. "It just goes to show how important having dedicated personnel are to keep up intensive habitat management," said Rick Hamrick, state quail coordinator.

## MISSOURI

Missouri Department of Conservation recently approved updated Strategic Guidance for Northern Bobwhite Recovery 2015-2025. This updated guidance is a step-down of the National Bobwhite Conservation Initiative with emphasis on outreach, research and focused habitat restoration.

Additionally, preliminary results from ongoing research continue to highlight the importance of well-managed grassland landscapes for quail reproduction. Covey break-up and pairing continue to occur sooner on grassland conservation areas managed with fire and conservation grazing (extensive management model) when compared to more traditionally managed areas using cover strips, hedgerows and food plots (intensive management model). During the final two years of the study, researchers will be looking at chick survival between the competing habitat management models to get a more complete picture of quail population dynamics between the two management scenarios.

## NEBRASKA

It looks to be another great year for bobwhite hunters in Nebraska, says Jeff Lusk, state quail coordinator. Early indications are that bobwhite abundance is as good or better than during the 2015 hunting season, which saw harvest increase by 73% compared to the year before. Mild winter conditions, timely spring rainfall, and a dry spell during peak of hatch all bode well for 2016, and spring whistle counts agree. Compared to 2015, the average number of calling males increased statewide.

## NEW JERSEY

The New Jersey Division of Fish & Wildlife is partnering with New Jersey Audubon, Tall Timbers Research Station & Land Conservancy, Georgia Wildlife Resources Division and the University of Delaware on a multi-year, multi-state bobwhite translocation study through the cooperation of a private landowner in the New Jersey Pine Barrens near Chatsworth, NJ. The study began in April 2015 with the release of 80 Georgia bobwhites, with a second installment of 80 birds in April 2016. The third and final release of 80 birds is scheduled for March-April 2017. All releases were evenly split (40 males, 40 females). Fifteen nests were found in 2015, that had 50% nest success and produced 66 chicks. Nine nests have been found as of July 15, 2016 (5 were depredated and 1 abandoned). Snakes are the primary nest predator on the study site. Minimum adult survival for April-December 2015 was 33%.

## NORTH CAROLINA

Under the direction of Dr. Christopher Moorman, students from North Carolina State University are conducting important bobwhite research on several sites in North Carolina. Over the past few seasons, students have radio-tracked more than 200 bobwhites to gain insight into their nesting ecology, movements and survival. A project involving study sites on working farms in southeastern North Carolina is nearing completion. Much of this project took place on the NCWRC's Corporate CURE area, where field borders and other habitat improvements support a strong bobwhite population. A similar project is underway on Fort Bragg in the Sandhill region of North Carolina. Working farms and large military installations such as Fort Bragg offer tremendous potential to contribute to bobwhite restoration. Results from these research projects will help to identify limiting factors in a variety of landscapes and will ultimately lead to more effective habitat management, according to Chris Kreh, the state's bobwhite coordinator.

## OHIO

The Ohio Division of Wildlife is establishing its first NBCI focal area, located on almost 10,000 acres in Highland County. Ohio Quail Coordinator Nathan Stricker says the area is a mix of public and private properties, and the habitat assessment, fall covey counts and spring bird counts have all been done to lay the proper groundwork. Focal area management staff also visited Kentucky for NBCI focal area training and to observe the Bluegrass State's approach to bobwhite management.





## OKLAHOMA

Below average temperatures and ample rainfall during the 2015 nesting and brooding periods resulted in good to excellent quail production in nearly every portion of the state. The improved habitat quality and increased quail numbers resulted in the 2015-16 quail hunting season being reported by many hunters as the best in more than 30 years. Although the 2016 nesting period has been hotter and drier than 2015, anticipation is high for a third consecutive year of good quail production. Meanwhile, the Oklahoma Department of Wildlife Conservation continues to monitor the Cross Timbers CIP Focal Area and two reference areas. Management within the focal area consisted of seasonal grazing across the majority of the 8,000 acres. In addition, approximately 3,000 acres was prescribe-burned during the early portion of 2016 and more than 20,000 sand plum seedlings were planted to help establish important woody protective cover for quail. Based on initial monitoring data, suitable focal area habitat treated with fire every three years appears to be favored by bobwhites. Overall, the focal area in south-central Oklahoma is a model for landowners to follow when it comes to quail management in that part of the state and is utilized each year to host Quail Field Days to help introduce landowners to quail-friendly management practices.

## PENNSYLVANIA

The bad news is that state officials have declared the wild bobwhites to be extirpated in Pennsylvania. The good news is that the Pennsylvania Game Commission recently completed a strategic plan to direct action through 2020 and made restoration of wild bobwhites to sustainable levels a priority. Talks are in progress for the development of at least one focal area—at the 20,000-acre Letterkenny Army Depot. Restoration will require the translocation of wild birds from another state, says Scott Klinger, the state's quail coordinator.

## SOUTH CAROLINA

In an agreement between the South Carolina Department of Natural Resources, NBCI and the U.S. Forest Service, South Carolina is ramping up work on the Enoree Ranger District in the Sumter National Forest in South Carolina on the 2,683-acre Indian Creek Focal Area. Special funds contributed by the Forest Service's national office will be used for fire line construction for future prescribed burns and the seeding of those lines with native weeds and wildflowers. (See also **GEORGIA**.)

## TENNESSEE

The Tennessee Wildlife Resources Agency, along with the University of Tennessee, will be hosting the Eighth National Quail Symposium in Knoxville, TN July 24-29, 2017. The scientific conference convenes every five years and is the world's largest meeting of quail professionals. For information go to <https://www.quailcount.org/quail8/home.html>.

## TEXAS

Bobwhite quail don't typically come to mind when you visit the Blackland Prairie farm country in Texas, but that's exactly what folks are excited about just 50 or so miles south of Dallas. The Western Navarro Bobwhite Recovery Initiative (WNBRI) was established in 2006 to provide a plan and mechanism to deliver bobwhite and grassland bird conservation to local landowners in the western one-third of Navarro County, Texas. WNBRI has now grown to 35 members and assembled a cumulative land base for applied habitat enhancement and management of close to 30,000 acres. The partnerships with multiple organizations along with the technical assistance provided from government agencies have so far contributed to the restoration of close to 1,500 acres of native grassland, treated about 500 acres of mesquite brush and conducted prescribed burns on roughly 300 acres. Fine and broad scale population monitoring efforts are supported by Oaks and Prairies Joint Venture and Texas Parks and Wildlife Department. Preliminary results look promising.

## VIRGINIA

The Virginia Division of Game & Inland Fisheries' partnership with the Virginia Department of Forestry (VDOF) continues to strengthen. Most recently, the Virginia Quail Team awarded the VDOF with our NBCI National Fire Bird Conservation Award for 2016. For the fourth year, VDGIF will be partnering with the VDOF to offer a series of Forestry/Quail Best Management Practices (BMP) in quail focal regions. The Forestry/Quail BMP program has grown in popularity each year. All available funds were allocated for the first time last year. This year, a new practice was added to allow for seeding legumes on logging decks and roads after harvest and after herbicide release spraying has occurred. This cover will serve as the bridge while native plants recover from herbicide treatments. Over 1,500 acres of practices which include seeding of declining pine species, pre-commercial thinning and prescribed burning have been implemented. In other news, the state's current quail plan is being revised.



## NBCI Presents National Fire Bird Conservation Awards

The ten 2016 NBCI National Fire Bird Conservation Awards distributed among recipients in eight states at the recent annual meeting of the National Bobwhite Technical Committee in Lincoln, NE recently illustrated a new diversity, with one going to a state forestry department and another to the first Quail Forever chapter to be so recognized.

Used at the discretion of the quail coordinators of the 25 state agency NBCI members, the award is designed to recognize “valuable support of habitat-based, landscape-scale restoration of wild bobwhites.”

“NBCI provides this avenue for states to recognize and thank those making meaningful contributions to the science-based restoration agenda, and perhaps help encourage others to join their efforts,” said NBCI Director Don McKenzie. “We need as many individuals, agencies and organizations as possible actively contributing to this unified 25-state strategy.”

The award’s name symbolizes the ecological reliance of bobwhites on fire in much of its range to maintain the landscape in an “early successional” stage, that is, in the native grasses, wildflowers and “beneficial weeds” providing bobwhites with suitable habitat. Both wildfires and fires intentionally set by people to clear fields and woods historically resulted in abundant habitat for bobwhites, as well as other wildlife. The term “fire bird” in relation to bobwhites was first coined by naturalist Herbert Stoddard, who researched bobwhites and worked to restore bobwhite habitat in the early 20th century.

Today, “prescribed” fire under controlled conditions by trained professionals has become an increasingly important tool for helping create and manage habitat for bobwhites, as well as a suite of songbirds, pollinators and other wildlife that require early successional habitats to survive.

2016 award recipients were:

### ***Iowa — Iowa DNR Wildlife Management Unit and Private Lands Staffs***

Over the past few years the NBCI model has motivated—and continues to motivate—these Iowa staffs to create new areas and re-invigorate established areas with elevated management and monitoring for the benefit of bobwhites, with both public and private lands staffs coordinating efforts. The Sugema, Grand River, Nishnabotna and Red Rock management units elevated quail management of their own accord, and private lands staff prioritized quail habitat on private lands in these same wildlife units using USDA conservation programs.

Following the 2014 annual meeting of the National Bobwhite Technical Committee and the NBCI in Iowa, a group of wildlife staff hosted an inaugural “quail workshop” to share ideas and encourage additional coordinated, focused efforts on quail habitat management and monitoring based on the NBCI model. This resulted

in several more wildlife units of their own accord elevating quail management following the NBCI model for focal areas and, in 2015, Iowa’s statewide quail index was the highest in 21 years, thanks in part to these focused efforts.

### ***Kansas — Troy Smith***



A public lands manager for Kansas Department of Wildlife, Parks and Tourism, Troy Smith was recognized for his reputation as “the quail guy” with the public lands section of the agency, and his impact to upland bird habitat while manager of Norton Wildlife Area in northwest Kansas. On the periphery of the bobwhite range, Norton utilized “destructive” grazing to convert

brome-dominated grasslands back to native warm-season grasses, and incorporated chemical applications to brome conversion tracts that were controversial at the time but resulted in positive habitat response models for landowners and wildlife managers.

After moving to Byron Walker Wildlife Area in south central Kansas, he implemented grazing with stocked cattle on 880 acres. Today, he’s grazing 2,445 acres. He utilizes a four-year rotational prescribed burning program on the 4,285-acre area to set back plant succession and is an agency innovator for patch burn/patch grazing management techniques. His summer burns in conjunction with grazing have shown positive results for bobwhites by reducing undesirable woody growth, promoting forb production and setting the stage for quality brood-rearing habitat the following spring. Smith also took a lead role in establishing tree-shearing that at the time was a questioned technique but is now commonplace across the landscape.

“If a new manager wants input on quail management, they call Troy,” said Acting Public Lands Section Chief Stuart Schrag.

### ***Kentucky — Ben Robinson***

A former small game biologist with the Kentucky Department of Fish & Wildlife Resources, now assistant director of the wildlife division, Ben Robinson was recognized for a range of contributions, from putting habitat on the ground to planning, monitoring, research, and motivating staff in the field. He co-authored the state’s





bobwhite restoration plan and its subsequent 2015 benchmark report. He spearheaded training and monitoring efforts and supported research projects for habitat management on Peabody Wildlife Management Area. He was the technical expertise behind one of the state's and country's most noted restoration success stories at Shaker Village, has made dozens of bobwhite presentations, written numerous articles and sits on the steering committee of the National Bobwhite Technical Committee.

### **Missouri — Lee Metcalf, 2C Quail Forever Chapter**



A private lands biologist with the Missouri Department of Conservation, Lee Metcalf was honored for his development of a conservation network to support the state's 2C NBCI CIP Focal Area and the delivery of conservation practices on the ground at a landscape scale. One example was enrolling nearly 60 percent of the 5,000 Conservation Reserve Program's State Acres for Wildlife Enhancement

(SAFE) acres allotted to the entire state in the Carroll County portion of the state's 2C NBCI CIP Focal Area. Metcalf also implemented contracts for spraying of over 7,000 acres of *Sericea lespedeza* in the focus area.

The 2C Quail Forever chapter was recognized separately for its work on the same focal area. The chapter helped the state host an NBCI tour and training event for Nebraska QF Farm Bill biologists, agency biologists and landowners to better help them understand the "quail focal area" concept. The chapter also helps with the NBCI-required spring quail and songbird counts and the fall bobwhite covey counts, and the habitat assessment surveys.

### **Oklahoma — Brandon Baker**

Brandon Baker was recognized for his work in managing and transforming the 10,300-acre Cross Timbers Wildlife Management Area from a fair-to-moderate bobwhite habitat in 2011, when the property was purchased, to a well-known south-central Oklahoma quail hunting destination that commonly produces five to eight coveys per listening point during fall covey counts.

Chosen by the Oklahoma Department of Wildlife Conservation as the state's NBCI focal area, Cross Timbers has more than 60 miles of firebreaks within 16 burn units and nearly all units have been burned twice and some three times. Each year, approximately 8,000 acres are managed via a seasonal livestock grazing system with varied stocking rates based on habitat conditions and management goals. Nearly 1,000 acres of Bermudagrass pasture have been converted to a native grass-forb mixture, more than 60,000 sand plums

planted to improve protective cover, and 300 acres of closed canopy forest converted to diverse grass-forb communities through timber thinning and herbicide treatments.

### **South Carolina — D. Breck Carmichael, Jr.**

Currently special assistant to the director of the South Carolina Department of Natural Resources, Breck Carmichael was recognized for his longstanding leadership to restore bobwhites at a landscape scale, beginning with his central role in the initial effort to engage southeastern states in tackling the issue in the 1990s (and leading to the eventual formation of the National Bobwhite Conservation Initiative).

Carmichael was directly responsible for the recent creation of the South Carolina Quail Council and its organizational design, and a Bobwhite Quail Technical Committee to advise the council, as well as the establishment of four bobwhite focal areas in the state, one of them an NBCI focal area under the NBCI Coordinated Implementation Program. He also assisted in re-building the capacity of the state's Small Game Program, secured funding for two Farm Bill biologists and supported the development of a joint biologist position with the U.S. Forest Service and Quail Forever.

### **Tennessee — Wes Winton, Brittany Viers**

Wes Winton, manager of Bark Camp Barrens Wildlife Management Area for the Tennessee Wildlife Resources Agency, was recognized for his efforts in using prescribed fire and timber thinning to transform his area as the public lands anchor for an NBCI focal area in his portion of the state.

Brittany Viers, a Quail Forever biologist in western Tennessee, was recognized for her delivery of NBCI-related habitat assistance to landowners, her exceptional knowledge of native plants and her commitment to native plants in quail restoration in her portion of the state.



### **Virginia — Virginia Department of Forestry**

Virginia recognized the Virginia Department of Forestry for working with the Virginia Department of Game and Inland Fisheries in administering a cooperative Forestry Best Management Practices Program with multiple special practices designed to benefit quail/wildlife within the context of applied forestry. The VDGIF provides funding, but VDOF foresters provide field site visits, take enrollment and administer funds. The VDOF also works cooperatively to jointly manage the Piney Grove/Big Woods NBCI Model Quail Focal Area, and has been very active in organizing and leading the Virginia Prescribed



Fire Academy — an entity which has now certified over 1,050 prescribed burners. In addition, they have led and sponsored the Virginia Prescribed Fire Council, most recently helping to update the prescribed fire training program and offering advanced prescribed fire training through their annual Wildland Fire Academy.

### ***Special NBCI Presentation***

NBCI made a special presentation of the Fire Bird Award on April 28 to UT Communications Specialist Heather Inman, the designer of the Fire Bird Award, during a reception on her last day at the University of Tennessee. In a letter read at her reception, NBCI Director Don McKenzie wrote:

“Though your important contributions have been many and varied, none surpasses your key role with NBCI’s Bobwhite Almanac: State of the Bobwhite report. You helped take it from a 38-page, spiral bound report of technically important information captured in charts and paragraphs of text to a 58-page, perfect-bound publication that turns heads in offices from our

nation’s capital to the capitals of our 25 states and far beyond. NBCI has traction and momentum heretofore unseen, and NBCI’s Bobwhite Almanac has contributed significantly to that, thanks to you.”



## **NATIONAL BOBWHITE GROUP HONORS DR. LEONARD BRENNAN FOR CAREER CONTRIBUTIONS**

The National Bobwhite Technical Committee (NBTC) honored Dr. Leonard A. Brennan of Texas with its Award for Individual Achievement at its annual meeting in Lincoln, NE, in August 2016. The award is presented to recognize an individual’s overall contributions to bobwhite research and/or management during a career.

NBTC cited Dr. Brennan, a professor who holds the C. C. Winn Endowed Chair in the Richard M. Kleberg Jr. Center for Quail Research at Texas A&M University, Kingsville, specifically for his positive national influence on quail management, and his support of NBTC and the National Bobwhite Conservation Initiative (NBCI) within the wildlife profession during his 33-year career.

In addition, NBTC recognized Dr. Brennan’s research on six species of quail across nine states, his more than 170 scientific publications and more than 105 extension publications, many of which established the course for today’s quail management and research activities. Dr. Brennan was also a central figure in the South Texas region’s designation as the first-ever NBCI Legacy Landscape for Northern Bobwhite Conservation.

Dr. Brennan has also been actively involved in the NBTC (and its predecessor, the Southeastern Quail Study Group) as the elected “academic representative” on the groups’ respective steering committees, and

played an integral role in the national quail symposium series — leading a national strategic workshop for Quail 3, chairing and editing Quail 4, and serving as an associate editor for the upcoming Quail 8 in Knoxville, Tennessee.



*Left to right, NBTC past chair Marc Puckett and Dr. Leonard Brennan*



# Quail 8 Set for Knoxville, TN in July 2017

**T**he Eighth National Quail Symposium — expected to draw more than 200 quail experts, researchers, policy-makers and natural resource managers from state, federal and institutional entities from around the U.S., Canada, Latin America and Europe — is scheduled for July 24-29, 2017 in Knoxville, Tennessee.

Hosted by the University of Tennessee and the Tennessee Wildlife Resources Agency, Quail 8 will feature the latest quail research findings, including plenary lectures, contributed presentations and peer-reviewed proceedings, and will feature on-the-ground results of bobwhite response to management. The scientific conference convenes every five years and is the world's largest meeting of quail professionals.

The Quail 8 peer-reviewed proceedings containing 80 abstracts and manuscripts will be distributed at the meeting, with a team of 13 associate editors from the Gulf Coast Joint Venture/U.S. Fish and Wildlife Service, Oklahoma State University, Tall Timbers Research Station & Land Conservancy, Tennessee Wildlife Resource Agency, Texas A&M University, Texas Tech University, The Ohio State University, University of Delaware, University of Georgia, University of Nebraska/U.S. Geological Survey, and NBCI.

Quail 8 covers bobwhites and western quails, south to Mexico, including the endangered masked bobwhite, *Colinus virginianus ridgwayi*. Strong participation from western quail biologists is anticipated following approval in July 2016 by the Western Association of Fish and Wildlife Agencies of the Quail Symposia Series as a sanctioned technical workshop.

The preliminary technical program is on NBCI's technical web site <https://www.quailcount.org/quail8/home.html>, highlighted by concluding remarks by Frank R. Thompson, PhD, Research Wildlife Biologist, United States Forest Service, Northern Research Station, Columbia, Missouri. Dr. Thompson's research focus is on

avian ecology and conservation with emphasis on early successional and forest song birds and gamebirds. Dr. Thompson has published over 200 journal articles and co-edited books on wildlife conservation. He is an avid upland bird hunter, and he and his wife raise English Setters.

For more information on previous national quail symposia, please visit <http://bringbackbobwhites.org/download-category/national-quail-symposia/>.





# Natives First...

## Consider Native Vegetation First

By Jef Hodges, NBCI Grasslands Coordinator

**“If we could just get the government to quit working against us that would be half the battle.” Sound familiar? How many people haven’t spoken or at least thought that in one context or another?**

According to May 2016 Conservation Reserve Program (CRP) statistics, an estimated 3.9 million acres of CRP are planted to non-native, exotic grasses, not including the CP10 practice — Existing Grass. (The Farm Service Agency does not differentiate native vs. non-native on CP10.)

The most recent Environmental Quality Incentives Program (EQIP) figures available show USDA planted an estimated 1.25 million acres to non-native, exotic species in 2014, with slightly less than 1% of the EQIP acres planted in grasses planted to native vegetation. (Estimates based on conservation practice applied and the funding pool as the Natural Resources Conservation Service (NRCS) does not track acres planted to native vs. non-native.)

Given those numbers it’s clear the U.S. Department of Agriculture (USDA) traditional policy and practice is working against wildlife conservationists’ efforts to increase the amount of native vegetation acres. Worse, USDA is subsidizing, with tax dollars, the programmatic expansion of these exotic introduced species. Meanwhile, grassland birds continue in decline and native grasslands is identified as one of the most imperiled ecosystems, with less than 1% remaining in the eastern U.S. Many of the modern grassland agriculture practices in the East have no regard for native grasslands and leave little room for grassland birds.

How does NBCI and the rest of the conservation community address that problem? Natives First!

NBCI is working with USDA and partners to develop a proposal which would establish a native vegetation standard for the Conservation Title of the Farm Bill. At the core of Natives First is the two-phased approach: No Net Loss/Net Gain which would: 1) end or minimize losses and degradation; and 2) accelerate restoration gains.

In general, it is safe to say that native vegetation is beginning to be accepted as a preferred wildlife cover and USDA has been accommodating in incorporating native vegetation into wildlife practices. However, invasive exotic species are still being subsidized for wildlife purposes and native vegetation has been pigeon-holed, for the most part, for wildlife only while mostly ignored for soil conservation, water quality and forage purposes. Yet research has shown native vegetation to be at least equal and in many cases superior. (See “Science Makes the Case for Native Grasses” — 2015

Bobwhite Almanac.) At the programmatic level USDA has incorporated the option of native vegetation for soil conservation, water quality and forage, but in reality, native vegetation is very seldom presented as an option (and even less frequently recommended) in the field.

The Natives First native vegetation standard would help address these shortcomings. The goal of Natives First is for agency staff and landowners to consider native vegetation first with any practice which requires planting of vegetation or provision of technical assistance. Natives First should place no regulatory restrictions upon private landowners; it would promote the adoption and use of native plants for most purposes; it would allow flexibility for cost-sharing of non-aggressive introduced plants; and it would eliminate financial assistance for new USDA program enrollments using aggressive introduced species.

It is important that landowners still have the option and flexibility to plant what they desire, otherwise any standard or policy would be an overreach of government and not NBCI’s intent. Landowners should appreciate that in today’s economy, taxpayer investments in their property need to provide multiple environmental benefits. Native vegetation provides one of the most economical ways to do that. There would be no obligation on the landowner’s part if not accepting taxpayer investments in their property.

The USDA is one of the leading and preferred sources of technical information for U.S. farmers and ranchers. By promoting native vegetation under Natives First, USDA would be demonstrating the importance of native vegetation to landowners and partner groups. And by focusing on native vegetation we could begin to address the No Net Loss/Net Gain objectives of Natives First.

NBCI fully understands there would be issues implementing a native-only standard and because of those issues supports a process for the use of non-aggressive, introduced species. Issues may include emergency actions to protect basic resource values, temporary vegetative covers, availability of suitable species or seed for the region, certain wildlife or livestock concerns and others. Natives First provides a framework for a decision-making process to be developed for dealing with these exceptions state-by-state.

Natives First will slow the influx of non-native, exotic species by eliminating subsidies and technical assistance



for new USDA program enrollments using aggressive introduced species. This action would also save taxpayer dollars by eliminating or significantly reducing conflicting practices where landowners are paid to plant aggressive introduced species under one practice and then paid to eliminate them under another practice.

Since before the formation of the Soil Conservation Service in 1935, the U.S. government has been promoting herbaceous vegetation for conservation purposes. There isn't enough information in the historical

accounts to determine how much was native vs. non-native in those early days, but USDA Plant Material Centers were formed in the early 30s and their earliest non-native release was in 1949. So at the very least USDA has been providing and promoting non-native vegetation for over 65 years. Natives First — Consider Native Vegetation First is a long overdue challenge to that paradigm.

To view a copy of the Natives First proposal, visit: <http://bringbackbobwhites.org/conservation/natives-first>.

*Natives First has been a priority issue of the NBCI grassland coordinator from the beginning because it has been a priority of the NBCI member states. Based upon feedback received from the two previous NBCI agriculture policy coordinators and a handful of "outsiders" both in and outside of agencies/groups which were "targets" of the early Natives First efforts, it became apparent that changes needed to be made. Former NBCI ag policy coordinators related that there was confusion surrounding the name and intent of the promotion. Agency personnel related a negative connotation had been associated with the effort and agriculture, along with some wildlife groups, opposed the exclusion of non-native vegetation from USDA policy.*

*As a result of that feedback, and with the assistance of the Theodore Roosevelt Conservation Partnership, NBCI created a task force to develop the Natives First campaign strategy. This plan would serve as our guiding document to navigate through the process of launching and completing a successful proposal. The key components were: formation of a working group comprised of a broad base of stakeholders to review and revise the original Natives First proposal; build/reactivate a Natives First Coalition; promote the Natives First concept at the grassroots level via the coalition; and finally coalition submission of the Natives First proposal to USDA.*

*Following the development of the strategy, a policy working group formed to re-sculpt the original proposal. Representation on the working group included cattlemen, the Theodore Roosevelt Conservation Partnership, the National Wildlife Federation, U.S. Fish and Wildlife Service, academia, retired NRCS personnel, state agency personnel, seed industry representatives, USDA-Agriculture Research Service and NRCS staff.*

*The working group first tackled the name, the image created, the past brand and the brand's image. The group concluded, in general, with a new approach connecting a broad base of stakeholders creating a "kinder, gentler" Natives First — the name would remain. A number of options were considered, but nothing else captured the concept as succinctly. Yet it was acknowledged the name could be misleading and the group added a simple tag line to create the desired focus. Natives First — Consider Native Vegetation First became the new marque.*

*From the initial receipt of the draft policy proposal it took the policy working group nine months to review and revise. To be fair, however, several of the producers were late coming to the process, as they were recruited in the last four months of the procedure. In June 2016 the policy working group completed the draft proposal and submitted it to the National Bobwhite Technical Committee's Grasslands and Grazing Lands Subcommittee for review and approval.*

*Efforts to build the Natives First Coalition began in July.*





# Arkansas, Pea Ridge Find Creative Path To Meet Focal Area Mapping/Monitoring Challenges

By John Doty  
NBCI Communications Director

**W**hile habitat assessment, spring bobwhite and songbird counts, and fall bobwhite covey counts are all necessary ingredients in the establishment of an official NBCI focal area under NBCI's Coordinated Implementation Program, those activities can be a challenge for some states. One state, Arkansas, and its focal area partner, Pea Ridge National Military Park, have found a creative way to meet that challenge.

"Northwest Arkansas Community College (NWACC) is about 10 miles from Pea Ridge (National Military Park)," explained Kurtis Cecil, who teaches botany and general biology at NWACC. Professor Cecil's background is in plant ecology. "I've had students working on projects there for several years." And on a related note, Cecil has also been a quail hunter for years and a member of Quail Forever since its inception.

"When the focal area was proposed at Pea Ridge, Kevin (Eads, park superintendent) and Nolan (Moore, park biologist) asked if we wanted to get involved," Cecil said. "I created a new course listed under Environmental Science called Special Topics/Bobwhite Habitat Research, which is three credit hours. Student learning outcomes include understanding ecology (especially plant community succession), and how to use GPS and GIS technology."

To prepare for teaching the students, Cecil attended the NBCI habitat assessment training hosted by the Kentucky Department of Fish & Wildlife Resources at Shaker Village. He had two students in the course in the

spring. They did quail necropsies (no eyeworms found), spring population monitoring, habitat assessment and GIS mapping of sampling points. (Their presentation and a written report are available here: [http://faculty.nwacc.edu/EAST\\_original/Spring%20202016/Environmental%20Spec.%20Problem/index.htm](http://faculty.nwacc.edu/EAST_original/Spring%20202016/Environmental%20Spec.%20Problem/index.htm))

Cecil spent numerous days in the field with the students until he was comfortable with them understanding the requirements and being able to discern between forbs, grasses, woody cover and other aspects of bobwhite habitat. And, of course, their work is subject to review and approval by not only Cecil himself but also the park, Arkansas Game & Fish and NBCI.

As for the first two students, Elizabeth Smith, who was hired as a summer intern by Arkansas Game & Fish to do outreach to private landowners around the focal area, is pursuing a degree in Environmental, Soil and Water Science at Middle Tennessee State University this fall. The other, Chloe Stillings, will work on a degree in biology at the University of Arkansas and then a Master's in wildlife biology.

"They are entering four-year institutions from a community college with undergraduate research experience," said Cecil. "That gives them an advantage."

Four more students have signed up for his class this fall and plans are to finish up all the mapping and conduct covey counts. Next spring's class will do mapping and population monitoring on the reference area that an NBCI focal area requires.

NWACC itself is more than aware of the activities of Cecil and his students. "My dean is using this class as an example course to apply for a STEM (Science, Technology, Engineering, Math) grant for the college."

Meanwhile, in Arkansas, college students are PAYING for the privilege of doing the mapping and monitoring an NBCI focal area requires.



NWACC students Elizabeth Smith (left) and Chloe Stillings (right)





# Habitat Buffers for Upland Birds Must be Managed to be Effective

By Tom Franklin  
NBCI Agriculture Liaison

**T**he bobwhite conservation community celebrated in 2004 when the USDA Farm Service Agency (FSA) finally approved the Habitat Buffers for Upland Birds practice (CP33) of the Conservation Reserve Program. It created the opportunity to establish hundreds of thousands of acres of quality habitat for bobwhites and other grassland dependent wildlife.

In 2015, after more than a decade of advocacy by the National Bobwhite Conservation Initiative (NBCI), the FSA allocated 250,000 acres for landowners to sign up center pivot corners in the CP33 practice in the CRP. In total, this amounts to over half a billion dollars available to assist landowners who want to voluntarily attract bobwhites and other upland birds to their property. As of June 22, 2016, 260,000 acres were enrolled in CP33 with 31,000 of those acres being center pivot corners.

Among the many benefits of CP33 buffer practices are that it creates corridors for wildlife movement, provides habitat for quail, pheasants, turkeys and other upland birds, reduces inputs on lower-production land, provides habitat for pollinators and other beneficial insects, reduces erosion, and improves water quality on working lands.

As great as the program is however, there remains a challenge to maintain the grassland habitat value of CP33 throughout the 10-year duration of the contract. If the native grasses and forbs that are established under CP33 are not actively managed, the vegetation will grow too dense to allow birds to move on the ground below the grass canopy. Quail require bare ground within the grassland so they can search for seeds and insects while protected from avian predators by overhead concealment.

This need for active vegetation management is the reason that each CP33 contract contains a requirement for “mid-contract management” (MCM). Mid-contract management involves thinning and rejuvenating desired vegetation and preventing the encroachment of tree saplings into the buffers. If not managed every two to three years in most regions, the grassland habitat will lose its value for upland birds.

Effective practices used to maintain quality grassland habitat include prescribed fire, disking, grass specific herbicide treatments, and inter-seeding of wildflowers and legumes. The resulting diversity of grasses, wildflowers and annual weeds, when in close proximity of shrubs for protective cover, will provide winter and nesting cover, flowers for pollinating insects, and a food source.

Unfortunately, the application of MCM, even though it's included in the CP33 contract, often is not implemented.

Failure of landowners to implement MCM may be due to a lack of understanding of the proper management techniques by the landowner or their advisors.

To remedy this concern, NBCI is preparing a training document that will provide landowners and FSA agency personnel with the information needed to effectively implement MCM on Habitat Buffers for Upland Birds and other grassland habitats.

Proper establishment and management of native grasses, wildflowers and annual weeds, with sufficient bare ground and adjacent dense shrubs, will provide quail with needed nesting, brooding, roosting, winter, and protective cover as well as winter food.

The NBTC publication describing best management practices for mid-contract management of Habitat Buffers for Upland Birds will be available in Fall 2016, including for download on the NBCI website at [www.bringbackbobwhites.org](http://www.bringbackbobwhites.org).



*Grassland habitat must be managed to maintain its value for bobwhites and songbirds.*

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# 70 years of habitat change on a Butler County, Kentucky Farm

By Richard Hines

**S**hortly after World War II, my father returned from the Pacific where he was a B-24 bomber pilot. When arriving home, he both continued farming with his brother Walton and his father, L. J. Hines, Sr., and flying with the Air Force Reserve where he was a multi-engine flight instructor. Richard Sr. was an avid quail hunter and when not farming in the fall he spent many hours bird hunting along the Green River. Fortunately for us, he was also an accomplished photographer and through his photography we are now able to visualize some of the on-the-ground changes that have taken place on the Hines Farm in Butler County, Kentucky. This farm is really no different from others, as many of those same changes took place across the entire region.

The information, recollection of farming, and habitat changes on the Hines Farm is a combination of both my memories and those of Tommy Hines, my brother. Both of us are retired wildlife biologists who grew up on the farm. Tommy began hunting the farm in the late 1940s, I started in the 1960s.

When asked, most of our family cannot recognize any visible changes on the farm, which is a normal response because critical habitat changes are often so subtle to the untrained eye. Changes in the plant composition of fields takes a trained eye, even on a plant community level but changes did occur and the following photographs

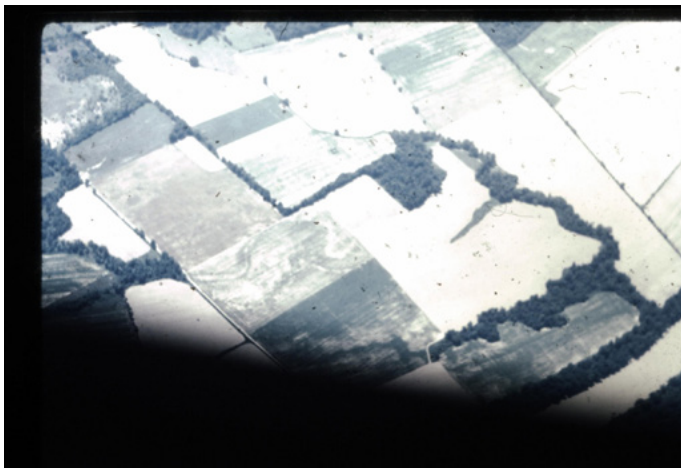
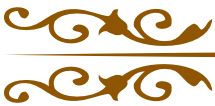


Photo snapped out of the window from a C-47 with wing cutting off a portion of the shot. Not great quality but it does show the farm from the air. Note the variations in vegetation. Note the continuation of a meandering slough with hydric soils, wide fence rows with shrub habitat. Also note the smaller fields on adjacent farms. Fence rows with abundant vegetation suitable for quail were prominent. Small blocks of woodland which were too wet to farm remained forested. These forested tracts also retained standing water during the winter months, which supported waterfowl migrating along Green River.



In 2015 the small fields have disappeared, as have numerous travel lanes. At ground level the plant diversity has diminished, being replaced with monocultures of row crops.

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taken in the 1940s, 1960s and in 2016 demonstrate how management altered the habitat, causing northern bobwhite populations to plummet.

We were also fortunate in that our grandfather had tremendous recall on farming and the changes that occurred. Both of us listened intently as he told stories of how they farmed in the early 1900s. As a young man he helped clear much of the land beginning around 1900. The bottomland remained as crop fields even today but most of the hill ground was cleared, planted to crops and later became pastures. In our lifetimes Tommy and I have

witnessed cedar thickets revert to sub-mature hardwood forest.

The Hines farm was enrolled in various USDA cost share programs such as the 1956 The Soil Bank Act<sup>1</sup>. By the early 1960s, portions of the farm still had significant gullies and as a boy I spent time filling gullies with trash,

<sup>1</sup>The Soil Bank Act (Title I of the Agricultural Act of 1956) had multiple purposes—reducing production of basic crops, maintaining farm income, and conserving soil.



Clean corn fields of today did not exist in the 1940s. Tommy said “Regardless of how often we worked or cultivated corn fields, each fall they still had a fairly significant amount of beggar lice and other annual plants.” Even after harvest, fields would yield quail. It is evident that continued use of herbicides has reduced plant diversity in most fields.



The clover field in the photograph was productive for quail nests. Tommy told one story of Richard, Sr.: “while cutting hay a quail nest was discovered and we immediately started walking the field and marking quail nests so he could cut around them...the entire field was only about 30 or 35 acres and we marked at least a dozen nests”.



Although there is a CP33 Buffer around the corn field (2016), the field size has increased with little or no winter residual food remaining on crop ground



Even after being tilled for 50-plus years, the clover field remains wet in some years. It is now part of a large soybean/corn field.





paper, wood, or anything that would slow the erosion process along hillsides and roads. By the mid-1960s KY-31 Fescue was fully established on the farm and Tommy recalls seeing results in reducing soil erosion within a couple of years. Fescue was probably responsible for the first dramatic decline of quail on the farm. As an example, prior to fescue it was not unusual to flush 7-9 coveys, but within a few years after establishing fescue only 2 to 3 coveys could be located. That decline continued into the 1970s as surrounding habitat declined as well.

Both of us have seen the farm change. Our grandfather told us stories of hunting woods partridges (ruffed grouse) and in 1897 when he was 13 years old

he killed one of the last wild turkeys along the river. I remember sometime around 1962 he loaded me in the truck and took me to the river bottom to show me a deer track. It was one of the first he had seen in years. He told me about one of the last deer killed sometime during the Depression. All of the neighbors struck out after the deer with dogs. Three days' later stew was had by all. Even though it may well have been the last deer it was a desperate time.

During those early years it was apparent hunting pressure was intense. Everyone in the family and most farmers in the area kept bird dogs, yet quail numbers remained high at least until fescue was established. This



*In 1964, the slough was a wet area comprised of northern pin oak and willow oak. Field edges were heavy stands of giant cane. This section of the farm provided numerous headquarter areas for quail while we also shot rabbits and ducks in the slough.*



*The slough was drained in early 1970s when a ditch was dug between two family farms. Today, the ditch continues to drain the remaining hydric soils with a narrow strip of a CP33 planting.*





*In 1946, succession had started on this cleared slope. Sweet gum, black locust and eastern red cedar were beginning to capture the site, shallow subsoils were all that remained. Erosion had been so severe that efforts were underway in 1960 to fill the ditches with anything to stop the process. Around 1901 our grandfather had helped clear and burn 36- to 40-inch tulip popular on this north aspect slope to create additional crop land and pasture. Note the plant diversity in the pasture in the foreground.*

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*Same views as above but looking slightly northwest, the fields in view are clover, Korean lespedeza, corn and at least one fallow site which was evidently too wet to farm the previous spring. Note the numerous edges. In the photo above, the pasture in the foreground is entirely native grasses and forbs, a small patch of sweet gum grows in wet seeps below the hill. The large corn field in the center of the photo does not show unfarmed wet areas present on hydric soils. On the right of the corn field is a wooded slough dominated by northern pin and willow oaks. Edges were dominated by giant cane. Green River is at the foot of the large hills in the background (circa 1946).*

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*Our cousin, Walton, Jr., stands about 150 feet to the left of where our grandfather was in 1946 (top photo). It was not possible to duplicate the same view because of forest now on the site. Note the small knob over the equipment shed. Cedars are still prevalent on the field edge as farming/grazing was moved up the slope. Field was in soybeans last fall.*

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was a menace with which birds could not compete. By the late 1960s and 1970s, Tommy and I would locate 2-3 coveys around the farm. By the 1980s and 1990s it was only one or two coveys and on the 2015 hunt only one. Our cousin Walton Hines has Indiangrass on a CP33 but it appears to be only an island with a small remnant covey hanging on.

In 2016, deer and turkey abound in Butler County. With current deer and turkey harvests soaring, it is difficult to

convince most hunters or landowners how productive the land had been for quail and rabbits. It is even more difficult to describe how the landscape has changed so dramatically.

When Tommy called me and said “Let’s hunt the farm,” I was ready, not for dozens of coveys but for the ghost of quail hunts past, fields our family have pursued quail in since the early 1900s. Today, he and I are the only members of the family still pursuing quail.



*View from the “Hill” in 1948 showing a native grass pasture (photo left). The barn in the photo above is gone. Today, a small white shed stands near its location (photo right). In 1947, the pasture had been grazed and there was an abundant amount of residual woody cover found around the edges, under trees. It was an area where several coveys overwintered each year.*



*Cedar site on the hill in 1964, note red cedar trees still present. Field had been planted with KY-31 Fescue around 1959 or 1960 under the Soil Bank Program. At this point the only birds that could be located were in the thick woods behind cedars during winter months*

*In 2016, note the same two cedars in the 1964 photo are still remaining in the canopy. Both are in decline and are being replaced by hardwoods. Fescue was plowed several years previous to this photo. It is currently a harvested soybean field*







*Left: Plant diversity is very evident in this 1948 orchard because much to the chagrin of state forestry officials, fire was used extensively as a tool by our family as well as every other farmer in the area. Our grandfather would take routine walks around the farm and if he noticed a thicket that needed burning, he would simply throw a match in and walk off, letting the fire take care of the brush. As a result, the pastures were a network of patchy thickets. Farms at that time had no large rotary (bush hog) mowers to keep vegetation clipped. Pasture maintenance was accomplished with a sickle bar mower or fire. Right: The same view showing harvested soybean field in 2016.*

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*Unloading dogs during the 2015 hunting season. Noting the background as compared to the 1946 photo shows one large field that in 1946 was a patchwork of small fields with multiply crops and cover available. Today, hunting is only around the edges of one field. Even with CP33 planted on edges, birds are scattered with only one or two small coveys.*

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*Retired Wildlife Biologists Tommy and Richard Hines after a bird hunt at the farm in 2015.*

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## U.S. Forest Service Joins in Bobwhite Restoration

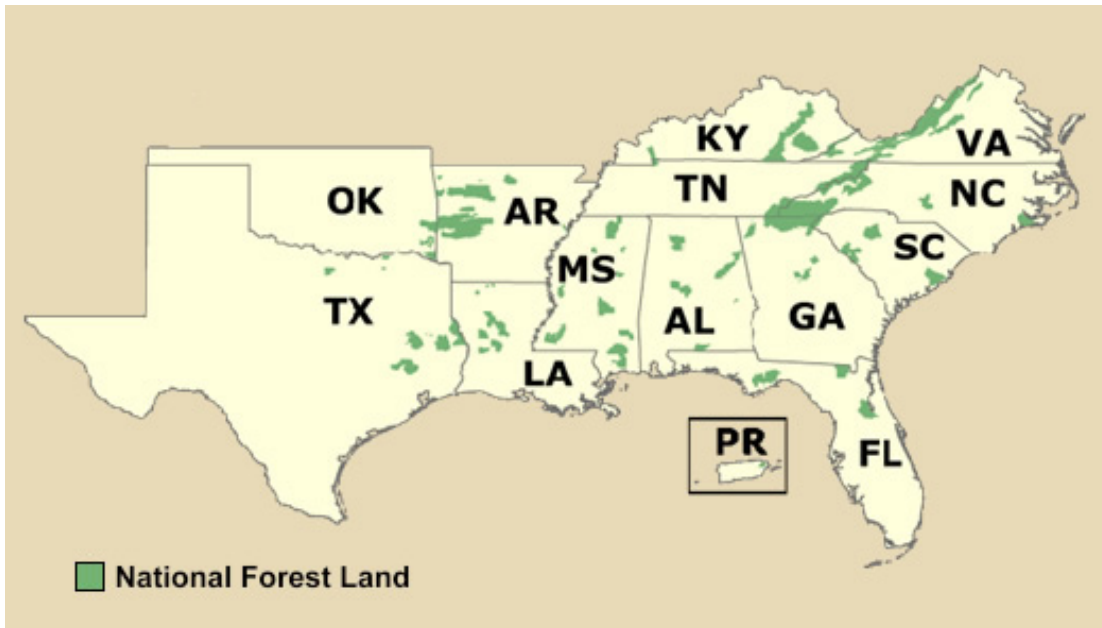
By Steve Chapman  
NBCI Forestry Coordinator

**N**BCI has long known that a good share of bobwhite restoration could be achieved in forested settings where the bird historically resided ... but only with active, purposeful management of forested stands. Management requirements include thinning to allow sunlight to penetrate to the ground and regular prescribed fire to reduce competition on the ground while allowing native grasses and wildflowers in the seed bank to flourish once again.

With that in mind, NBCI, in coordination with the Georgia Wildlife Resources Division, began talks in the fall of 2015 with the U.S. Forest Service Region 8 (Southern Region) office in Atlanta, GA to gauge potential interest in emphasizing more intensive habitat management for northern bobwhites and other related early successional species on national forests across the region. States within that region include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma South Carolina, Tennessee, Texas and Virginia, and there are 14 national forests, each with multiple ranger districts spread out across the landscape.

NBCI also surveyed the state quail coordinators within those southern states to provide USFS Regional Forester Tony Tooke and his staff information about where habitat work for bobwhites was underway, where those efforts could be strengthened and where other opportunities might exist to begin or improve work in conjunction with the region's national forest system.

The surveys identified five ranger districts with the potential to increase or begin work in creating better habitat for bobwhites and with the possibility of creating an NBCI Coordinated Implementation Program Focal Area designation. These ranger districts include the Oconee (Chattahoochee-Oconee NF in GA), the Enoree



U. S. Forest Service Region 8





(Sumter NF in SC), the Conecuh NF (National Forests in Alabama), the DeSoto NF (National Forests in Mississippi), and the Calcasieu Ranger District — Vernon Unit (Kisatchie NF in LA).

Continued discussions over several months between NBCI and the Forest Service at both the regional and national levels resulted in an agreement between the USFS Southern Region Office, NBCI, the Enoree Ranger District, the Oconee Ranger District, Georgia Wildlife Resources Division, and the South Carolina Department of Natural Resources. The agreement resulted in \$100,000 in Forest Services funds from the Washington

Office to support on-the-ground habitat restoration on their lands.

Mid-story hardwood removal on 200 acres along with the development of a quail habitat management plan will be the focus of the work that is to be completed on the Oconee. It is hoped the development of this plan will lead to a template that can be used for other national forest lands. Fire line construction and the planting of these fire lines to native plants (including grasses, forbs and legumes) will be the focus of work on the Enoree.

NBCI is optimistic this agreement will lead to a long partnership with the USFS across the bobwhite range.



*Pine savannas once covered millions of acres in the U. S.*

.....

*Thinning and regular burning create bare ground and native grasses and forbs required by bobwhites and other species.*

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# Quailcount.org a Major Step in National Coordination of Bobwhite Restoration

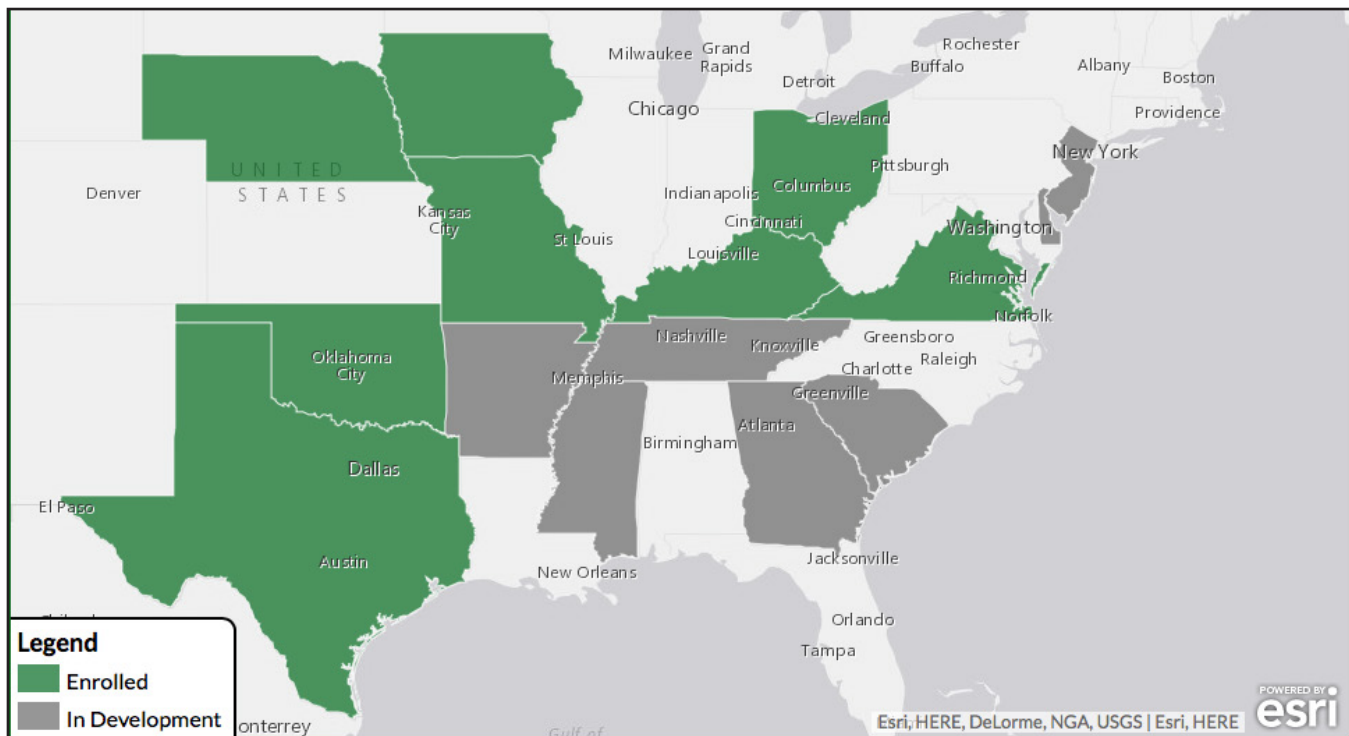
By Thomas V. Dailey, Ph.D., NBCI Assistant Director/Science Coordinator,  
Derek A. Evans, NBCI Data Analyst and Kenneth R. Duren, NBCI Technical Content Developer

**N**BCI science services expanded exponentially the past year thanks to the increased funding from states through the U.S. Fish and Wildlife Services' Wildlife Restoration Program grants. Highlights included growth of the Coordinated Implementation Program, a new website for science services and development of Quail 8, a national technical conference.

Range-wide demand for bobwhite population restoration success led to a new national standard in 2014, the NBCI Coordinated Implementation Program (CIP). The CIP aims to demonstrate success, an abundance of bobwhites, relatively quickly, with annual monitoring, and major habitat and covey abundance benchmarks at years 5 and 10. As of June 2016, 8 CIPs were operational (submitted bird abundance data to NBCI), and at least 6 CIPs were in development,

ranging in size from 2,685 to 27,238 acres (see map for locations of focal areas and list of participating partners). As a preliminary measurement of habitat improvement on NBCI CIP Focal Areas, 12 state quail coordinators reported 17,268 acres of management in the NBCI State Agency Habitat Management Inventory (figure next page and in the Inventory report herein).

To help meet the demand for technical service related to the CIP and other state and partner programs,



Map above from [www.quailcount.org](http://www.quailcount.org)—states and partners participating in the NBCI Coordinated Implementation Program: 1 Arkansas Game & Fish Commission/Pea Ridge National Military Park—National Park Service; 2 Delaware Division of Fish & Wildlife; 3 Georgia Department of Natural Resource/United States Forest Service; 4 Iowa Department of Natural Resources; 5 Kentucky Department of Fish & Wildlife Resources; 6 Mississippi Department of Wildlife, Fisheries & Parks; 7 Missouri Department of Conservation/Quail Forever; 8 Nebraska Game & Parks Commission; 9 New Jersey Division of Fish & Wildlife; 10 Ohio Division of Wildlife; 11 Oklahoma Department of Wildlife Conservation/Oaks & Prairies Joint Venture; 12 South Carolina Department of Natural Resources/United States Forest Service; 13 Tennessee Wildlife Resources Agency; 14 Texas Parks & Wildlife Department/Oaks & Prairies Joint Venture; and 15 Virginia Department of Game & Inland Fisheries.



NBCI launched a new web site, [www.quailcount.org](http://www.quailcount.org). Quailcount.org complements NBCI's outreach website, [www.bringbackbobwhites.org](http://www.bringbackbobwhites.org), and meets state agency desire for centralized and secure data management. It includes information on the CIP monitoring protocols (Breeding Birds, Fall Coveys and Habitat), the NBCI 2.0 Conservation Planning Tool, the NBCI Inventory, and Quail 8. A few highlights:

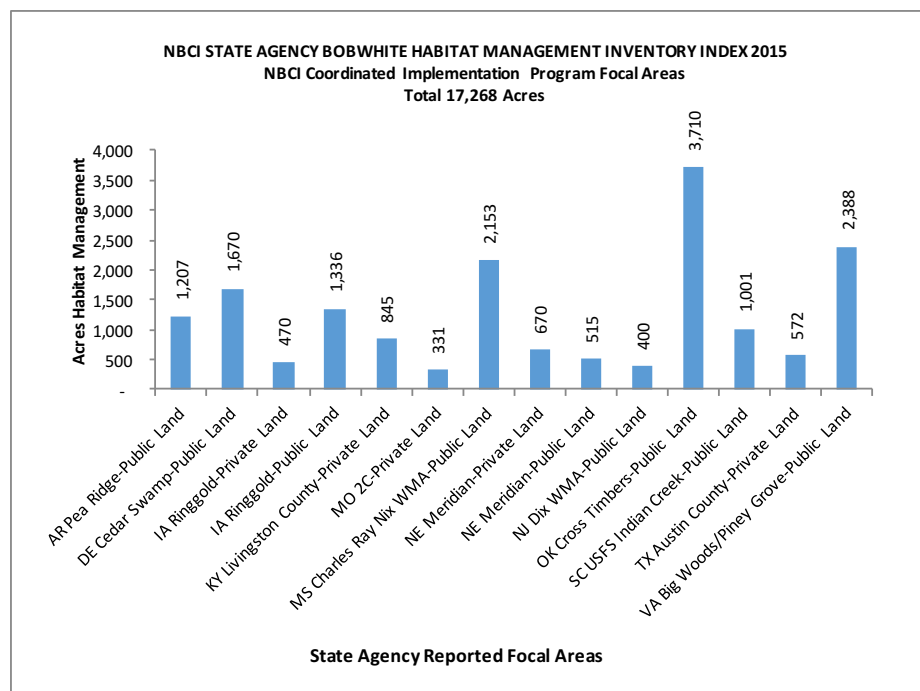
- The geospatial version of NBCI 2.0, known as the Biologist Ranking Information (BRI), provides access to state agencies' NBCI priority bobwhite areas through an interactive web map ([www.quailcount.org/briwebmap.html](http://www.quailcount.org/briwebmap.html)). BRI is also accessible in the field through a geolocation feature that extracts BRI information for the user's location.
- Monitoring protocol and training associated with the NBCI CIP are well illustrated with the first version of a habitat assessment manual and various "how-to" videos. Be sure to check out the testimonial videos from NBCI work in Kansas on quail monitoring and the thrill of doing a fall bobwhite covey count.
- "For biologists only" — As a technical web site some services are available only to participating partners, and a top request from state agencies was a centralized and secure database for quail and songbird abundance data. Quailcount.org

.....  
*"Continuous census is the yardstick of success or failure in conservation." (Aldo Leopold 1933, Game Management).*  
 .....

offers an on-line data entry system for states participating in the CIP. As of March 2016, the NBCI database had over 10,000 observations. The national database reduces individual state costs for data management, analysis and reporting, and the large pool of data increases the value of analyses.

Quailcount.org is also the main website for the upcoming Quail 8 national technical conference. NBCI and the Tennessee Wildlife Resources Agency are co-hosting the Eighth National Quail Symposium in Knoxville in July 2017. The preliminary program is published with abstracts for 80 presentations. Quail hunters will particularly like 6 abstracts viewable in the program that cover bird dogs and hunting efficiency.

The launch of Quailcount.org is a major step forward in national coordination of quail conservation. It is just the beginning of continued work by NBCI to provide essential technical tools to state and partner biologists.



2015 NBCI State Agency Bobwhite Habitat Management Index for 12 Coordinated Implementation Program Focal Areas. Index is acres of habitat managed by prescribed fire, disking, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from January 1, 2014 to December 31, 2015). Further information can be found in the Habitat Inventory section.

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*"It originated from the field because we wanted to get a better handle on what our quail population was, and the impact that our management decisions were having." Kansas Department of Wildlife, Parks & Tourism, Wildlife Area Manager, Scott Thomasson, on why NBCI was asked to provide training in Carneiro, Kansas, on October 6-7, 2015.*  
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# Oklahoma Research a Commitment to ‘Bob’

Allan Janus, Research Supervisor, Oklahoma Department of Wildlife Conservation, and  
Dwayne Elmore, Ph.D., Extension Wildlife Specialist, Oklahoma State University

**W**orking in the wildlife profession, and specifically with upland game, at any given moment the question “So how is Bob doing?” comes up. Generally, the response includes something regarding recent rainfall, how hot it is or how the vegetation looks. To the wrong audience or uninitiated, someone may wonder what weather and habitat have to do with our dear friend Bob. As we know all too well, the answer is everything.

Beginning in 2012, the Oklahoma Department of Wildlife Conservation (ODWC) partnered with Oklahoma State University to conduct quail research in northwestern Oklahoma. This research is being conducted on Packsaddle and Beaver River WMAs, which both contain large areas of shrubland that provide habitat for northern bobwhite. Packsaddle WMA is dominated by shinnery oak shrublands while Beaver River WMA primarily consists of sand sagebrush shrublands. Both of these areas support abundant bobwhite populations. Additionally, scaled quail occur on Beaver River WMA.

The research has multiple objectives to better understand quail ecology and management. The impacts of prescribed fire and grazing on quail have been evaluated at Packsaddle WMA. While these are common practices recommended for quail, specifically how quail respond to these management practices in shinnery oak is not entirely understood. Research at Packsaddle has also investigated whether temperature influences nest and brood locations.

Research at Beaver River WMA is focusing on how anthropogenic features, such as artificial surface water, may affect quail behavior patterns and/or population levels. Also, chick survival and reproductive strategies of quail have been investigated at Beaver River WMA.

The effects of weather on quail populations are being evaluated at both WMAs. Three weather stations were installed at each WMA at the beginning of the study to assist with evaluating the effect of weather on quail. To achieve these objectives, researchers capture quail using walk-in funnel traps. To monitor quail, radio transmitters are placed over a captured quail’s head. The transmitter emits a signal on a specific frequency that the researchers can monitor. If the quail does not move for several hours, the transmitter broadcast pulse changes, which signals to the researchers that the quail is likely dead. Quail are located several times each week to determine survival, movement patterns, and habitat use.

Initial findings from the first few years of study are already providing new information for managers. Thus far, more than 1,200 bobwhites have been fitted with





radio collars yielding over 40,000 radio-locations at both study sites combined. Via radio-telemetry conducted during the breeding season, 117 bobwhite nests at Packsaddle and 79 bobwhite nests at and Beaver River WMAs were located. Nest success was fairly high, with 57% success at Packsaddle and 52% success at Beaver River WMA. Additionally, 38 scaled quail nests were located at Beaver River WMA, of which 58% were successful. Typical with quail, mortality on adults has been high with common causes of mortality being avian and mammalian predation. Despite high mortality, quail have shown remarkable ability to increase in abundance when weather conditions are favorable.

In 2012, populations were initially low on both WMAs with less than 1.8 males detected per spring whistle counts in May-June. However, the summer of 2013 provided comparatively cooler and wetter conditions which were likely correlated with the extended nesting season that was documented by researchers. For example, observed nesting in 2013 extended until 7-October whereas it concluded on 22-August in 2012. Consequently, bobwhite numbers nearly doubled at both WMAs in 2013 and continued to increase in 2014 due to improved weather conditions. Quail are able to accomplish this by producing large clutch sizes, re-nesting, and using a complex reproductive system. We have found that quail chicks are frequently adopted or kidnapped by other adult quail which allows the hen an opportunity to re-nest. Also, male bobwhites incubate nests about 25% of the time, again allowing the hen to re-nest. In this way, hens are capable of producing multiple broods per year if the habitat and weather allow.

We have found that temperature, which is related to vegetation cover, explains quail locations as summer temperatures increase. Specifically, bobwhites selected sites that moderated temperature by more than 9°F at nest sites and more than 18°F at brood locations. Under high heat, quail broods at Packsaddle WMA tended to use tall shinnery oak mottes during the mid-day and move into more open vegetation to feed when temperatures were lower. This emphasizes the importance of shrubs for not only predation cover but also temperature regulation. While we know that weather is the trump card for bobwhite populations, providing habitat

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*“Some specific questions  
 for the final year: how winter  
 temperatures influence quail  
 habitat use and survival, how  
 temperature of the nest affects  
 egg viability, and whether energy  
 development influences quail  
 habitat use or survival.”*  
 .....



is essential to ensure that when weather does cooperate, bobwhites can adequately respond.

This research project is intended to provide land managers with the best information possible to predict bobwhite populations each year while increasing quail production within the bounds afforded by local weather conditions. For example, provision of surface water as a management tool for upland gamebirds has been a topic of interest for many years. Research at Beaver River WMA indicates that scaled quail and bobwhite are attracted to artificial surface water sources; however, there is no evidence of artificial surface water increasing nest success or adult quail survival. We have also found that while scaled quail and bobwhite overlap somewhat in used vegetation cover, there are differences. Bobwhites on Beaver River WMA tend to use a mixed shrub community that consists of sumac, sand plum, and sand sagebrush. Scaled quail tend to use more upland sites that have less total cover and consist primarily of sand sagebrush and yucca.

As we enter the final year of the current project, research at both WMAs is ongoing. Some specific questions for the final year: how winter temperatures influence quail habitat use and survival, how temperature of the nest affects egg viability, and whether energy development influences quail habitat use or survival. Research findings are frequently made available to the public through field days, fact sheets, and research publications. The Upland Update produced by ODWC is a great way to stay in touch with the latest research findings.

In addition to the ongoing research efforts at Packsaddle and Beaver River WMAs, the ODWC also contributed to a Texas-based research project from 2011 through 2013. Operation Idiopathic Decline (OID) was a comprehensive multi-state effort which investigated the role of disease and parasites in the decline of bobwhite quail.

Seven research projects were funded as part of the operation and researchers from multiple Texas universities investigated the prevalence of various pathogens including avian influenza, quail pox, and quail bronchitis. Researchers also looked at the occurrence of parasites like intestinal coccidia and eyeworms, as well as potential disease and pathogen vectors including mosquitoes, ticks, and roaches. In Oklahoma, biological samples were collected at 10 wildlife management areas within the western portion of the state.

By the end of the project, ODWC biologists provided nearly 400 samples to the research project. Although the university lab work is still ongoing, information regarding eyeworms and quail has been released. In southern Oklahoma, 26% of the sampled birds had low, moderate, or high numbers of eyeworms. In the northern portion of the state, 42% of the birds sampled had eyeworms. In 2011 and 2013, fifty percent of all birds sampled in both

southern and northern Oklahoma had eye-worms and in 2012, no eye-worms were detected in any sampled birds from any of the 10 WMAs.

Despite the various levels of eyeworms detected within Oklahoma's quail, the eyeworms don't appear to be having a significant effect on the population of quail in the state. Four out of Oklahoma's top five quail producing WMAs (Black Kettle at 40% of the quail sampled having eyeworms, Beaver River at 17%, Sandy Sanders at 50%, and Cooper at 67%) all experienced low to high levels of eyeworms, yet these WMAs continue to produce high quail numbers, especially during years of favorable weather. In addition, no quail mortality has yet to be directly linked to eyeworm infestations, large or small. No eyeworms were detected at the Packsaddle WMA during the study and this WMA continues to be one of Oklahoma's premier quail hunting destinations each year.



.....  
“...eyeworms don't appear to be having  
a significant effect on the population of  
quail in the state.  
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# STATE CONSERVATION REPORTS

State agency quail coordinators continued for the sixth year to report quail conservation highlights in a standardized Almanac format. Reports this year pointed to aggressive and innovative restoration, habitat management continued to surge in many places, and thanks to good weather, quail abundance and hunting improved in many places. Quail habitat management and hunting trends are summarized in the NBCI Inventory, following state reports.

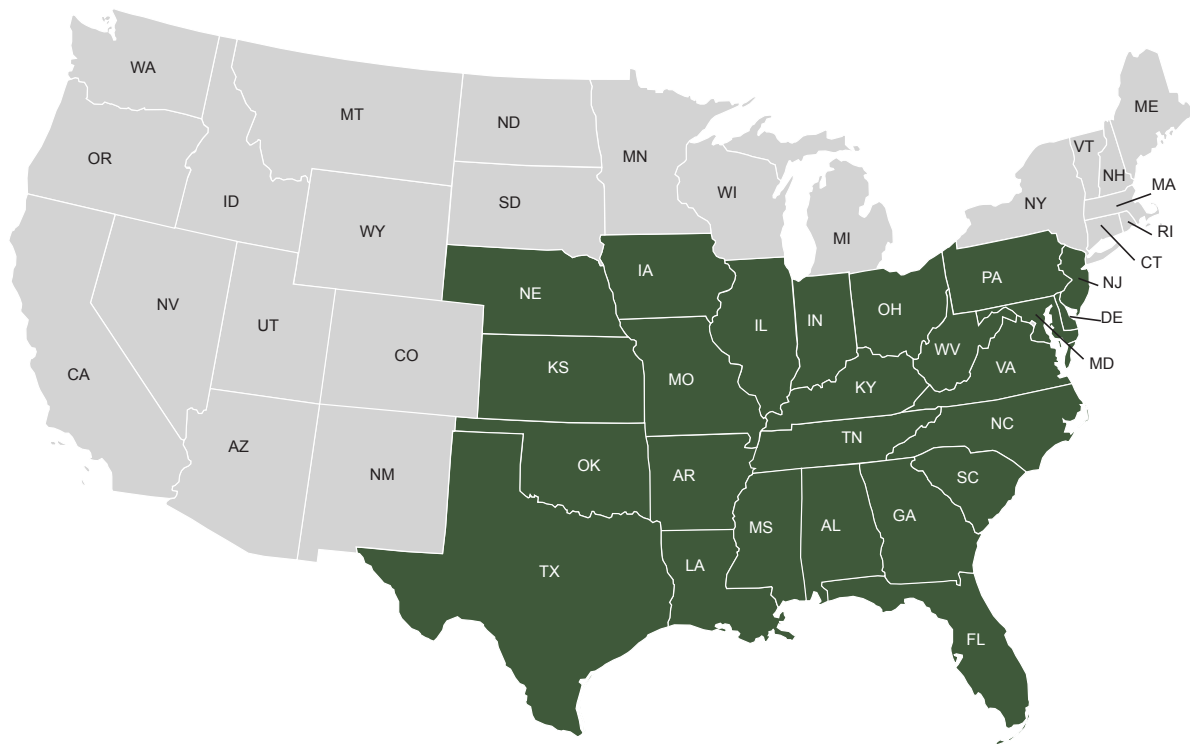
Quail populations in many states continued to recover from recent low populations experienced from the drought of 2012. Recovery has been good to spectacular in Iowa, Kansas, Missouri, Nebraska, Oklahoma, Texas, etc.

Hunting of bobwhite continues in all 25 NBCI states, and several states have reported much improvement. For example, the 2015-16 quail harvest in Iowa was 18% above the 10-year average. The lack of wild bobwhite hunting continued in New Jersey and Pennsylvania. These states, and many states in the eastern part of the species range, rely mostly on hunting of released pen-raised bobwhites. According to the NBCI Hunting

Inventory (page 59), over the past 5 years the number of quail hunters has declined 30 percent. To remedy this decline, several state agencies (Iowa, Kansas, Missouri, Nebraska, etc.) provide quail hunting access to private lands using state agency programs and the United States Department of Agriculture Voluntary Public Access and Habitat Incentive Program.

Quail management plans were revised, or created for first time, in Arkansas, Missouri and South Carolina, and Kentucky and Virginia released benchmark reports on their progress. Georgia initiated the first ever USDA Natural Resources Conservation Service habitat initiative based explicitly on NBCI conservation plans. New Jersey reported a promising multi-state/multi-partner research project involving wild quail obtained from Georgia and released in the Pinelands Region, where quail are classified as extirpated.

Detailed information on 2016 population and hunting prospects are available on state agency web sites, many of which are linked in the on-line version of this report. State quail coordinator contacts are listed in each report, and updated regularly on [www.bringbackbobwhites.org](http://www.bringbackbobwhites.org).



**NBCI STATES**





## **Alabama — Alabama Department of Conservation and Natural Resources**

Population: Like most of the southeast, Alabama's quail populations have declined as much as 80% since 1960.

Healthy, huntable populations exist only where land use patterns are directly targeting quail management.

Quail have rebounded on some Wildlife Management Areas (WMAs) and have a huntable population where habitat manipulation was possible in longleaf and shortleaf reforestation projects. Fall covey population surveys were initiated on these WMAs, and these surveys show that the best concentrations are on Barbour WMA in the southeast portion of the state and Freedom Hills WMA in the northwest portion. Efforts continue to increase populations on other WMAs through manipulation of contract farming with field buffers.

Hunting: Alabama Division of Wildlife and Freshwater Fisheries (AWFF) 2013-14 hunter survey results indicate approximately 16,000 quail hunters harvested about 538,000 quail. Only 5% of this harvest was wild birds.

Management: AWFF continues to manage for quail with the following programs:

- Select north Alabama WMAs with farming leases were managed for small game by leaving larger buffer field edges and standing crops in the field. Longleaf pine restoration efforts continue on approximately 5,000 acres on Barbour WMA (feature story in NBCI SOTB 2013) and Fred T. Stimpson Sanctuary, along with a prescribed burning program to restore grasslands. Shortleaf pine restoration continued on 1,850 acres on AWFF and Forever Wild lands on Lauderdale and Freedom Hills WMAs.
- The AWFF Landowner Incentive Program Longleaf Pine Ecosystem Restoration Project continued with funds received from the U.S. Fish and Wildlife Service. During the past year, approximately 4,000 acres were restored and a prescribed burning program will be implemented on these projects for the next 30 years.
- A quail monitoring program has been expanded from 2 to 13 WMAs across the state. Fall covey count surveys were conducted in the fall of 2015 and spring call counts are being conducted in May-June 2016. Some of these WMAs have large agricultural fields and contract farming in grains, totaling nearly 4,000 acres. Some of the management efforts will be to implement better managed field buffers by following field edges and biannually rotating these buffers to maintain early successional habitat adjacent to the woodlands through fall disking. This will be accomplished primarily by well-defined modifications and requirements of the contracts with the farmers. In addition, as part of the requirements of the contract, a percentage of cropland will be unharvested adjacent to these field buffers.
- Efforts continue between the Alabama Department of Conservation and Natural Resources (DCNR) and the National Forests of Alabama to establish quail management units on the four national forests in Alabama, beginning with Conecuh National Forest (CNF). This will primarily focus on timber thinning, more prescribed fire, and reducing the size of the burned units. A Quail Forever (QF) chapter in south Alabama has a Memorandum of Understanding with CNF, allowing them to manage some wildlife openings with annual and perennial plantings to benefit quail. DCNR and CNF staff are working with the QF chapter to maintain these wildlife openings for quail in the CNF.
- Reported 95,000 acres of management for the NBCI Habitat Management Inventory (Figures 1-2).

NBCI State Quail Coordinator: Mark Sasser, [mark.sasser@dcnr.alabama.gov](mailto:mark.sasser@dcnr.alabama.gov)

## **Arkansas — Arkansas Game and Fish Commission**

Population: Arkansas' quail population has declined about 70% over the past 30 years.

Hunting: About 4% of resident hunting license holders hunt quail.

Management: Arkansas Game and Fish Commission (AGFC) recently revised the [Strategic Quail Management Plan](#) to reflect the [NBCI Coordinated Implementation Program](#) (NBCI CIP) and other contemporary strategies.

Quail management highlights include:

- Extensive habitat work and monitoring are underway at Arkansas' first official NBCI CIP focal area through a partnership with the Northwest Arkansas Community College and Pea Ridge National Military Park (National Park Service).
- Management of about 6,200 acres of [USDA CP33 Habitat Buffers for Upland Birds](#) and 5,411 quail-friendly acres of grass in [USDA CP38 State Acres for Wildlife Enhancement](#) (SAFE).
- Reported 18,241 acres of quail management for the NBCI Habitat Management Inventory (Figures 1-2; NBCI focal area chart, page 27).
- AGFC's [Private Lands Program](#) enhanced efforts to increase quail habitat on private lands through providing warm-season grass seed and cost-sharing quail management practices with the AGFC [Acres for Wildlife Program](#).



- Convened an Arkansas Quail Committee Meeting with partners from federal and state agencies, universities, non-governmental conservation organizations, utility companies, and private landowners to implement the new Strategic Quail Management Plan.
- Partnered with other conservation organizations to establish more grassland habitats on several Wildlife Management Areas and an educational facility.

NBCI State Quail Coordinator: Steven Fowler, [scfowler@agfc.state.ar.us](mailto:scfowler@agfc.state.ar.us)

### ***Delaware — Delaware Division of Fish and Wildlife***

**Population:** Delaware bobwhite populations have declined by an average of 9.61% per year during the period of 1966-2013. Fall covey surveys at the Cedar Swamp Wildlife Area had a one-day maximum of nine bobwhite observed calling at one point.

**Hunting:** During the 2014-15 hunting season, an estimated 240 hunters harvested 2,384 quail, 333 of which were reported as wild quail. Hunters are asked to self-report whether or not they are harvesting wild or released pen-raised birds on an annual harvest survey.

**Management:** Delaware Division of Fish and Wildlife (DFW) continues to operate as a partner with the NBCI. In addition, we are continuing a comprehensive planning effort to identify quail focus areas where management and research efforts would be directed. Several important bobwhite management activities occurred in the last year:

- DFW biologists completed intensive breeding season surveys in June and July to document the presence and distribution of bobwhite within potential focal areas and adjacent reference areas. Biologists also conducted covey point counts during the month of October on the Cedar Swamp Wildlife Area.
- Cedar Swamp Wildlife Area in New Castle County is still on track to serve as our first [NBCI Coordinated Implementation Program](#) (NBCI CIP) focal area for bobwhite. A persistent population remains in this area. Nearly 1,500 acres of this 5,500 acre area are suitable quail habitat. Management activities in recent years have been focused on hedgerow establishment, field buffers, and invasive species removal. These activities are expected to increase over the next several years. Covey point counts were conducted during the fall 2015 season, and new breeding season survey points have been created for the spring 2016 season. Habitat work is expected to begin in November 2016 on the focal area.
- Biologists are also working to finalize a suitable reference area with monitoring to begin in spring 2016 using the NBCI CIP for guidance.
- In 2015, DFW enhanced and restored 3,265 acres of quail habitat on state wildlife areas. This included selective thinning, wildflower and warm-season grass establishment, prescribed burning, heavy disking, edge feathering, and invasive species control.
- Reported 4,935 acres of quail management for the NBCI Habitat Management Inventory (Figure 1; NBCI focal area chart, page 27).

NBCI State Quail Coordinator: Jesse Baird, [charles.baird@state.de.us](mailto:charles.baird@state.de.us)

### ***Florida — Florida Fish and Wildlife Conservation Commission***

**Population:** Florida's bobwhite population has declined by approximately 82% since 1966.

**Hunting:** Hunter and harvest estimates are based on results from a 2012-13 telephone survey which indicate 10,863 hunters harvested roughly 186,588 bobwhites. For comparison, annual bobwhite harvest was 2.7 million birds in 1970.

**Management:** Florida's restoration and management of bobwhites continues to operate under a [State Strategic Plan for Northern Bobwhite Restoration](#) that is integrated with NBCI. Bobwhite management highlights include the following:

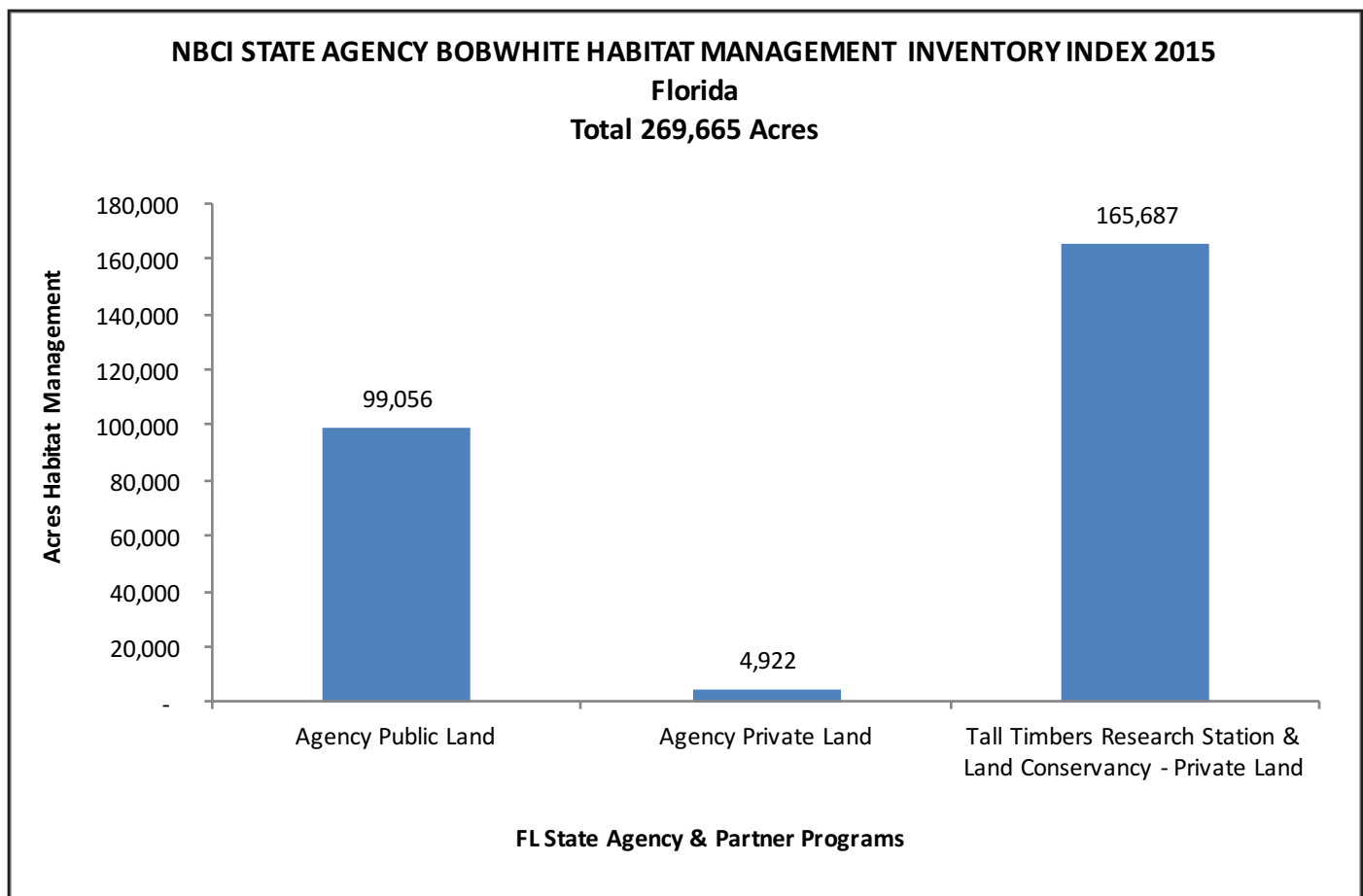
- To advance Florida's strategy, the [Upland Ecosystem Restoration Project](#) (UERP) was developed in 2006 as a cooperative effort between the state's 4 primary land management agencies (Florida Fish and Wildlife Conservation Commission [FWC], Florida Forest Service, Florida Department of Environmental Protection, and U.S. Forest Service) and Tall Timbers Research Station and Land Conservancy (TTRS). The primary objective of UERP is to prioritize, design, and implement on-the-ground management to improve populations of northern bobwhite and other grassland species on public lands throughout Florida.
- Under UERP and other efforts, Florida has over 190,000 acres of total area of quail habitat on public land under favorable management for bobwhites and other grassland species. These public land areas are collectively managed by the four primary land management agencies noted above. In addition, TTRS oversees management and research on 218,008 acres of total area of quail habitat on private land throughout Florida.





- FWC private lands biologists worked with numerous landowners to implement 4,922 acres of favorable bobwhite habitat management.
- Reported 269,665 acres of quail management for the NBCI Habitat Management Inventory (Chart below; Figures 1-2, 4).
- Completed over 250 fall covey call counts on public land bobwhite focal landscapes, as well as species and habitat monitoring for other fire-dependent grassland species on UERP focal landscapes.
- Formalized the Florida/Georgia Quail Coalition in 2014 (a cooperative partnership between FWC, Georgia Department of Natural Resources Wildlife Resources Division, Quail Forever, and TTRS) to enhance, promote, and conserve quality habitat for northern bobwhite on public lands throughout Florida. To date, roughly \$33,000 has been donated to support increased bobwhite management on UERP focal landscapes.
- Issued a translocation permit to TTRS to capture, translocate, and release wild bobwhites out of state to expedite restoration of the species on newly established wild bobwhite properties.

NBCI State Quail Coordinator: Greg Hagan, [greg.hagan@myfwc.com](mailto:greg.hagan@myfwc.com)



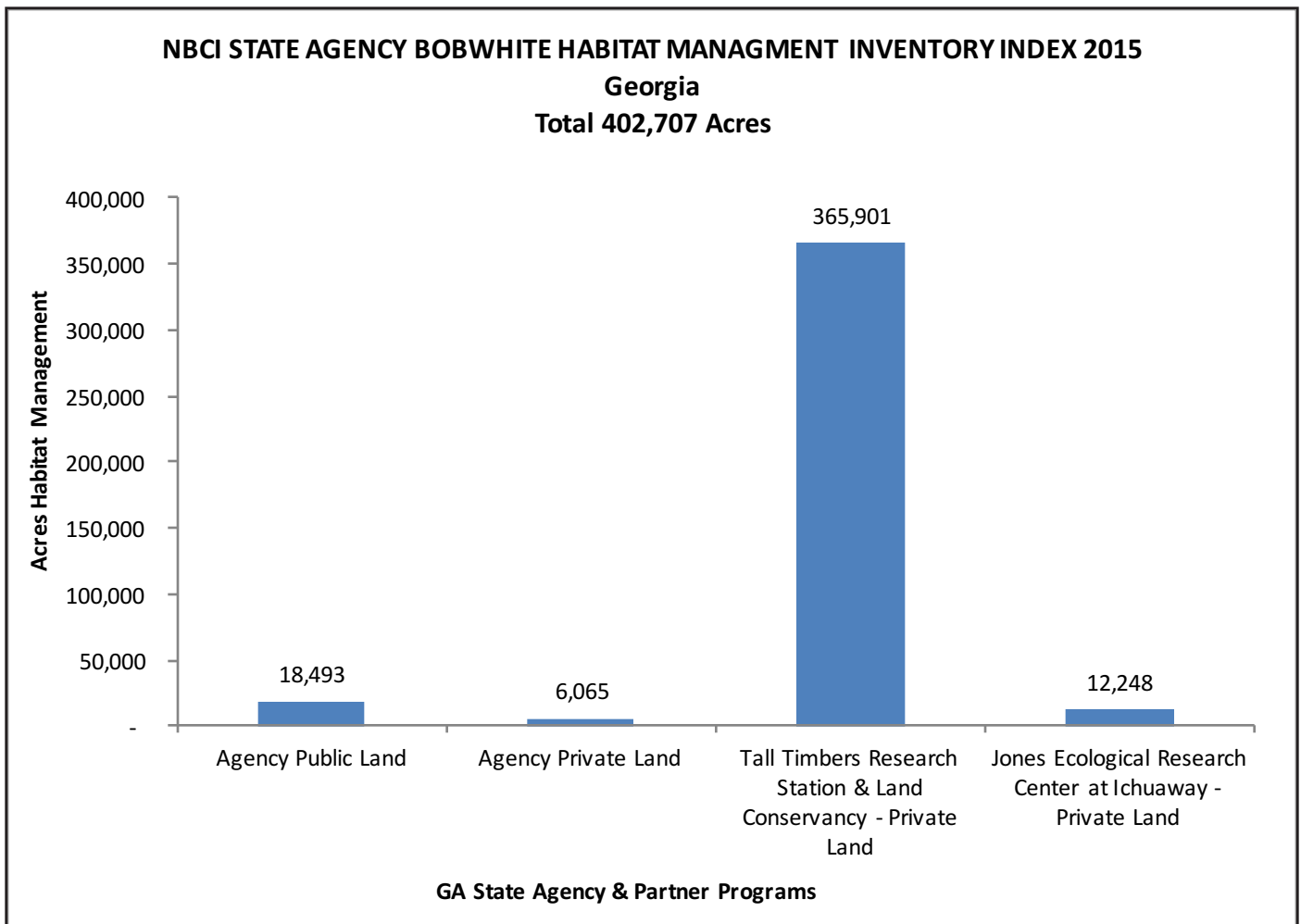
## Georgia — [Georgia Department of Natural Resources](#)

Population: Georgia Department of Natural Resources (GADNR) [statewide bobwhite population index](#) has declined by more than 85% since 1966.

Hunting: From 2013-15, estimated [bobwhite hunter numbers](#) declined by 7% (15,060 hunters for 2015-16 season;  $\pm 910$ ) and estimated bobwhite harvest increased by 26% (504,683 harvest for 2015-16 season;  $\pm 12,203$ ). The proportion of pen-reared quail in the harvest increased by 43% (458,916 harvest for 2015-16 season;  $\pm 12,184$ ), and the wild bobwhite harvest decreased by 43% (45,767 harvest for 2012-13 season;  $\pm 6,324$ ). Wild bobwhite harvest decreased from 2013-15 but was still 149% higher than in 2009.

Management: GADNR Wildlife Resources Division (WRD) bobwhite restoration efforts continue to follow the [NBCI 2.0](#) step-down plan via Georgia's [Bobwhite Quail Initiative](#) (BQI): 2013-23 (released in November 2014). Other quail management highlights include the following:

- In 2015, BQI partnered with the USDA Natural Resources Conservation Service to develop the [Bobwhite Quail and Pine Savanna Restoration](#) pilot project, which was met with far more demand than funds could support. BQI and partner biologists assisted in writing plans for the pilot project that will impact what is expected to be over 3,000 acres of habitat managed on working farms and forests in Georgia's Upper Coastal Plain. The competitive ranking process was based on the GADNR [NBCI Coordinated Implementation Program](#) (NBCI CIP) Focal Tier designation.
- Reported 402,707 acres of quail management for the NBCI Habitat Management Inventory (Chart below; Figures 1-2, 4).
- BQI biologists provided technical assistance to landowners throughout Georgia's Upper Coastal Plain that impacted more than 6,000 acres of habitat.
- Georgia continues to focus intensive quail management efforts on five Wildlife Management Areas (WMAs), totaling about 20,000 acres that serve as core habitats in the BQI.
- Monitoring efforts include fall covey counts on seven WMAs and two private focal areas, plus spring monitoring for several pine savanna species on five WMAs. Habitat monitoring was conducted on [USDA CP38 State Acres for Wildlife Enhancement](#) (SAFE) acres during the summer of 2015 to be followed up with bobwhite and other breeding bird surveys during the summer of 2016.





- To date, the Florida/Georgia Quail Coalition (a partnership with Quail Forever, WRD, Florida Fish and Wildlife Commission, and TTRS directed at supporting bobwhite management on public lands) has raised \$60,825 for bobwhite management on Georgia WMA BQI Focal Areas.

NBCI State Quail Coordinator: Paul Grimes, [paul.grimes@dnr.ga.gov](mailto:paul.grimes@dnr.ga.gov)

### ***Illinois — Illinois Department of Natural Resources***

**Population:** Illinois Department of Natural Resources (IDNR) roadside counts for bobwhite are very similar to the USGS North American Breeding Bird Survey protocol. In 2015, as reported in the [2015 Quail Annual Status Report](#), observers across Illinois recorded an average of 0.55 quail per stop, and quail were recorded at 26.0% of the stops (slight decrease).

**Hunting:** Harvest estimates are based upon results from the 2014-15 Illinois Hunter Harvest Survey. An estimated 11,328 hunters (5% increase from 2013-14 season) harvested 54,199 wild quail (5% increase from 2013-14 season). Quail hunters averaged 0.84 quail per trip.

**Management:** IDNR continues to operate under a statewide Wildlife Action Plan, in which quail are considered a species in greatest conservation need, and as a partner with NBCI. Quail management highlights include the following:

- The USDA Conservation Reserve Program (CRP) is by far the greatest source of potential wildlife habitat in Illinois. In March of 2016, Illinois had 879,945 acres of CRP, a 13,485-acre reduction from last spring.
- [USDA CP33 Habitat Buffers for Upland Birds](#) — 61,578 acres enrolled.
- [USDA CP38 State Acres for Wildlife Enhancement](#) (SAFE) — 22,659 acres enrolled. All the federally-allocated CP38 acres for Illinois have been utilized.
- [USDA CP42 Pollinator Habitat Initiative](#) — 40,021 acres enrolled, up from 4,087 acres in 2014. This is a very popular practice which provides great bobwhite habitat.
- During the last CRP General Sign-up, 49,330 acres were offered and 2,157 were accepted (4%).
- Reported 14,919 acres of quail management for the NBCI Habitat Management Inventory (Figures 1-2).
- Dr. Clay Nielsen and Dr. Eric Schaubert (Southern Illinois University) were not able to continue a project to assess both habitat and population dynamics (including harvest) and their effects on bobwhite populations in Illinois due to the state's severe budget impasse. This budgetary constraint also will delay the development of quail focus areas in Illinois.
- Dr. Mike Ward and colleagues (University of Illinois) continued research investigating grassland wildlife response to the SAFE program, cover crops, and other agricultural practices.

NBCI State Quail Coordinator: Stan McTaggart, [stan.mctaggart@illinois.gov](mailto:stan.mctaggart@illinois.gov)

### ***Indiana — Indiana Division of Fish and Wildlife***

**Population:** Results of the Indiana Division of Fish and Wildlife (IDFW) 2015 [statewide bobwhite whistle count index](#) indicate an insignificant 7.9% increase from 2014. Both hunting zones in Indiana observed insignificant increases (South: 6.2%; North: 17.6%). Minimal rebound of the quail population may have occurred due to the mild 2014-15 winter. However, June 2015 was the wettest recorded June and the fourth-wettest month ever. This likely hindered nesting conditions and any population gains over winter.

**Hunting:** Bobwhite hunting season dates in Indiana are divided by Interstate 74; north dates were November 1, 2015–December 15, 2015, with a bag limit of four, and south dates were November 1, 2015–January 10, 2016, with a bag limit of eight.

**Management:** Within IDFW, the Private Lands Unit, Public Lands Unit, and Wildlife Science Unit are working to improve quail habitat and management. Highlights for Indiana quail include the following:

- The Private Lands Unit continued working with landowners via the [Habitat Incentive Program](#) to create habitat in county priority areas across the state, creating a total of 4,555 acres that benefit bobwhites.
- By partnering with USDA Natural Resources Conservation Service and Farm Service Agency, IDFW enrolled 65,655 USDA Farm Bill acres that benefited bobwhites in 2015.
- The Public Lands Unit improved approximately 4,540 acres on 19 IDFW properties.
- The Wildlife Science Unit continues monitoring population trends and harvest, and researching the impacts of disturbance on bobwhite productivity and dispersal and habitat use at Glendale Fish and Wildlife Area. The Wildlife Science Unit continues to evaluate its current population monitoring, with the option of moving toward the [NBCI Coordinated Implementation Program](#) (NBCI CIP).

NBCI State Quail Coordinator: Dawn Slack, [dslack@dnr.in.gov](mailto:dslack@dnr.in.gov)



## **Iowa — Iowa Department of Natural Resources**

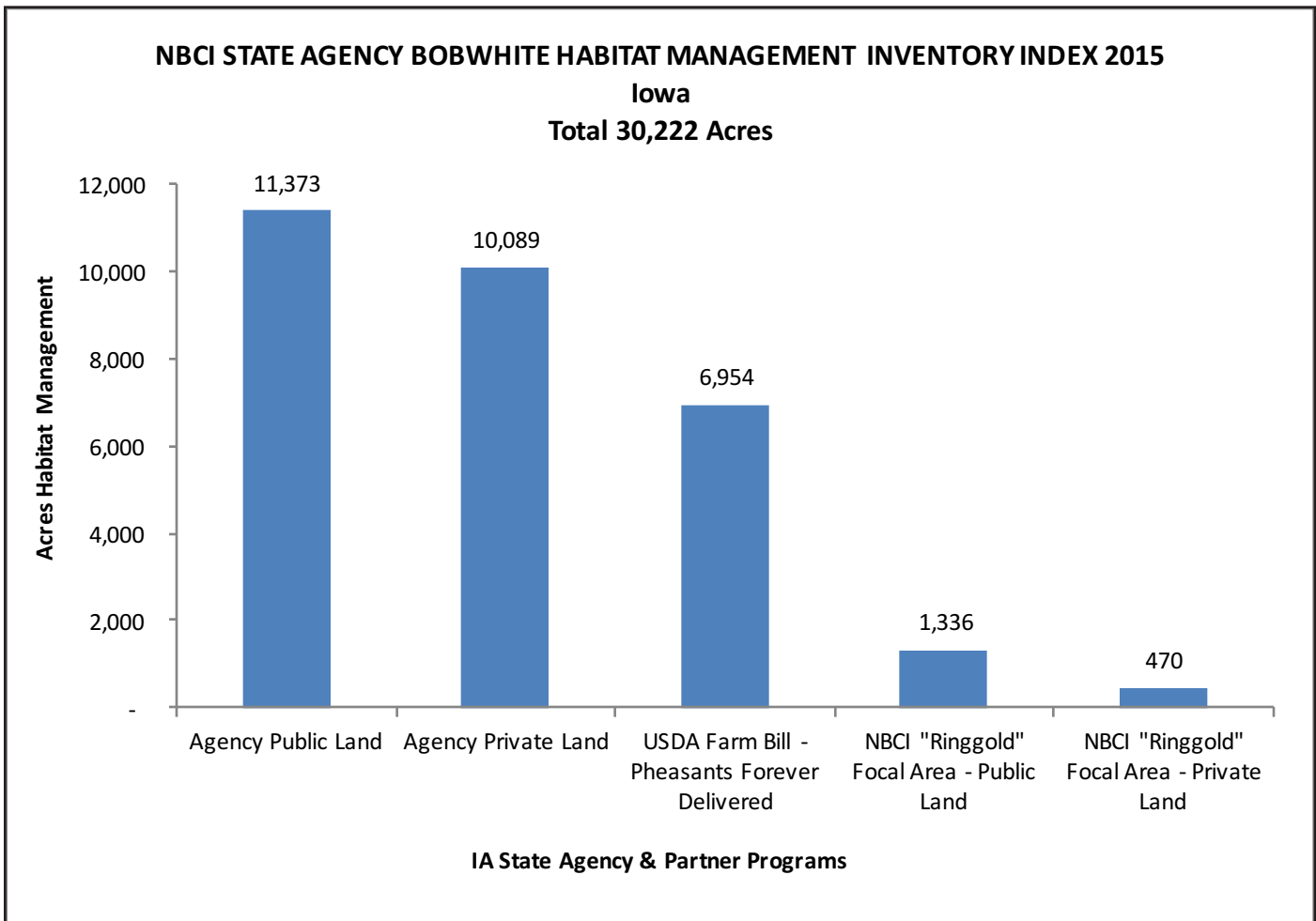
Population: Iowa Department of Natural Resources (IDNR) [2015 statewide bobwhite August roadside index](#) of 1.41 quail per 30-mile route was up significantly from the 2014 index of 0.92. The last time Iowa's statewide quail index was this high was 1994. This level is 127% and 6% above the 10-year and long-term (53-year) averages, respectively. Quail populations are at modern highs in Iowa in 2015.

Hunting: Hunter numbers and harvest both increased [during the 2015-16 hunting season](#) compared to 2014-15 season. An estimated 9,762 hunters (compared with 6,546 in 2014-15) harvested 28,362 quail (compared with 10,705 in 2014-15). The 2015-16 quail harvest was 18% above the 10-year average.

Management: IDNR manages bobwhite by partnering with multiple agencies, non-government organizations, and private citizens, as well as the NBCI. Quail management highlights include the following:

- Iowa continues participation in the [NBCI Coordinated Implementation Program](#) with two identified focal areas and many other public lands receiving quail management focus.
- To address concerns about low quail populations, the IDNR submitted a new [USDA CP38 State Acres for Wildlife Enhancement](#) (SAFE) project targeted at restoring early successional habitat across Iowa's southern quail range. Iowa requested 40,000 acres for this project and is waiting to see if USDA has acres available in the Conservation Reserve Program (CRP) for the request.
- Iowa has a 46,500-acre allocation of [USDA CP33 Habitat Buffers for Upland Birds](#), of which 26,670 acres have been enrolled.
- Iowa reported over 30,222 acres of management for the NBCI Habitat Management Inventory (Chart below, Figures 1-3; NBCI focal area chart, page 27).
- The [Iowa Upland Game Bird Advisory Group](#) recommended that restoration activities for bobwhite should focus on habitat restoration and better landowner marketing.
- Iowa received a \$3,000,000 USDA Voluntary Public Access grant to expand the [Iowa Habitat and Access Program](#). This program is creating quail habitat on private CRP acres across southern Iowa that will be open for public hunting. Early in 2016, all \$3,000,000 had been spent with 20,000 acres enrolled. Each area has a habitat management plan and is open to public hunting.

NBCI State Quail Coordinator: Todd Bogenschutz, [todd.bogenschutz@dnr.iowa.gov](mailto:todd.bogenschutz@dnr.iowa.gov)



### **Kansas — Kansas Department of Wildlife, Parks and Tourism**

Population: [2015 statewide bobwhite breeding abundance index](#) was 41% above 2014 index and 30%, and 31% above previous 5-, and 10-averages, respectively.

Hunting: During the [2014-15 hunting season](#), 43,622 hunters harvested 253,869 bobwhites.

Management: Kansas Department of Wildlife, Parks, and Tourism (KDWPT) continues to manage bobwhite throughout the state by partnering with multiple agencies, non-government organizations and private citizens, as well as the NBCI. Quail management highlights include the following:

- In 2012, KDWPT designated two focus areas in eastern Kansas for quail restoration, and is consulting with NBCI on these projects. To date, habitat improvements have been completed or obligated on 3,208 acres of private land and 8,360 acres of public land within these areas.
- Bobwhites are a species of conservation importance for both State Wildlife Grants and USDA program funding ranking processes.
- KDWPT continues to evaluate [USDA CP33 Habitat Buffers for Upland Birds](#) buffers throughout the state working with Kansas State University researchers.
- Reported 371,036 acres of quail management for the NBCI Habitat Management Inventory (Figures 1-4).
- A [Voluntary Public Access grant](#) has been approved for \$2.7 million and will create incentives for long-term lease agreements on quality properties through our existing [Walk-In Hunting Access program](#). The program enrolls properties newly enrolling in Conservation Reserve Program (CRP) and Continuous CRP, and provides extra incentives for the habitat as well as the access.

NBCI State Quail Coordinator: Jeff Prendergast, [jeffrey.prendergast@ksoutdoors.com](mailto:jeffrey.prendergast@ksoutdoors.com)

### **Kentucky — Kentucky Department of Fish and Wildlife Resources**

Population: According to the Kentucky Department of Fish and Wildlife Resources (KDFWR) statewide mail carrier survey, the bobwhite population has declined by more than 80% since 1968. The 2015 index is 64.7% below our 1981 restoration target. A 14% decrease in quail was observed between 2014 and 2015.

Hunting: Hunting trips per hunter cooperator have increased 15% over the five-year average. Hunter harvest has increased by 16% over the same period.

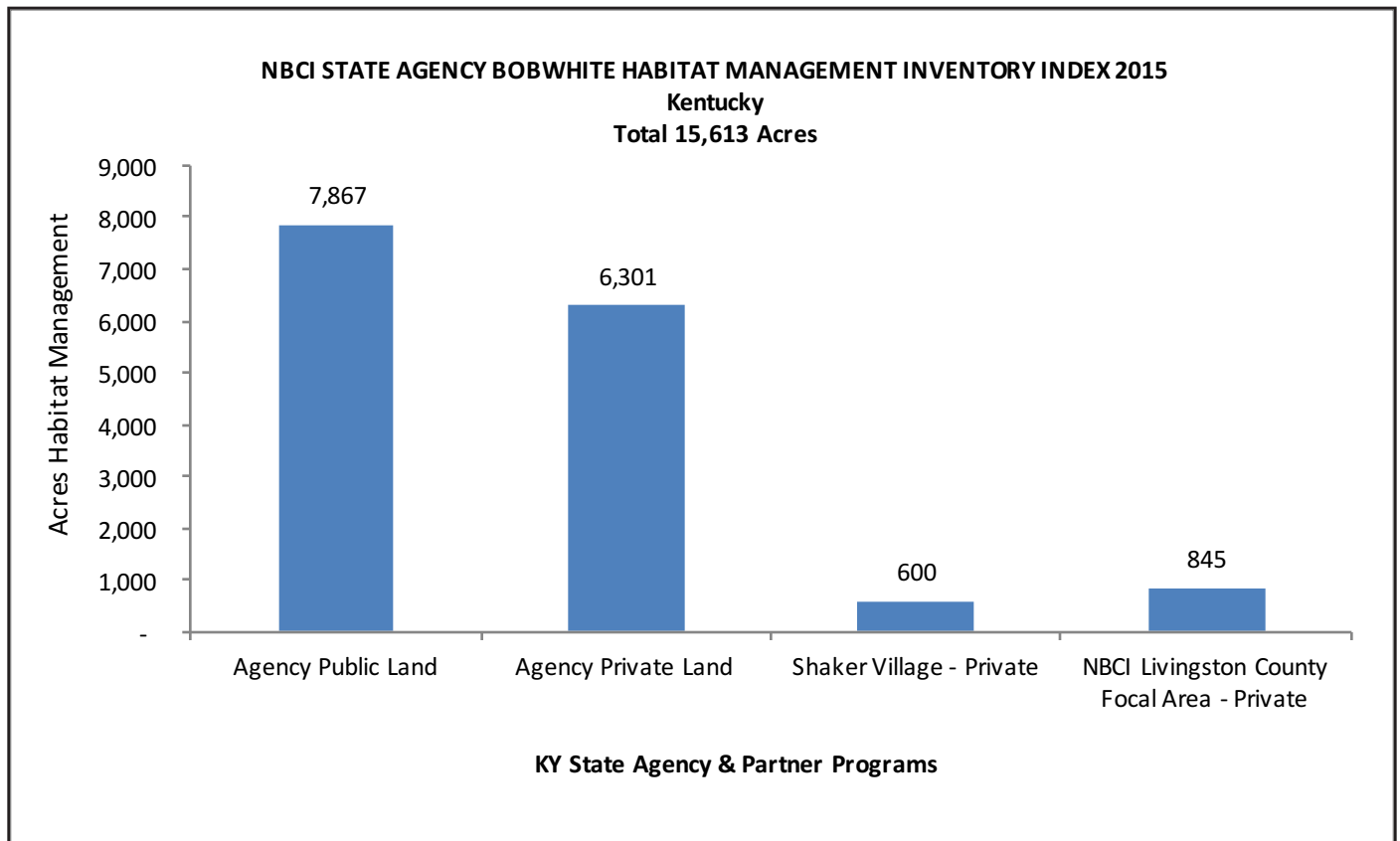
Management: KDFWR continues to operate under a statewide [Quail Plan](#), and as a partner with the NBCI. Quail management highlights include the following:

- KDFWR released its [Five Year Benchmark Report](#) in 2015, which features bobwhite population increases across all six focal areas. An invited paper will be presented at Quail 8, including a model to predict trends.
- Established a new focal area project at Perryville Battlefield State Park. Baseline bird data was collected and 700 acres of fescue are currently being converted to native prairie.
- Reported 15,613 acres of quail management for the NBCI Habitat Management Inventory (Figures 1-2, 4, and NBCI focal area chart, page 27).
- In partnership with The University of Georgia, we are analyzing the Conservation Reserve Enhancement Program prairie plantings to understand landscape-level impacts to bobwhite and a suite of grassland songbirds.
- Passed state fire legislation in partnership with the KY Prescribed Fire Council to open the door for the private sector to become more active in prescribed burning.
- Published a journal article demonstrating the performance of native plant mixes favoring bobwhite for the reclamation of mine lands.
- The [Kentucky Bobwhite Battalion Facebook](#) community increased to more than 3,100 members.
- Hosted a leadership meeting with KDFWR executives at the Livingston County NBCI CIP Focal Area.

NBCI State Quail Coordinator: John Morgan, [john.morgan@ky.gov](mailto:john.morgan@ky.gov)







### **Louisiana — Louisiana Department of Wildlife and Fisheries**

**Population:** The Louisiana Department of Wildlife and Fisheries (LDWF) annual 2015 Bobwhite Whistle Survey combined results were not significantly different from 2014. Quail whistles heard were lower and continue to be near the lowest numbers across Louisiana since the survey began in 1983.

**Hunting:** The Big and Small Game Harvest Survey for 2014-15 estimated that 1,100 hunters harvested an estimated 3,100 quail.

**Management:** LDWF continues to work with private, corporate, and government landowners and partners to improve quail habitat.

- LDWF East and West Gulf Coastal Plain Prescribed Burn Initiatives: 4,509 acres were burned in 2014-15.
- USDA Natural Resources Conservation Service (NRCS) programs in 2015: 1,417 acres were planted to longleaf pine and 5,711 acres burned.
- Worked with the NRCS, National Wild Turkey Federation, and other agencies to hold longleaf pine workshops for private landowners and land managers.
- Continued work on a quail emphasis area on the Vernon Unit of the U.S. Forest Service Kisatchie National Forest.
- Continued quail habitat improvements at Sandy Hollow Wildlife Management Area (WMA) with 457 Acres of timber harvests/habitat improvements.
- Additional prescribed burning was contracted on 2,750 acres on Sandy Hollow, Clear Creek, West Bay, and Bodcau WMAs.
- Reported 17,472 acres of quail management for the NBCI Habitat Management Inventory (Figures 1-3).

NBCI State Quail Coordinator: Cody Cedotal, [ccedotal@wlf.la.gov](mailto:ccedotal@wlf.la.gov)



## **Maryland — Maryland Department of Natural Resources**

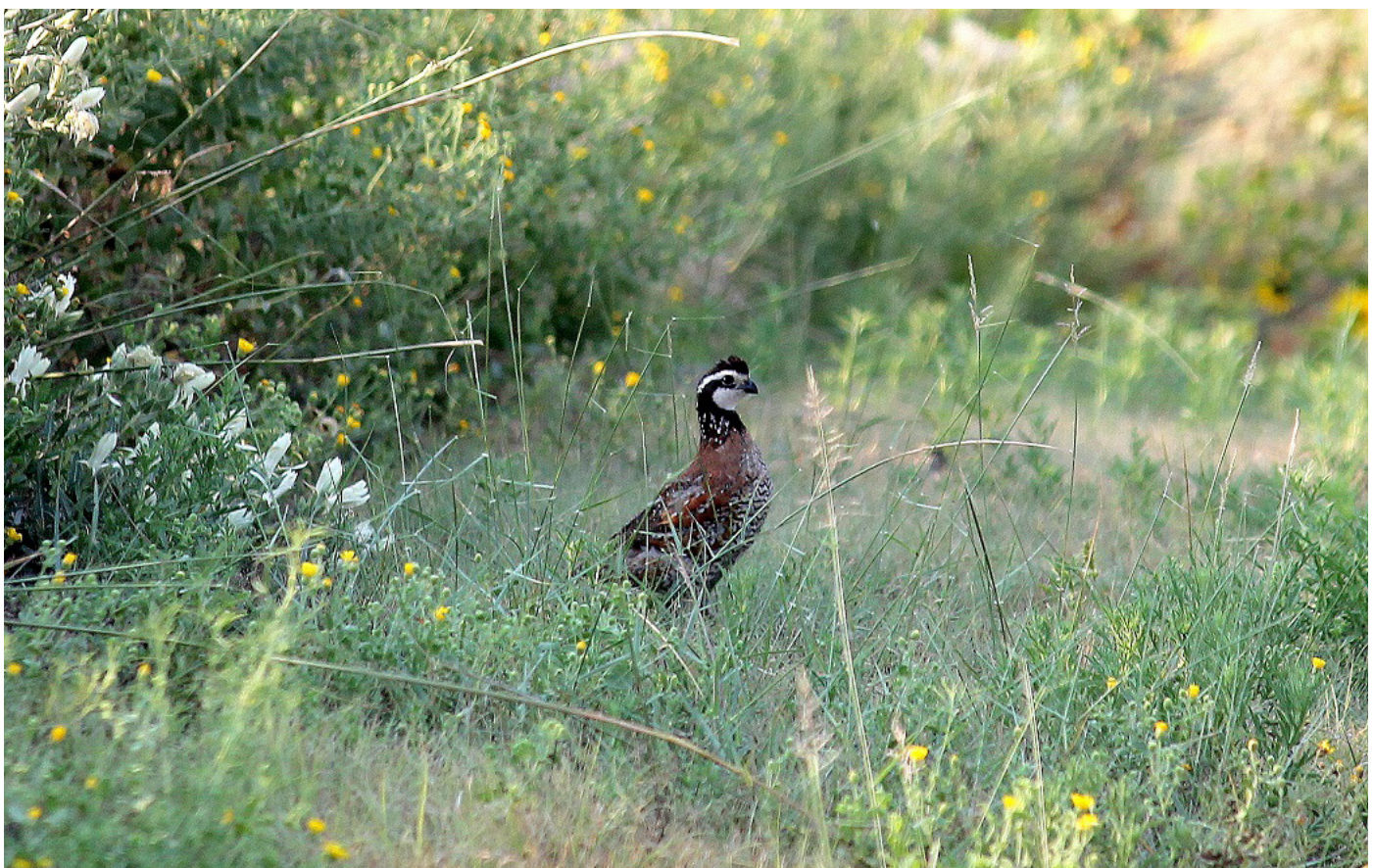
**Population:** The USGS North American Breeding Bird Survey estimates the Maryland statewide bobwhite population is 54% below the 10-year average and 97% below the long-term average. Densities are highest in the eastern region, but some isolated pockets of wild quail may still exist in the southern region.

**Hunting:** The Maryland Department of Natural Resources (MDNR) 2014-15 Annual Hunter Mail Survey estimated 380 bobwhite hunters spent 660 days afield and harvested 780 wild birds. The survey only requests data on wild quail hunts but some pen-raised, released quail hunts may be reported. Quail hunting participation and harvest has declined by over 95% since the mid-1970s.

**Management:** MDNR continues to partner with various agencies and organizations, focusing bobwhite restoration efforts on suitable public and private lands within the current range.

- Four MDNR Wildlife Management Areas (WMA) encompassing about 11,000 acres continue to be managed with a focus on bobwhite and other early-successional species. Monitoring via summer and/or fall surveys indicates stable populations on most areas.
- Additional emphasis on active forest management and prescribed burning within the current quail range has led to many acres of new or planned projects.
- Approximately 19,500 acres are currently enrolled in quail-friendly practices under the USDA Conservation Reserve Program.
- Reported 4,332 acres of management for the NBCI Habitat Management Inventory (Figures 1-3).
- MD DNR staff has increased technical assistance, outreach, and monitoring efforts on public and private lands in regions of the state where significant potential for population restoration exists.
- In partnership with Tall Timbers Research Station and Washington College, translocation of wild bobwhite from within and outside of Maryland to several sites was conducted in early spring 2014 and 2015.

NBCI State Quail Coordinator: Bob Long, [bob.long@maryland.gov](mailto:bob.long@maryland.gov)



EVAN TANNER



### **Mississippi — Mississippi Department of Wildlife, Fisheries, and Parks**

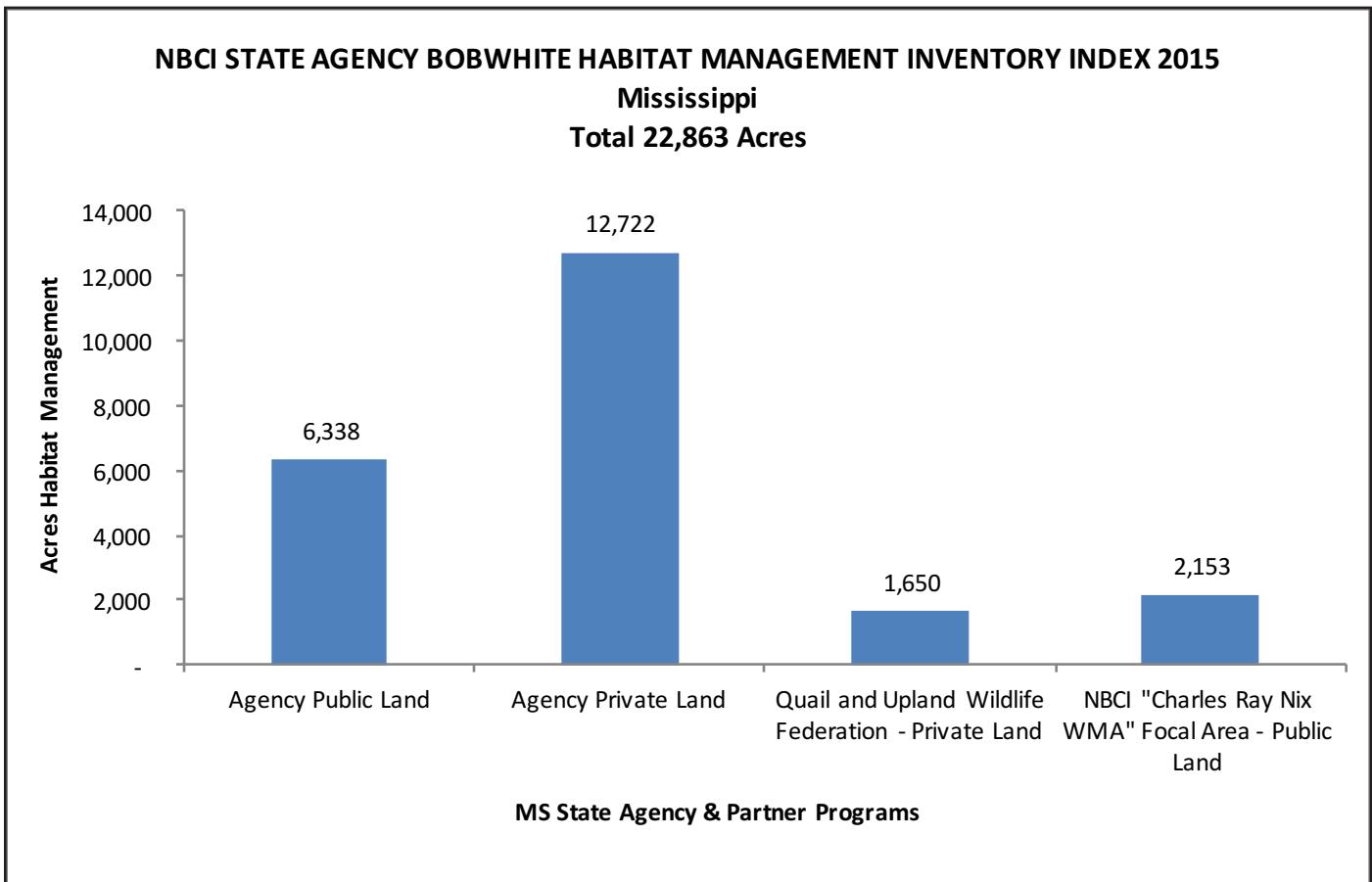
Population: Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) 2015 Wildlife Management Area (WMA) [bobwhite abundance index](#) was 28% below 2014 index.

Hunting: [2014-15 hunting season statistics](#) were below previous year, above previous 5-year average, and above previous 10-year average.

Management: The MDWFP continues to operate under a statewide quail plan and as a partner of NBCI. Quail management highlights include the following:

- Continued promotion of USDA CP38 Bobwhite Quail Habitat, CP38 Blackbelt Prairie Restoration, and [USDA CP33 Habitat Buffers for Upland Birds](#) practices.
- Cooperated with conservation partners to implement quail-friendly habitat management via Mississippi Partners for Fish and Wildlife Program Uplands, Prairie, and Longleaf committees, State Wildlife Grants, and [Fire on the Forty Initiative](#).
- Provided early successional habitat management technical assistance to private landowners statewide.
- Conducted quail-friendly forest and field management (prescribed burning, disking, selective herbicide, and other practices) on 10 WMAs.
- Reported 22,863 acres of management for the NBCI Habitat Management Inventory (Chart below; Figures 1-2, 4; NBCI focal area chart, page 27).
- Continued education and outreach via public contacts, website, five Mississippi Forestry Commission wildlife habitat trainings, and one quail management and five prescribed fire workshops.

NBCI State Quail Coordinator: Rick Hamrick, [rickh@mdwfp.state.ms.us](mailto:rickh@mdwfp.state.ms.us)





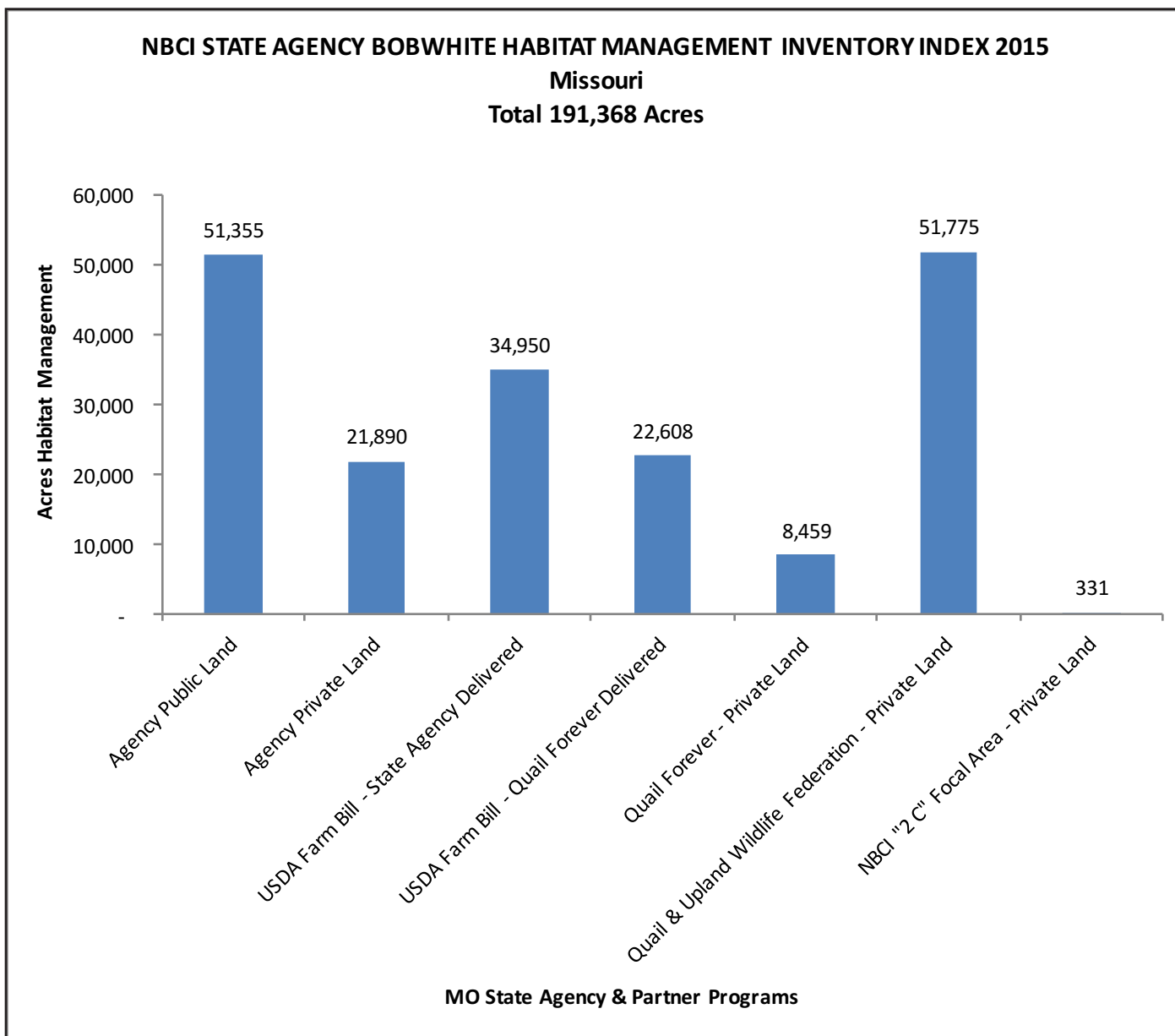
## Missouri — [Missouri Department of Conservation](#)

**Population:** The Missouri Department of Conservation (MDC) 2015 state bobwhite abundance index of 3.00 quail per 30 mile route was 54% above the 2014 index of 1.95. This is 91% above the 5-year average (2010-14 average = 1.57) and 29% above the 10-year average (2005-14 average = 2.32).

**Hunting:** Based on our 2014-15 [Small Game Post-Season Harvest Survey](#), the total number of hunters pursuing quail in 2014 was 18% below the 2012 total of 15,078 hunters. Averages for daily and season bags were up from 2012 as was total harvest. As expected, with fewer total quail hunters in 2014, total days afield was also down from 2012. In general, quail hunters in 2014 experienced the best hunting (based on average daily bag) since 1991.

**Management:** Quail management highlights in 2015 include the following:

- MDC administration approved a new Strategic Guidance for Northern Bobwhite Recovery 2015-2025. This plan builds upon the previous 10-year plan and focuses recovery efforts on habitat restoration, public outreach, monitoring, expanded research, and strong partnerships.
- MDC's Quail and Small Game Task Force continues to elevate small game issues with working groups focused on habitat, populations, outreach, focus areas, partners, and program review and assessment.
- Under the state's revised recovery plan, MDC staff will continue to proactively engage private landowners in 26 private land Quail Focus Areas (QFA), while 20 public land Quail Emphasis Areas (QEA) will serve as examples of quality quail and small-game habitat. These focus areas rank Medium or High using the Biologist's Ranking Information process of [NBCI 2.0](#). QEAs receive additional considerations during the



budgeting and planning process, and private land QFAs are eligible for enhanced cost-share habitat assistance.

- Continued monitoring of quail abundance on 20 public land QEAs and 2 private land QFAs.
- MDC continues participation in the [NBCI Coordinated Implementation Program](#) (NBCI CIP) with a focal area project in Carroll County.
- Reported 191,368 acres of management for the NBCI Habitat Management Inventory (Chart previous page; Figures 1-4; NBCI focal area chart, page 27).
- Outreach efforts continued via the [Small Game Prospects resource](#), [Covey Headquarters Newsletter](#), periodic [MOre Quail blog](#), a habitat management calendar, news items, and public events.
- MDC continues to leverage conservation dollars through cooperative partnerships with the [National Wild Turkey Federation](#), [Quail Forever](#), and the [Quail and Upland Wildlife Federation](#). These partnerships have been used to increase private land cost-share funding pools, fund cooperative USDA Farm Bill biologist positions, and create and promote youth hunting opportunities.
- MDC staff are in year 3 of a 5-year research project to study reproductive success and population response to traditional management (crop strips, linear shrub rows, discrete patches of nesting cover) vs. grassland landscape management (native grassland community managed with fire and grazing).
- For the third year in a row, bobwhites on extensive grassland landscapes managed with fire and grazing initiated earlier covey break-up, pairing, and nesting. In addition, nest success has been higher on the grassland vs. traditional study sites. Based on telemetry locations of adults with broods, bobwhites choose present-year grazing patches and 1-year post-grazing units for brood habitat. Units that have received neither burning nor grazing for >2 years show very little use by bobwhites.

NBCI State Quail Coordinator: David Hoover, [dave.hoover@mdc.mo.gov](mailto:dave.hoover@mdc.mo.gov)

### **Nebraska — [Nebraska Game and Parks Commission](#)**

**Population:** The Nebraska Game & Parks Commission (NGPC) statewide abundance index from the 2015 Bobwhite Whistle Count survey was higher than 2014, with increases in indices of relative abundance ranging from 0.8% in the West Platte region to 66% in the Republican region. Data from the 2015 July Rural Mail Carrier survey indicated statewide indices were higher than in 2014. Increases ranged from 33% in the West Platte region, to 309% in the Republican region. The population seems to be rebounding from the impacts of the extreme drought of 2012, and continued fair weather should foster this recovery.

**Hunting:** Data from the 2015-16 season is not yet available. During the 2014-15 bobwhite hunting season (25 October 2014-31 January 2015), 11,651 hunters harvested 52,947 bobwhites during 88,670 days afield. These figures were up compared to the 11,161 hunters (4%) harvesting 33,420 bobwhites (58%) during 72,319 days afield (23%) the previous year.

**Management:** NGPC continues to partner with NBCI and to implement early successional habitat management on public lands for the benefit of bobwhites and other upland game species. Nebraska implemented the [NBCI Coordinated Implementation Program](#) (NBCI CIP) on the Meridian Quail Initiative Focus Area in Jefferson and Thayer counties. Pre-management spring whistle and fall covey count surveys were completed in the focus area and the reference area in 2014. Edge feathering and other habitat management activities were conducted on private land and public hunting areas within the focus area using funds from a grant awarded by the Nebraska Environmental Trust. NBCI CIP habitat assessment is scheduled for this summer. A summary of habitat improvements and research follows:

- As part of the Early Successional Habitat Initiative, 37,736 acres across the state were managed for the benefit of quail, pheasants, and other upland game.
- As part of the Focus on Pheasants program, 24,833 acres were managed for upland game, including bobwhite, and 1,936 acres were managed for upland game through the Habitat Share program.
- On private land, USDA Farm Bill Biologists affected management activities beneficial to quail and pheasants on 32,674 acres.
- Reported 102,691 acres of quail management for the NBCI Habitat Management Inventory (Figures 1-2; NBCI focal area chart, page 27).
- University of Nebraska doctoral student Mandy Lipinski began field work this spring on a Federal Aid in Wildlife Restoration project investigating micro-climatic impacts on bobwhite habitat use and population dynamics in south-central Nebraska. MS student Vicki Simonsen will investigate trade-offs in reproductive investment due to landscape context of nests and perceived predation risk.

NBCI State Quail Coordinator: Dr. Jeffrey J. Lusk, [jeff.lusk@nebraska.gov](mailto:jeff.lusk@nebraska.gov)



## **New Jersey — New Jersey Department of Environmental Protection, Division of Fish and Wildlife**

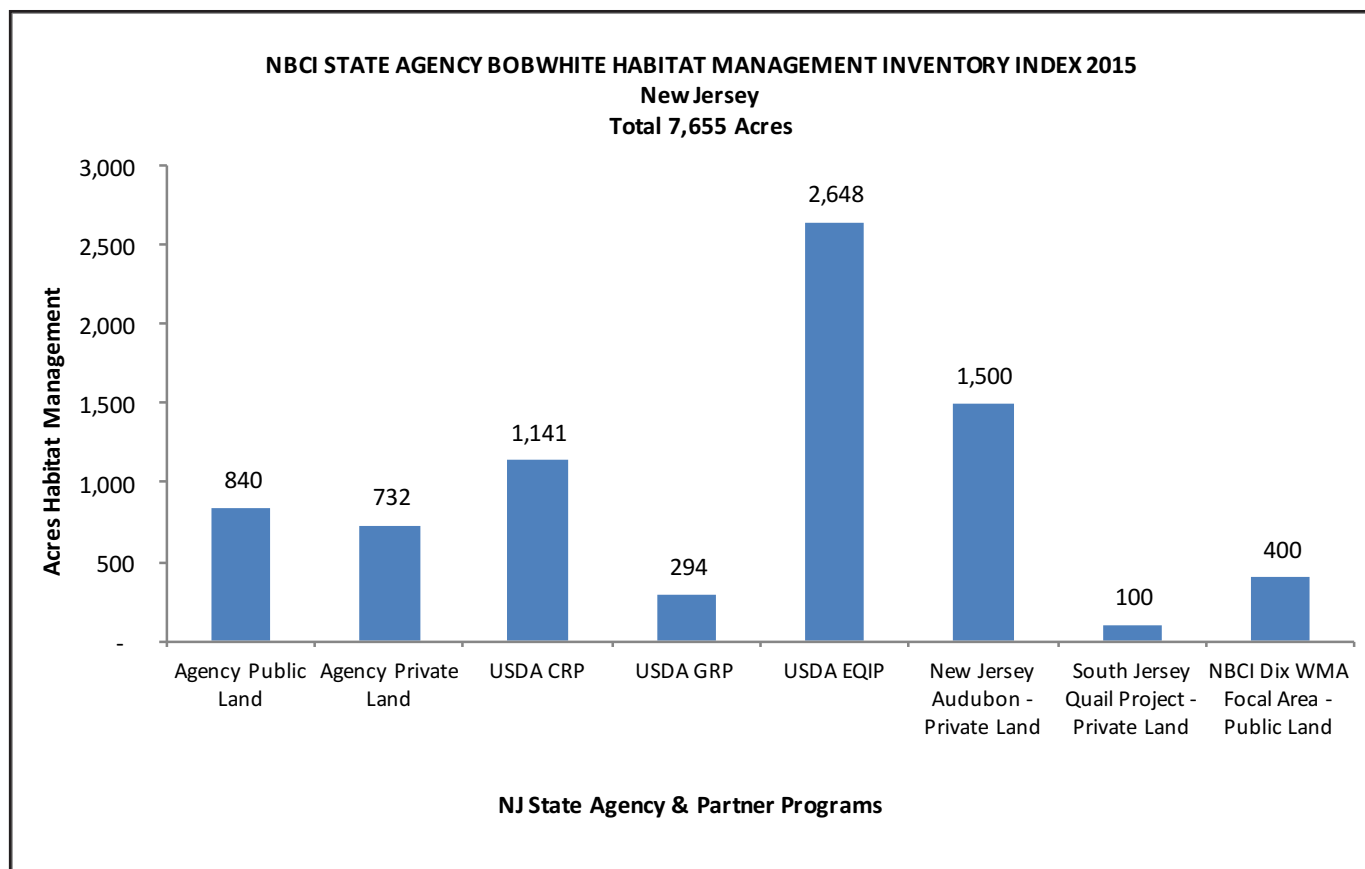
Population: Very low. USGS North American Breeding Bird Survey data: 0.00/route in 2015; 0.00/route in 2014; 0.03/route during 2011-15; 0.08/route during 2006-15; and, 6.04/route during 1966-2015. Audubon Christmas Bird Count data: 0.00/circle in 2016; 0.06/circle in 2015; 0.04/circle during 2012-16; 0.17/circle during 2007-16; and, 8.89/circle during 1966-2016.

Hunting: Wild quail hunting season has been closed since September 2011. Hunting pen-raised birds is permitted at two New Jersey Department of Environmental Protection (NJDEP) Wildlife Management Areas (WMAs) and on licensed shooting preserves.

Management: NJDEP Division of Fish and Wildlife (NJDFW) continues to operate under a statewide [Quail Plan](#) and partner with multiple agencies, non-government organizations (NGOs), and private citizens. Quail management highlights include the following:

- Conservation partners NJDFW, [NJ Audubon](#), [Tall Timbers Research Station and Land Conservancy \(TTRS\)](#), [U.S. Fish & Wildlife Service](#), [University of Delaware](#), [Pine Island Cranberry Company](#), and [Pine Creek Forestry](#) embarked on a multi-state research project involving wild quail obtained from Georgia and released in the Pinelands Region, where quail are classified as extirpated. Cooperators documented 15 nests containing 127 eggs and 66 hatchlings from 8 successful nests. At least 26 of the 80 quail released in April 2015 survived through December 31, and 5 offspring were fitted with radio transmitters. A [second batch of 81 Georgia quail were released in April 2016](#).
- NJDFW staff visited 12 interested landowners (3,024 acres owned) within [NBCI Coordinated Implementation Program](#) (NBCI CIP) focal areas and provided management plans. About 764 acres of management occurred via ongoing cooperation between sportsmen, NGOs, and NJDFW on quail habitat projects at two sand mining companies and a local sewage authority.
- NJDFW staff quantified habitat following NBCI CIP protocol at all four focal areas in Cumberland County.
- NJDFW staff conducted a predator abundance survey similar to TTRS on all NBCI focal areas in June and October 2015. A total of 135 visits documented and determined raccoon (27%), opossum (23%), red fox (16%) and free-ranging domestic cats (15%) as the most abundant mammalian predators.
- Reported 7,655 acres of quail management for the NBCI Habitat Management Inventory (Chart below; Figures 1-4; NBCI focal area chart, page 27).
- [Quail in the Classroom](#) initiated by the NJ Outdoor Alliance Environmental Projects is now in 6th year with about 25 participating school systems.

NBCI State Quail Coordinator: Andrew W Burnett, [andrew.burnett@dep.nj.gov](mailto:andrew.burnett@dep.nj.gov)





### **North Carolina — North Carolina Wildlife Resources Commission**

**Population:** The statewide quail population remains near all-time lows, with quail particularly scarce in the piedmont and mountains. The [USGS North American Breeding Bird Survey](#) serves as the state's primary quail monitoring reference. The statewide spring bobwhite call survey was discontinued in 2013 after it was no longer representative of the original landscape study design, and low counts no longer provided an adequate degree of precision to detect short-term trend changes.

**Hunting:** Results from the [2014-15 hunting season](#) and [Avid Hunter Survey](#) indicate a continued decline of quail hunters, quail hunting days, and covey flush rates.

**Management:** The North Carolina Wildlife Resources Commission (NCWRC) continued the early-successional habitat program, [Cooperative Upland habitat Restoration and Enhancement](#) (CURE), which focuses on multiple species and ecosystems. Quail management highlights include:

- Management of a four-county private lands focal area in southeastern North Carolina, which provides over 10,000 acres of suitable quail habitat. On public lands, four CURE Game Lands provide approximately 10,000 quail-friendly acres. Additionally, agency staff identified 17,000 and 33,000 acres, respectively, of private- and Game Land- suitable quail habitat across the state. Other initiatives include agency biologists working closely with USDA Natural Resources Conservation Service staff in all three of North Carolina's administrative regions.
- Reported 26,316 acres of management for the NBCI Habitat Management Inventory (Figures 1-2, 4).
- Continued outreach via [The Upland Gazette](#), covering early-successional species and habitats. The Upland Gazette is now included each year in spring and fall issues of Wildlife in North Carolina, the agency's magazine, which has more than 50,000 subscribers.

NBCI State Quail Coordinators: Christopher D. Kreh, [chris.kreh@ncwildlife.org](mailto:chris.kreh@ncwildlife.org), and Mark D. Jones, [mark.jones@ncwildlife.org](mailto:mark.jones@ncwildlife.org)

### **Ohio — Ohio Department of Natural Resources Division of Wildlife**

**Population:** In 2014, the Ohio Department of Natural Resources (ODNR) Division of Wildlife launched a new roadside survey to replace that which had been in place since 1984. The new survey uses randomly-selected survey routes distributed among 22 counties in southern Ohio. A total of 400 routes, each with 6 survey stops, are run on a rotating basis over a 5-year cycle (100 routes surveyed annually). Among 600 points surveyed in each of 2014 and 2015, northern bobwhites were detected on 7.2% and 10.2% of stops in each year, respectively. Where quail were detected, bobwhite density is estimated to be about 1 bird per 75 acres on average. Although formal statistical analyses have yet to be conducted, it appears that bobwhite distribution is associated with terminal and end moraines deposited by Illinoian and Wisconsinian glaciers. These geologic features of southwestern Ohio provide a terrain and rocky soils less conducive to modern agriculture, and on which remain small farms with greater amounts of hay/pasture and fencerows.

**Hunting:** Results of hunter harvest surveys over the last 2 years shows that quail hunting participation has declined significantly in Ohio. In 2011-12, we estimated about 3,000 hunters pursued wild quail in Ohio. In our most recent surveys, 0.5% of licensed hunters reported pursuing quail, which translates to approximately 1,800 hunters of wild quail. Average hunting effort remains at about 1 day out of Ohio's 24-day season, with a daily bag of 1-2 birds. Ohio offers a 4-bird daily bag limit.

**Management:** ODNR Division of Wildlife partnered with Pheasants Forever/Quail Forever and Highland County landowners to develop Ohio's first [NBCI Coordinated Implementation Program](#) (NBCI CIP) focal area, the [Fallsville Quail Heritage Area](#) (FQHA), in 2015. This area is approximately 10,000 acres in size with about 25% of the area consisting of public wildlife areas. Highlights to date include:

- March 2015 — Held an informational dinner for local landowners to learn about the status of quail populations in Ohio and gauge interest in the focus area concept.
- August 2015 — Facilitated a landowner field day to educate landowners about the benefits of shrubby cover and downed tree structures as winter quail habitat.
- Summer 2015 — Conducted habitat assessments at 84 bird survey points among the FQHA and nearby reference area.
- October-November 2015 — First fall covey counts conducted on NBCI CIP focal and reference areas.

NBCI State Quail Coordinator: Nathan Stricker, [nathan.stricker@dnr.state.oh.us](mailto:nathan.stricker@dnr.state.oh.us)

### **Oklahoma — Oklahoma Department of Wildlife Conservation**

**Population:** Oklahoma's 2015 August quail roadside surveys showed a 7.1% increase from the 26-year average. The Quail Forecast for both August and October surveys combined yielded an increase in our population index of 59.5% from our 2014 results. The severe drought of 2011 and 2012 likely hampered reproductive success. However, the summers of 2013, 2014, and 2015 showed promise for the population. We had another model

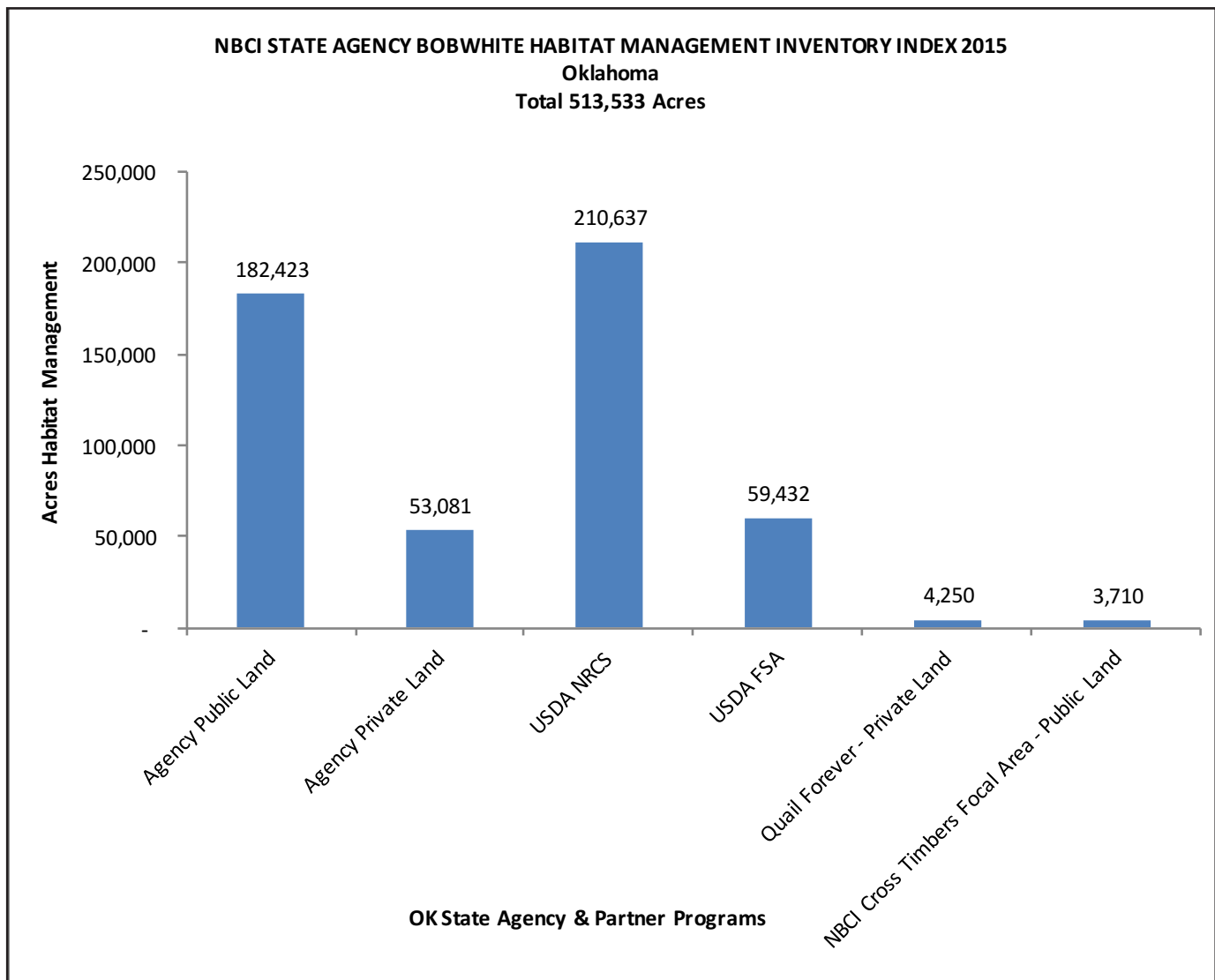


year of rainfall and cooler temperatures, and populations increased statewide, with a significant increase from our 2014 results in the northwest (101.4%), southwest (78.4%), southeast (62.9%) and northeast (50.4%). The only parts of the state that showed a decrease were south-central (83.3%) and north-central (17.8%). However, these areas of the state endured heavy flooding in the early portion of the reproductive season, especially in the south-central area. Good reports of birds, rain, and cooler temperatures are being reported statewide for the summer of 2016. Time will tell if this summer can be as productive as the past couple of summers.

**Hunting:** From 1986-2015, hunter numbers have declined by 81.7% (111,000 to 20,276), but are up 43% from 2013. However, they dropped from 2014 to 2015 by 2.3%. The estimated number of quail harvested has also decreased by 84.2% (2,700,000 to 407,284), but we are up 49.7% from the harvest from last year (273,449 in 2014; 407,284 in 2015). These numbers are higher due to three successful reproductive seasons, highly managed public lands, and more private landowners being aware and managing their properties accordingly. Such management practices include: prescribed burning, prescribed cattle grazing, pasture resting, strip disking, native grass plantings, eastern red cedar removal, timber thinning, less mowing and haying during peak nesting, and awareness of the effects of herbicide sprayings.

**Management:** Technical assistance was provided on 51,831 acres during 2015 to assist private landowners with quail conservation. Highlights:

- The Oklahoma Department of Wildlife Conservation (ODWC) continued its partnership with Oklahoma State University (OSU) to conduct research on two ODWC Wildlife Management Areas. Since 2012, [researchers have investigated](#) the impacts of grazing and fire on quail, chick survival and reproductive strategies, predator habitat use and abundance, arthropod abundance, aflatoxicosis, how temperatures influence nest and brood locations, and how anthropogenic features may affect quail behavior patterns.



Also, an important aspect of the research being conducted is on thermal modeling and quail/weather relationships.

- ODWC also initiated [NBCI Coordinated Implementation Program](#) (NBCI CIP) monitoring in south-central to north-central Oklahoma. The ODWC, Oaks and Prairies Joint Venture, and OSU have teamed up to monitor eight counties in Oklahoma: Love, Jefferson, Pontotoc, Johnston, Pawnee, Osage, Nowata, and Craig counties. To date, two spring and fall monitoring seasons have been surveyed within the CIP focal area and two reference areas. In addition, CIP habitat surveys have been completed within all 39 monitoring points.
- During the 2015-16 quail hunting season, ODWC offered the chance for landowners to receive valuable feedback from their harvested quail by offering a free wing and crop evaluation. Overall, landowners voluntarily donated more than 1,500 wings and 700 crops which led to a total of 93 landowner/hunter reports. Each report provided insightful feedback on the food items (primarily seeds) that were consumed and how those plants can be enhanced for quail. In addition, the reports detailed the harvest rates of adult vs. young-of-year quail and provided estimated hatch dates for juvenile birds.
- ODWC biologists are in the process of revising the Oklahoma Quail Habitat Guide which is used as a technical assistance tool. This guide was published in the May/June 2013 issue of the agency's magazine, Outdoor Oklahoma, and we are planning to have a newly revised guide by the end of 2016. In addition to the Habitat Guide, ODWC published 18 Upland Update articles to keep landowners informed of upland game issues, projects, and habitat practices beneficial to quail. ODWC also began developing a comprehensive plant management and seed identification guide to promote important grasses, forbs, and woody plants for quail and help hunters and landowners achieve their quail habitat goals.
- Reported 513,533 acres of management for the NBCI Habitat Management Inventory (Chart previous page; Figures 1-4; NBCI focal area chart, page 27).

NBCI State Quail Coordinator: Kyle Johnson, [kyle.johnson@odwc.ok.gov](mailto:kyle.johnson@odwc.ok.gov)

### ***Pennsylvania — [Pennsylvania Game Commission](#)***

**Population:** Between 1966 and 2012 bobwhite populations declined by 9.1% annually. Between 2001 and 2012 the decline continued at 9.5% annually. The relative abundance index in 2002-12 was 0.27 compared to 20.7 for the Eastern USA (USGS North American Breeding Bird Survey data 1966-2012; BBS). Pennsylvania Game Commission (PGC) and partners completed a detailed Breeding Bird Atlas in 2012. Northern bobwhites were determined to be breeding in only 18 of over 4,000 survey blocks. In 2014, a detailed analysis of all existing population data (e-bird, Breeding Bird Atlas, BBS, Christmas Bird Count, and survey of land managers throughout the state) was conducted by the Department of Ecosystem Science and Management at The Pennsylvania State University (PSU). No locations in the state showed persistence of bobwhites in every decade since 1960. The PGC conducted intensive surveys in the last known locations of bobwhites using a playback caller in June-July 2014. No northern bobwhite were detected. As a result of these studies, researchers at PSU and the PGC have concluded that wild northern bobwhite have been extirpated in Pennsylvania.

**Hunting:** The PGC does not raise and release bobwhites, but many sportsman clubs and shooting preserves do for the purposes of training and hunting. Based on a survey of game bird propagators, we estimate that over 60,000 pen-reared bobwhites were released in 2013, primarily for dog training. Bobwhites harvested in PA are from pen reared and released birds. Most of the State is now open to put and take bobwhite quail hunting.

**Management:** PGC completed a [statewide quail plan](#) and is a partner with NBCI. The plan does recommend identifying the best locations for restoration, the establishment of bobwhite focus areas, and wild bobwhite reintroduction efforts, if necessary, to re-establish populations of this once native game bird. Discussions are underway with federal and state partners to establish BQFAs. Reintroduction efforts will require the support of other states in providing wild northern bobwhite for Pennsylvania reintroduction efforts. The PGC Strategic Plan calls for establishing BQFAs and reintroductions of bobwhites by 2020.

NBCI State Quail Coordinators: Scott R. Klinger, [scklinger@pa.gov](mailto:scklinger@pa.gov) and Tom Keller, [thkeller@pa.gov](mailto:thkeller@pa.gov)

### ***South Carolina — [South Carolina Department of Natural Resources](#)***

**Population:** The South Carolina Department of Natural Resources (SCDNR) [2015 statewide bobwhite population abundance index](#) was 29% below the 2014 index and 80% below the long-term average.

**Hunting:** The most recent information on statewide quail hunting (2014) indicated that about 7,079 hunters harvested 75,653 wild quail during 35,224 days afield. Average hunter success in the annual [Quail Hunter Survey](#), most recently published for 2014-15 hunting season, was 0.65 coveys per hour of hunting.

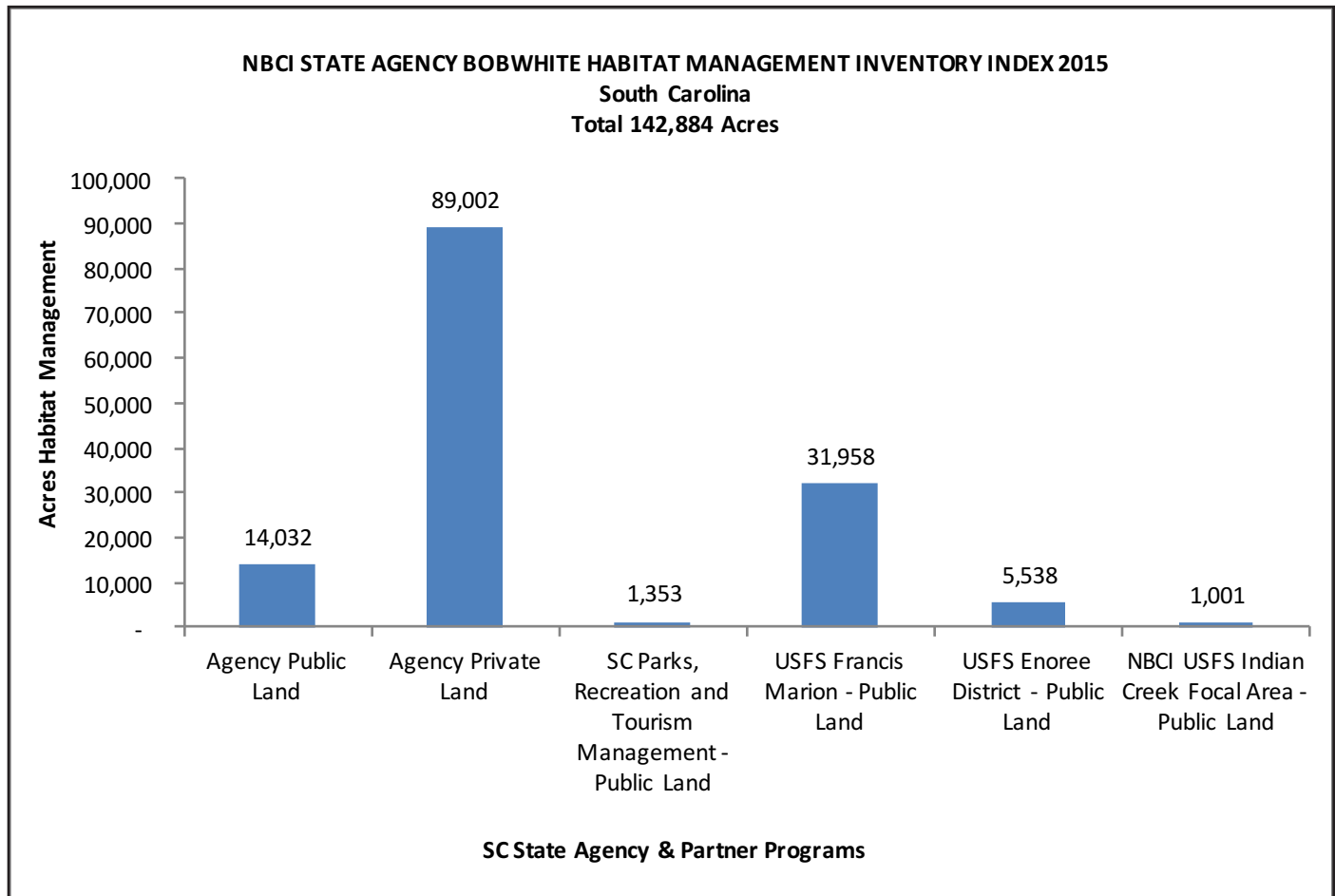
**Management:** SCDNR recently released a statewide quail management plan utilizing the tools and data contained in [NBCI 2.0](#). Quail management highlights for 2015 include:





- The [South Carolina Bobwhite Initiative](#) (SCBI) was officially launched in 2015. Four focal areas were established and monitoring will begin in 2016. You can find out more about “bringing the whistle back” on our SCBI website or at [facebook.com/scbobwhites](https://facebook.com/scbobwhites).
- Since 2006, SCDNR has cooperated with the USDA Forest Service and multiple other partners to develop habitat on the Indian Creek Wildlife Habitat Restoration Area. Phase II of this project has been expanded to encompass nearly 40,000 acres within its boundary.
- The Bobwhite Quail Whistling Cock Census was conducted for the 37th year and the Annual Summer Bobwhite Quail Brood Survey was conducted for the 22nd year.
- Reported 142,884 acres of quail management for the NBCI Habitat Management Inventory (Chart below; Figures 1-2, 4; NBCI focal area chart, page 27).
- Maintained [quail page](#) on the SCDNR website.

NBCI State Quail Coordinator: Michael Hook, [hookm@dnr.sc.gov](mailto:hookm@dnr.sc.gov)



## **Tennessee — Tennessee Wildlife Resources Agency**

Population: Tennessee's quail population continues to decline. We have collected spring counts on anchor Wildlife Management Areas (WMAs) for 2014 and 2015 and will also continue these surveys in 2016. We plan to pilot fall covey counts on focus areas in 2016. We are still exploring a method to analyze the spring count data and therefore do not have these to share.

Hunting: Tennessee Wildlife Resources Agency (TWRA) has no harvest estimate but is developing a survey for focus areas.

Management:

- Tennessee has [four anchor WMAs](#) and implemented four focus areas in 2015. In addition to the survey implementation as noted above, we hope to have an [NBCI Coordinated Implementation Program](#) focal area counted in 2016. Forest management leading to the creation of 140 acres of usable space on one anchor WMA was completed with a commercial timber sale. Other forest management is planned.
- The National Park Service is interested in using Cades Cove in the Great Smoky Mountains National Park as a historical bobwhite landscape. There is also interest in developing a focus area that will not have an associated anchor.
- Reported 90,764 acres of quail management for the NBCI Habitat Management Inventory (Figure 1).
- Tennessee is hosting the 2017 [National Bobwhite Technical Committee](#) meeting and [Quail 8 Symposium](#), so much effort is being applied to planning and fundraising.

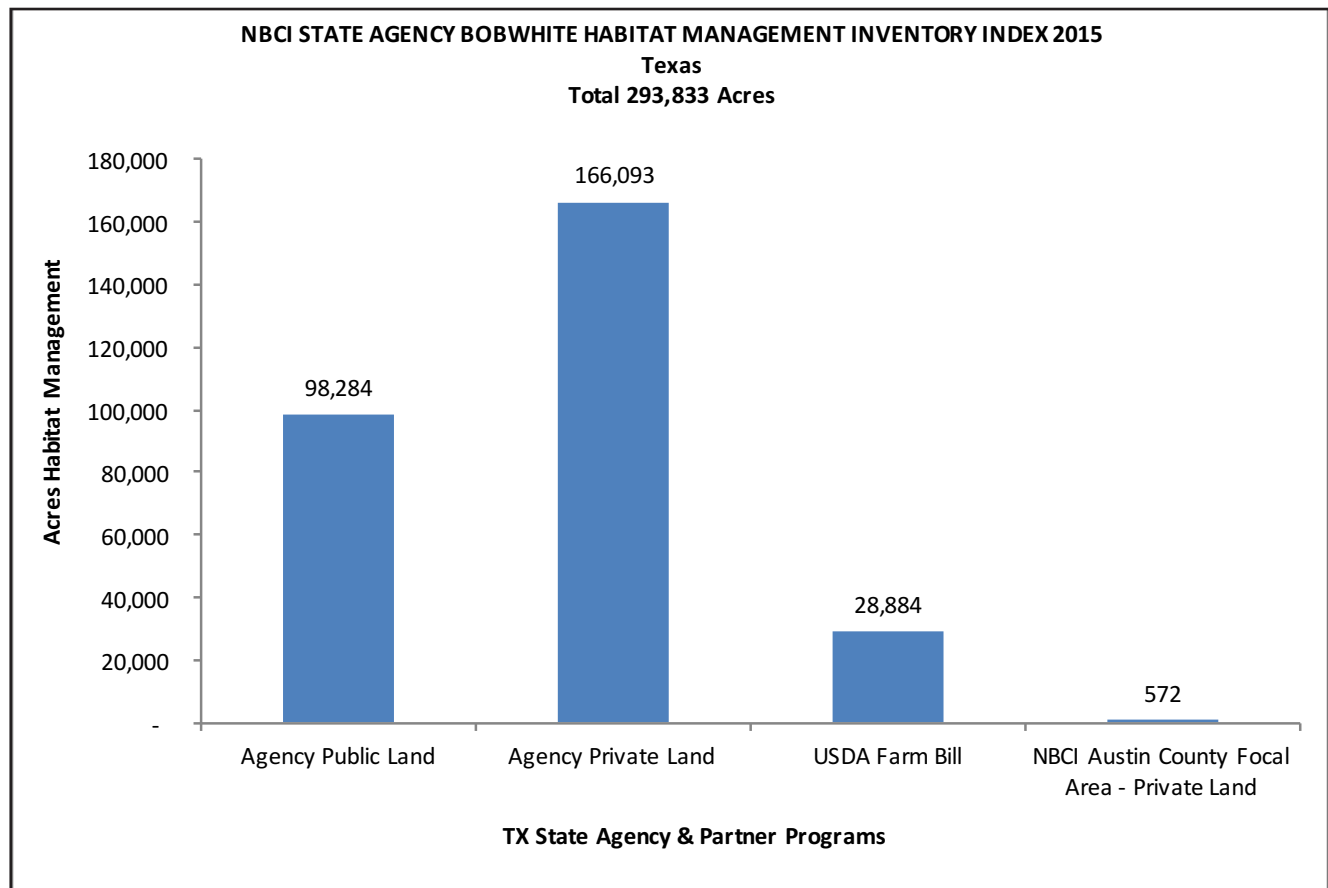
NBCI State Quail Coordinator: Roger Applegate, [roger.applegate@tn.gov](mailto:roger.applegate@tn.gov)

## **Texas — Texas Parks and Wildlife Department**

Population: According to Texas Parks and Wildlife Department (TPWD) surveys, [bobwhite populations](#) have dramatically increased prior to the 2015-16 hunting season in prime areas, primarily due to the timing and amount of rainfall and below average summer temperatures for two consecutive years. Bobwhite overwinter survival appears good and habitat conditions look excellent going into the 2016 breeding season.

Hunting: TPWD [hunter numbers for 2014-15](#) increased for the second year in a row, from 31,568 in the previous year to 40,537; estimated quail harvest increased 155% from previous year (563,341). The small game hunter survey questionnaire excludes pen-reared birds in the harvest estimate (initiated in 2013).

Management: Quail conservation efforts include continued development of quail focal areas as outlined by the [NBCI Coordinated Implementation Program](#) (NBCI CIP) in four ecological regions. Only one focal area has been



reporting both spring and fall counts and is included in the official CIP program. TPWD quail conservation highlights include:

- A grant program was completed to support upland game bird habitat projects in focal counties. TPWD received authority to spend \$4 million of state funds (game bird stamp) for quail focal area development during fiscal year 2014 (\$2 million) and fiscal year 2015 (\$2 million). Actual expenditures were 3.3M and 1.8M in match. Projects were completed on 81,000 acres with an additional 27,000 in matching acres of habitat work. All work was completed by August 31, 2015.
- About 166,093 acres of quail habitat were developed on private lands and another 98,284 acres on public lands under the direction of state wildlife personnel.
- USDA Farm Bill habitat programs specific to quail were implemented on 28,884 acres in fiscal year 2014. Programs specific to lesser prairie-chickens [[USDA CP38 State Acres for Wildlife Enhancement](#) (SAFE)] and bobwhite are included in this estimate.
- Reported 293,833 acres of quail management for the NBCI Habitat Management Inventory (Chart below; Figures 1-3; NBCI focal area chart, page 27).
- Current bobwhite research across several conservation entities and institutions includes the following: monitoring bobwhite population response to habitat management at the cooperative and county scale; human dimensions (landowner attitudes towards quail and grassland bird conservation); evaluation of wild quail translocation; population threshold hypothesis; potential disease, parasite and toxin impacts; and quail genetics, dispersal, and productivity.

NBCI State Quail Coordinator: Robert Perez, [robert.perez@tpwd.texas.gov](mailto:robert.perez@tpwd.texas.gov)

### ***Virginia — [Virginia Department of Game and Inland Fisheries](#)***

Population: While Virginia's [quail population](#) continues to decline in many areas, populations seem to have stabilized in some areas, and there are a few areas where increases seem likely but are hard to document. We hope the new monitoring techniques we will be using this year will increase our ability to detect changes.

Hunting: For the 2015-16 hunting season, 26 avid quail hunters reported on 277 hunts (the lowest number ever reported). They found 347 coveys and averaged finding 1.25 coveys per hunt with a statewide average of 2.7 hours per covey find (both up from last season). Our hunter harvest and effort survey for the 2013-14 season (our most recent survey) indicated the number of quail hunters decreased slightly from 5.1 to 3.7 % of all licensed hunters. While the degree of error was high due to the low number of hunters in the survey, the survey indicated a total of 172,148 (standard error=64,755) quail were harvested, of which 31,787 (standard error=17,073) were wild quail.

Management: Virginia Department of Game and Inland Fisheries' (VDGIF) [Quail Recovery Initiative](#) completed its 6th implementation year on June 30th, 2015. We prepared a comprehensive report on our agencies' actions on behalf of bobwhites since 1980 (see [General Assembly Report](#)). Quail management highlights through the first 6 years included:

- 2,763 site visits made to landowners owning over 327,700 acres of land.
- Quail DVD [Answering the Call](#) widely distributed.
- 415 tracts of land and 400 landowners in the [Quail Management Assistance Program](#) totaling 100,767 acres enrolled with 13,864 (14%) under some form of quail management.
- Collectively through all programs and in conjunction with partners allocated over \$4.9 million in habitat funding, totaling approximately 38,600 acres.
- New forestry-related Best Management Practices (BMPs) Memorandum of Understanding with Virginia Department of Forestry signed and program underway and revised offering cost-share for 8 wildlife-friendly forestry BMPs, including prescribed fire. Completed another 13 projects on 503 acres with more pending this fiscal year.
- Reported 59,596 acres of quail management for the NBCI Habitat Management Inventory (Chart below; Figures 1-4; NBCI focal area chart, page 27).
- Preparing for third year of June call counts and point habitat assessments per [NBCI Coordinated Implementation Program](#) (NBCI CIP) monitoring protocol for focal areas.

NBCI State Quail Coordinators: Marc Puckett, [marc.puckett@dgif.virginia.gov](mailto:marc.puckett@dgif.virginia.gov), and Jay Howell, [jay.howell@dgif.virginia.gov](mailto:jay.howell@dgif.virginia.gov)

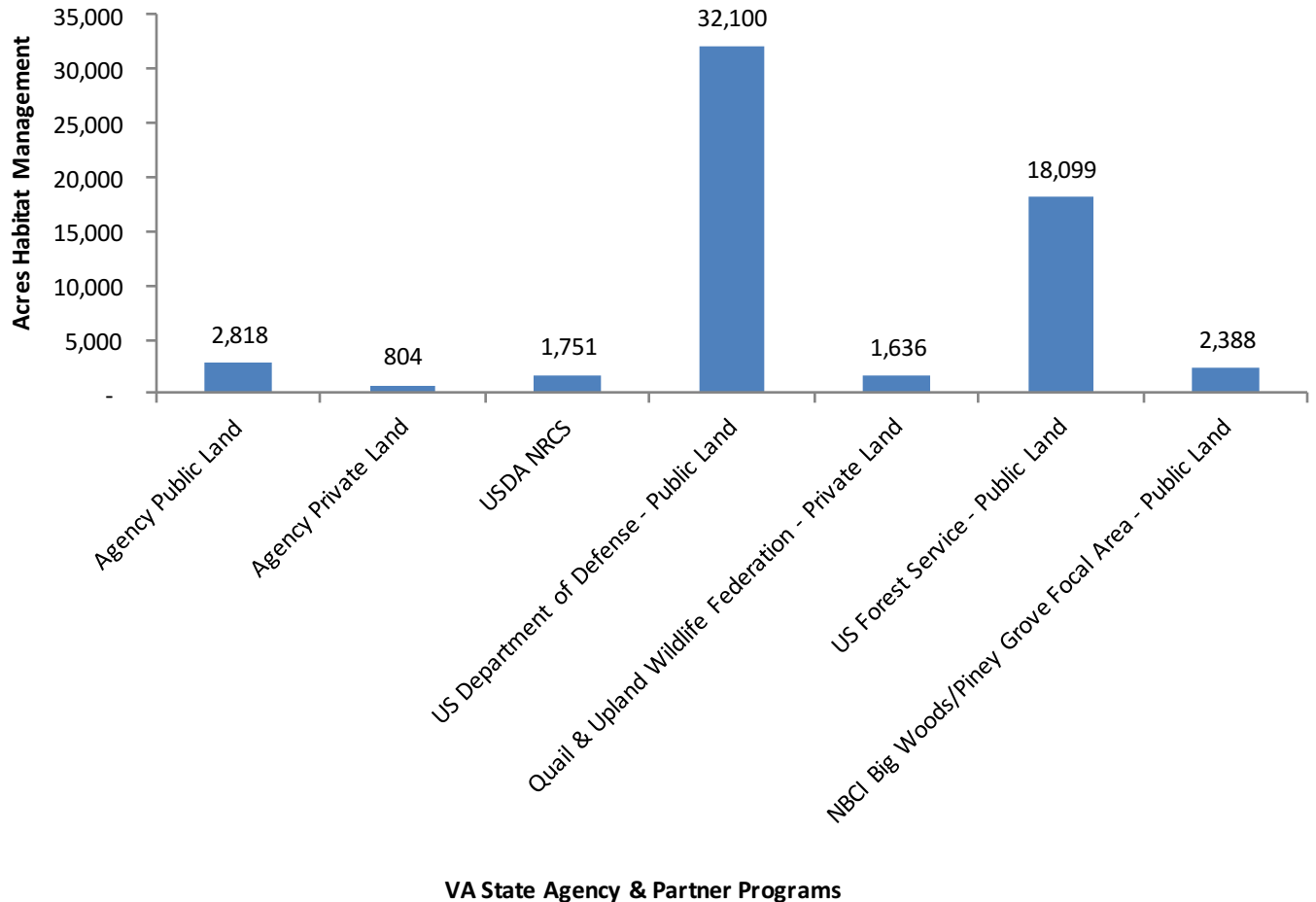




## NBCI STATE AGENCY BOBWHITE HABITAT MANAGEMENT INVENTORY INDEX 2015

Virginia

Total 59,596 Acres



### **West Virginia — West Virginia Division of Natural Resources**

**Population:** The West Virginia Division of Natural Resources (WVDNR) does not have a statewide population estimate, relying instead on USGS North American Breeding Bird Survey (BBS) data to track long term trends in abundance. Our recent (2009-14) BBS reported declines in all observation categories for northern bobwhites. Survey blocks with possible observations were down 80%, while those identified as probable were off by 33%. Most disturbingly, only 2 blocks out of 469 had confirmed observations, and these declined 94% from the earlier survey. Due to observers' inability to distinguish pen-reared and released singing males from wild birds, these two blocks may not even represent actual occurrence of a wild population.

**Hunting:** No current harvest estimate is available.

**Management:** WVDNR has completed a statewide bobwhite management plan. This plan incorporates quail habitat management techniques and opportunities into our overarching Early Successional Habitat Management Plan for our wildlife management areas. Being a state that is 82% forested, WVDNR focuses most of our efforts on young forest species.

NBCI State Quail Coordinator: Keith Krantz, [Keith.D.Krantz@wv.gov](mailto:Keith.D.Krantz@wv.gov)



# NBCI STATE AGENCY BOBWHITE HABITAT INVENTORY INDEX 2015

**T**he NBCI Habitat Inventory is an index of the potential for bobwhite to occur on the landscape, now or in the near future, as identified by the state's quail coordinator. For 2015, 21 state agency coordinators reported 2,695,645 acres of bobwhite habitat management, with individual programs ranging in size from 294 to 365,901 acres. Coordinators are encouraged to report key contributions to bobwhite management in their state, and regardless of program size, has potential for bobwhites to benefit, and partners are recognized in a national forum.

## Introduction

This is the fifth annual NBCI State Agency Bobwhite Habitat Inventory (hereafter, Inventory), an index of habitat management over the past year as reported by state agency quail program coordinators. The Inventory fulfills part of the 2010 charge of the NBCI Management Board to document "all things being done to benefit bobwhites in each state."

The Inventory documents acres of management of plant succession (prescribed fire, disking, prescribed grazing, cutting, chemical application, etc.), planting vegetation, and protecting vegetation (deferred grazing and haying, leaving crop residue, leaving standing crops, etc.). Inventory management is for the 2015 reporting year, which varies across states and among years.

The Inventory is divided into 3 primary land categories based on a combination of ownership, leadership and funding source: (1) State Agency Public Land, includes management on the wildlife agency's land (Figure 1); (2) State Agency-Based Private Land, includes management on private lands that is funded, led or made possible by the wildlife agency, and is generally not reported in other private land categories (Figure 2); and (3) USDA Farm Bill, includes acres managed under the USDA Farm Bill program (Figure 3). The Miscellaneous category (Figure 4) includes programs administered by agencies, organizations and institutions not included in Figures 1-3. In addition, for the first time, most participating state agencies reported acres of habitat management on NBCI Coordinated Implementation Program (CIP) Focal Areas (see article on page 26).

Multiple management treatments on any one acre can be counted >1 time per year (e.g., burning, chemical treatment and planting 1 acre in same year equals 3 acres of habitat management). Less common and avoided when feasible, acres are sometimes counted more than once across land categories. For example, NBCI CIP Focal Area acreage might be also counted in Figures 1-3, and state coordinators sometimes lack a system for separating management jointly delivered by >1 partner. Importantly, contributions by all partners are recognized.

Does existence of habitat management mean that wild bobwhites can be expected at a particular program's physical locations? Not necessarily. Inventory protocol specifies that habitat is suitable for bobwhites in the reporting year, or will be in the near future. It can take

several years after initial management for some habitats to become suitable for bobwhites, followed by a bobwhite population response. Bobwhites occupy, or increase in an area, based on survival and reproduction, which are effected by weather and other non-habitat factors, and by movement into an area, which is affected by distance from existing populations to the area and habitat fragmentation. Further, as described in detail in 2012 and 2013 State of the Bobwhite reports, because of much variability among NBCI states and partners in ability to measure habitat, the NBCI Inventory is appropriately interpreted as an index of habitat management. As an index of the amount of habitat management beneficial to bobwhites, comparisons among years, states, partners and programs should be made cautiously.

To better describe the amount of uncertainty in habitat data, coordinators grade their confidence in acreage they report by choosing among 7 levels of confidence (very confident, moderately confident, somewhat confident, neutral, somewhat uncertain, moderately uncertain and very uncertain). The highest confidence is often based on measurement of bobwhite abundance and this aspect is a foundation of the NBCI CIP Focal Areas. Such detailed measurement, however, is not feasible at large scales, so the Inventory's coordinator confidence ratings provide a qualifier for expectations for bobwhite to occupy habitat and/or to be abundant. This is particularly useful for large areas where bobwhites were known to exist and some kind of habitat program had been implemented, but there is no measurement of habitat quality (e.g., stage of plant succession) or actual bobwhite abundance.

In summary, the NBCI Inventory is an index of the potential for bobwhite to occur on the landscape, as identified by each state's quail coordinator. As one state coordinator put it, "Although I classified my confidence as Very Uncertain because I lack data, I know those acres provide a great deal of benefit to bobwhites so I wanted to report something. Thus, I took a wild stab just so that practice would be identified as an important one in our state." On the other hand, some states are conservative in what they report, limiting acres to those enrolled in specific quail habitat programs with annual verification of compliance.

In addition to differences among states in capacity to collect data and reporting strategy (e.g., conservative or liberal inclusion of habitat management), some states were constrained in 2015 by other factors. Similar to



previous years, quail coordinators for Pennsylvania Game Commission and West Virginia Division of Natural Resources believe that wild bobwhite population abundance was inadequate for responding to habitat management and thus did not submit data. Per NBCI Inventory protocol, presence or potential presence (immigration or translocation) of wild bobwhite is a minimum criteria for claiming habitat management for an area.

## Results

Twenty-one state agency coordinators reported 2,695,645 acres of bobwhite habitat management, 31% more than 2.05 million acres reported last year. Management included 881,181 acres on state wildlife agency publicly-owned lands (Figure 1), 478,019 acres on private lands through state wildlife agency efforts (State Agency-Based Private Land Management, Figure 2), 603,963 acres on private lands through the USDA Farm Bill (Figure 3), 715,214 acres on public and private lands not reported in Figures 1-3, categorized as miscellaneous land ownership (Figure 4), and 17,268 acres of habitat management on NBCI Coordinated Implementation Program Focal Areas (see article on page 26). The “reporting year,” 2015, included dates ranging from July 1, 2014 to March 31, 2016, varying with fiscal years, accounting systems, etc.

Across all 5 land categories, acreage for the 21 reporting states was as follows: 95,000 acres (AL), 18,241 (AR), 4,935 (DE), 269,665 (FL), 402,707 (GA), 30,222 (IA), 14,919 (IL), 371,036 (KS), 15,613 (KY), 17,472 (LA), 4,332 (MD), 191,368 (MO), 22,863 (MS), 26,316 (NC), 102,691 (NE), 7,655 (NJ), 513,533 (OK), 142,884 (SC), 90,764 (TN), 293,833 (TX), and 59,596 acres (VA).

## State Agency Public Land Management

Twenty-one state agencies reported 881,181 acres of bobwhite habitat management (Figure 1). The top 5 states, reporting 90,764 to 182,423 acres, were Florida, Kansas, Oklahoma, Tennessee, and Texas. State coordinator acreage reports (state, coordinator confidence rating) included the following: 50,000 acres (AL, moderately confident), 10,212 (AR, neutral), 3,265 (DE, somewhat confident), 99,056 (FL, moderately confident), 18,493 (GA, moderately confident), 11,373 (IA, very confident), 14,094 (IL, moderately uncertain), 128,717 (KS, somewhat uncertain), 7,867 (KY, somewhat confident), 4,707 (LA, moderately confident), 2,304 (MD, somewhat confident), 51,355 (MO, moderately confident), 6,338 (MS, very confident), 15,407 (NC, somewhat confident), 68,832 (NE, very confident), 840 (NJ, very confident), 182,423 (OK, moderately confident), 14,032 (SC, very confident), 90,764 (TN, somewhat confident),

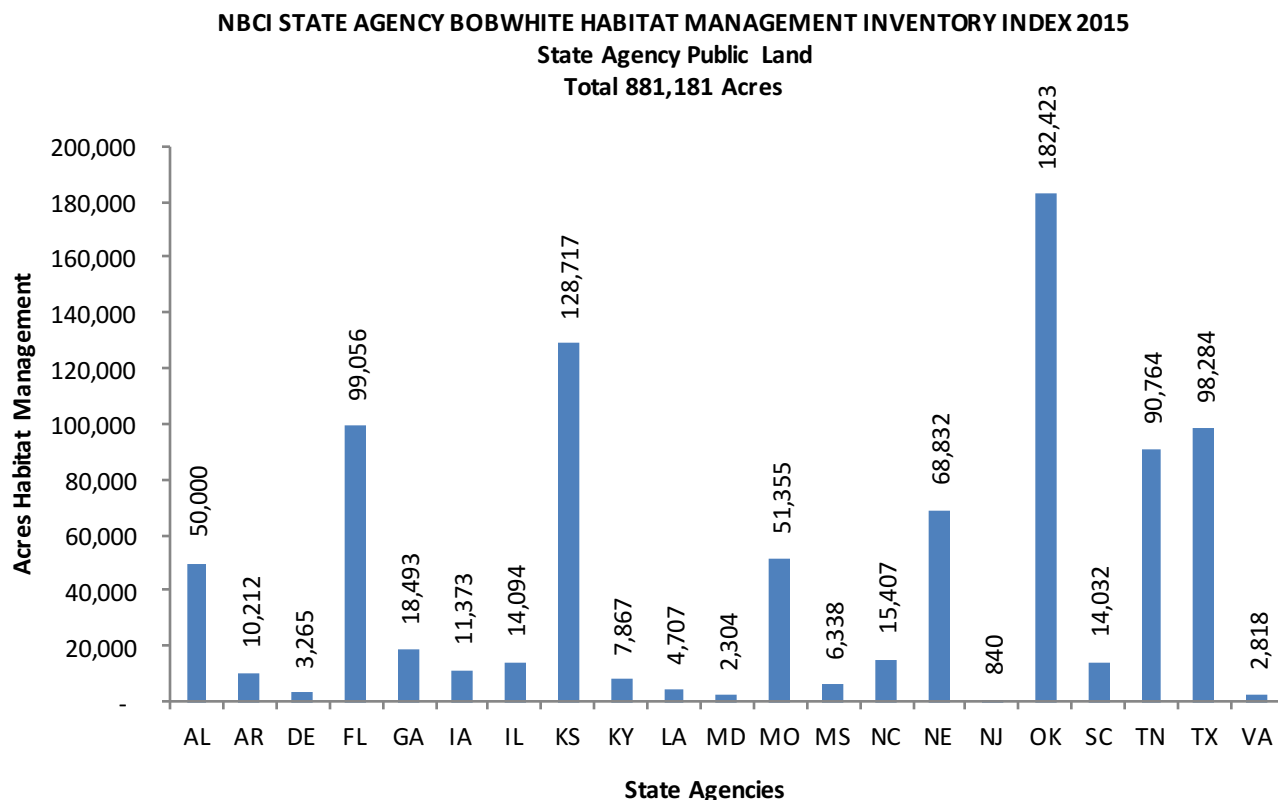


Figure 1. 2015 NBCI State Agency Bobwhite Habitat Management Index for 21 state public land programs. Index is acres of habitat managed by prescribed fire, disking, prescribed grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2014 to March 31, 2016).





98,284 (TX, very confident) and 2,818 acres (VA, moderately confident).

### State Agency-Based Private Land Management

Nineteen state agencies reported 478,019 acres of bobwhite habitat management (Figure 2). The top 5 states, reporting 32,674 to 166,093 acres, were Alabama, Nebraska, Oklahoma, South Carolina, and Texas. State coordinator acreage reports (state, coordinator confidence rating) included the following: 45,000 acres (AL, moderately confident), 6,822 (AR, neutral), 4,922 (FL, very confident), 6,065 (GA, moderately confident),

10,089 (IA, very confident), 825 (IL, somewhat confident), 5,511 (KS, moderately confident), 6,301 (KY, somewhat confident), 5,637 (LA, moderately confident), 450 (MD, somewhat confident), 21,890 (MO, moderately confident), 12,722 (MS, very confident), 9,399 (NC, somewhat confident), 32,674 (NE, very confident), 732 (NJ, very confident), 53,081 (OK, moderately confident), 89,002 (SC, moderately uncertain), 166,093 (TX, moderately confident), and 804 acres (VA, somewhat confident). Private lands in this category are not generally part of the USDA Farm Bill.

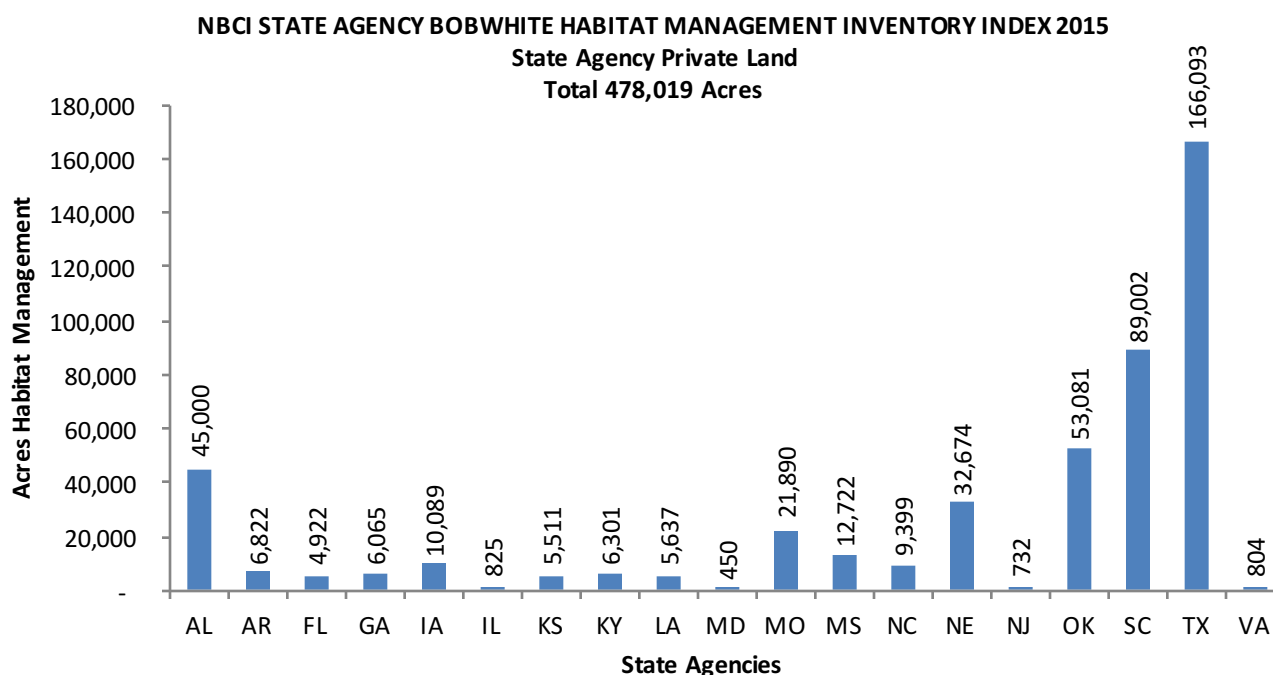


Figure 2. 2015 NBCI State Agency Bobwhite Habitat Management Index for 19 state-led private land programs. Index is acres of habitat managed by prescribed fire, disking, prescribed grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2014 to March 31, 2016).



## Private Land Enrolled in U.S. Department of Agriculture Farm Bill

Nine state agencies reported on 14 programs, practices and management delivered by partners, for a total 603,963 acres of bobwhite habitat management (Figure 3). Among states, bobwhite-friendly USDA Farm Bill management was by far highest in Kansas (total 225,958 acres) and Oklahoma (total 270,069 acres). State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following: 6,954 acres (IA, delivered by Pheasants Forever, moderately confident), 201,554 (KS, EQIP,

somewhat confident), 24,404 (KS, CCRP, moderately confident), 7,128 (LA, NRCS, moderately confident), 1,578 (MD, Farm Bill, neutral), 34,950 (MO, delivered by Missouri Department of Conservation, somewhat confident), 22,608 (MO, delivered by Quail Forever, somewhat confident), 1,141 (NJ, CRP, very confident), 294 (NJ, GSP, very confident), 2,648 (NJ, EQIP, very confident), 210,637 (OK, NRCS, moderately confident), 59,432 (OK, FSA, moderately confident), 28,884 (TX, Farm Bill, moderately confident), and 1,751 acres (VA, NRCS, moderately confident).

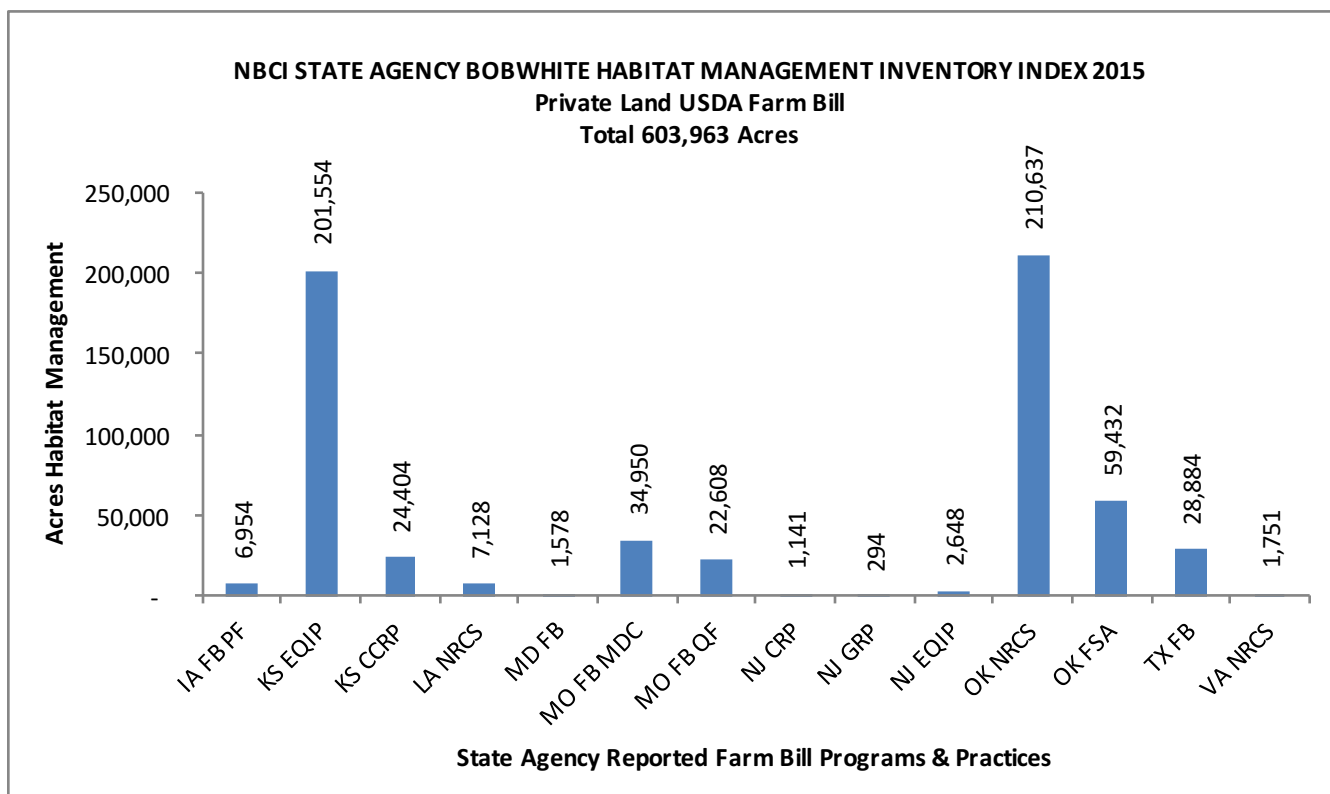


Figure 3. 2015 NBCI State Agency Bobwhite Habitat Management Index for 9 states and 14 U.S. Department of Agriculture Farm Bill funded programs. Index is acres of habitat managed by prescribed fire, disking, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2014 to December 31, 2015). Acronyms: CCRP—Continuous Conservation Reserve Program, CRP—Conservation Reserve Program, EQIP—Environmental Quality Incentives Program, FB—Farm Bill (CCRP, CRP, EQIP, GRP, etc.), FSA—Farm Service Agency, GRP—Grassland Reserve Program, MO-program delivery by MDC (Missouri Department Conservation) and QF (Quail Forever) biologists, NRCS—Natural Resources Conservation Service, and PF (Pheasants Forever) biologists delivered.

**U.S. Department of Agriculture (USDA) Farm Bill programs, or delivery, as reported by state quail coordinator, and acronyms, are as follows: CCRP—Continuous Conservation Reserve Program; EQIP—Environmental Quality Incentives Program, FB—Farm Bill (CCRP, CRP, EQIP, GRP, etc.); FSA—USDA Farm Service Agency; GRP—Grassland Reserve Program; and, NRCS—USDA Natural Resources Conservation Service.**



## Miscellaneous Land

For federal public lands, and private lands not enrolled in the USDA Farm Bill (Figure 3), 11 state agencies reported on 17 partner programs and 715,214 acres of management (Figure 4), similar to 661,642 acres in 2014. The 2014 report included management acres for NBCI Coordinated Implementation Program Focal Areas for Kentucky and New Jersey—this management is reported separately for 2015, under CIP Focal Areas, below, and in feature article on page 26.

Some notable programs included Tall Timbers Research Station and Land Conservancy in Florida and Georgia (total 531,588 acres), Quail and Upland Wildlife Federation in Kansas, Missouri, Mississippi, North Carolina and Virginia (total 67,285 acres), U.S. Forest Service in South Carolina and Virginia (total 55,595 acres), and Quail Forever in Missouri and Oklahoma (total 12,709 acres). State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following: 165,687 acres (FL, Tall Timbers Research Station and Land Conservancy, very confident), 365,901 (GA, Tall Timbers Research Station and Land Conservancy, moderately confident), 12,248 (GA, Jones Ecological Research Center at Ichuaway, moderately confident), 10,850 (KS, Quail and Upland Wildlife Federation, neutral), 600 (KY, Shaker Village, very confident), 8,459 (MO, Quail Forever, somewhat confident), 51,775 (MO, Quail and Upland Wildlife Federation, somewhat confident), 1,650 (MS, Quail and Upland Wildlife Federation, very confident), 1,510 (NC, Quail and Upland Wildlife Federation, somewhat confident), 1,500 (NJ, New Jersey Audubon, very confident), 100 (NJ, South Jersey Quail Project, very confident), 4,250 (OK, Quail Forever, somewhat

confident), 1,353 (SC, South Carolina Parks, Recreation and Tourism Management, moderately confident), 37,496 (SC, U.S. Forest Service—Francis Marion District and Enoree Districts, moderately confident), 32,100 (VA, U.S. Department of Defense, somewhat confident), 18,099 (VA, U.S. Forest Service, somewhat uncertain), and 1,636 acres (VA, Quail and Upland Wildlife Federation, somewhat confident).

## Focal Areas

Twelve state coordinators reported 17,268 acres of habitat management for NBCI Coordinated Implementation Program (CIP) Focal Areas. These are the first CIP data to be published, and include states that have collected and submitted bird or quail population data to NBCI, and states that plan to in 2016, and states with CIP focal areas in development (Mississippi). NBCI CIP progress and a habitat chart are described in feature article on page 26. State coordinator acreage reports (state, CIP focal area name, coordinator confidence rating) included the following: 1,207 acres (AR, Pea Ridge, neutral), 1,670 (DE, Cedar Swamp, moderately confident), 470 (IA, Ringgold, private land, very confident), 1,336 (IA, Ringgold, public land, very confident), 845 (KY, Livingston County, moderately confident), 331 (MO, 2C, moderately confident), 2,153 (MS, Charles Ray Nix WMA, very confident), 670 (NE, Meridian Quail Initiative, private land, very confident), 515 (NE, Meridian Quail Initiative, public land, very confident), 400 (NJ, Dix WMA, very confident), 3,710 (OK, Cross Timbers, very confident), 1,001 (SC, U.S. Forest Service Indian Creek, very confident), 572 (TX, Austin County, very confident), and 2,388 acres (VA, Big Woods/Piney Grove, moderately confident).



TOM DAILEY





# NBCI STATE AGENCY BOBWHITE HABITAT MANAGEMENT INVENTORY INDEX 2015

Miscellaneous Ownership

Total 715,214 Acres

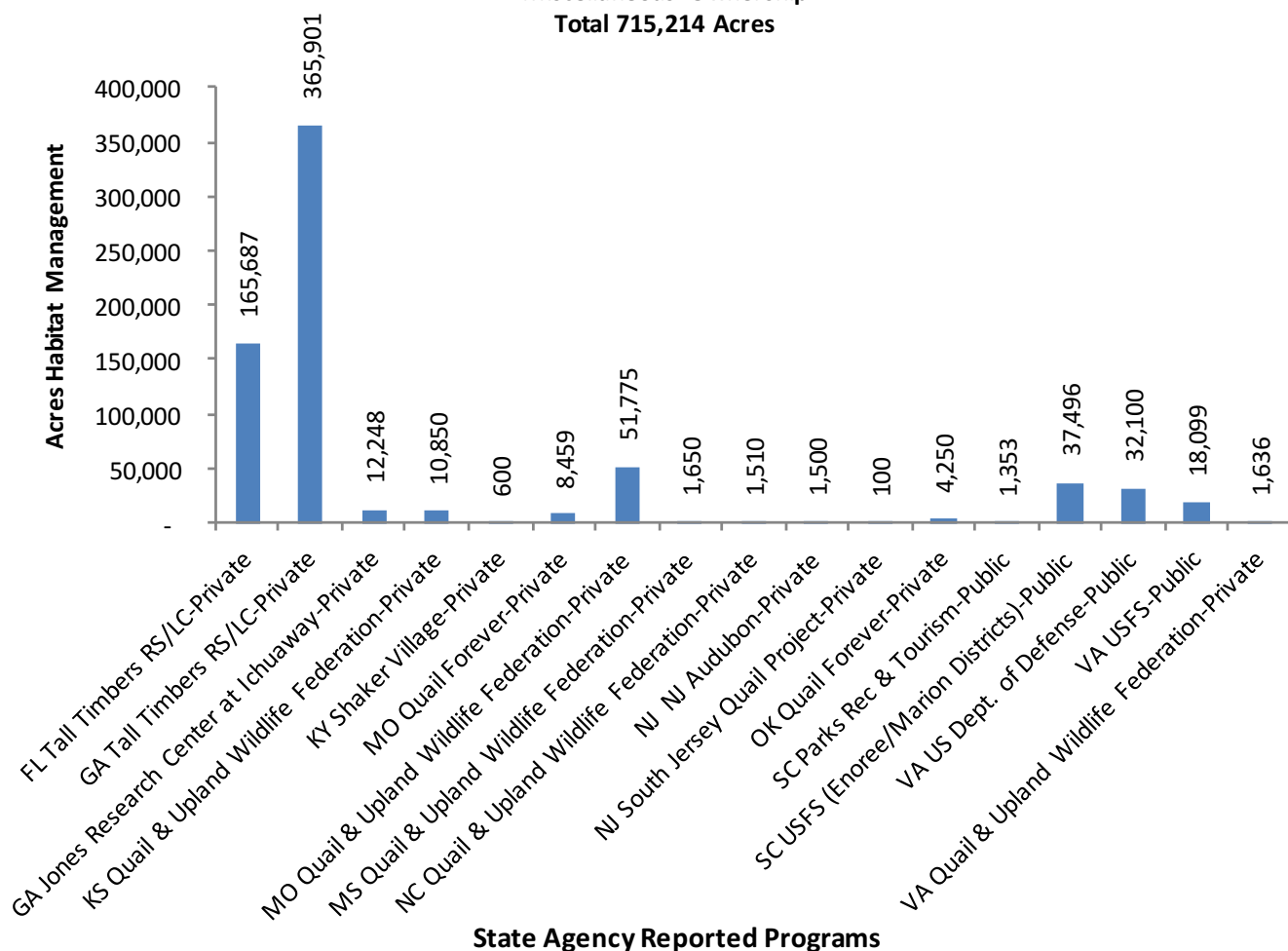


Figure 4. 2015 NBCI State Agency Bobwhite Habitat Management Index for 17 miscellaneous public and private land programs. Index is acres of habitat managed by prescribed fire, disking, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from January 1, 2014 to December 31, 2015). Acronyms: USDOD (U.S. Department of Defense), LC (Land Conservancy), RC (Research Center), RS (Research Station), S (South) and USFS (U.S. Forest Service).



## Summary

In this fifth year of the NBCI State Agency Habitat Management Inventory, state agency participation remained stable with 19-22 states providing data during 2011-15. The capacity and interest to track bobwhite habitat management has increased in some states, as noted in 2015 Inventory data by Dr. Jeffrey Lusk for Nebraska: “tracking of acres affected by management has continued to increase, as well as the reports (e.g., spreadsheets) produced, particularly as inventories such as this are taken into account.”

Considerable variability remains, however, as evidenced by coordinators’ moderate confidence in particular programs, and the absence or presence of major habitat programs across years and states. Therefore, the description of the Inventory as an index of habitat-based potential for bobwhites to occur on the landscape is accurate and pragmatic, and points to the importance of measuring bobwhite response in the NBCI Coordinated Implementation Program. As an index, the NBCI Inventory has documented major trends in bobwhite-friendly habitat management.

Across the past five years, three of the NBCI Inventory land categories—State Agency Public Land, State Agency-Based Private Land, and Private Land enrolled in USDA Farm Bill—have been standardized and are displayed in Figure 5. For State Agency Public Land, the 881,181 acres in 2015 are a 37% increase over 0.642 million acres reported in 2014 and about the same as 0.825 million acres in 2013. For State Agency-Based Private Land (agency provided leadership, funding, etc.), the 478,019 acres in 2015 are a 53% increase over 0.313

million acres in 2014 and 56% greater than 0.307 million acres in 2013. For Private Land Enrolled in USDA Farm Bill, 603,963 acres reported in 2015 are a 39% increase over the 435,329 acres reported in 2014, but remains down from the previous years.

A shift in source of habitat management is apparent from the NBCI Inventory, with the percentage of the management acreage in 2011 being 67% for Private Land under USDA Farm Bill, and only 33% for State Agency Public and Private Lands combined, whereas in 2015 this is reversed with State Agency management constituting 69% of the total. Put another way, comparing 2011 to the past couple years, Inventory acreage for the USDA Farm Bill is down half, and State Agency efforts have doubled. As explained in previous Inventory reports, because the Inventory is only an index, these trends are difficult to interpret, but they do coincide with decreased enrollment in the USDA Farm Bill, and a drought-caused management decline in major bobwhite landscapes in 2012 and subsequent rebound beginning in 2013. It also appears that slack in USDA Farm Bill programs has been picked up by the State Agencies. Although bobwhite-friendly USDA Farm Bill acreage has declined considerably, states have worked with the USDA to increase focus on bobwhites and other wildlife in remaining practices.

In summary, it is clear from the NBCI Habitat Inventory that state wildlife agencies and partners are continually working on the foundation of bobwhite populations, habitat management. Regardless of program size, land is being improved for the benefit of many species of wildlife, and in many cases quail hunting is improved.

## NBCI STATE AGENCY BOBWHITE HABITAT MANAGEMENT INVENTORY TRENDS

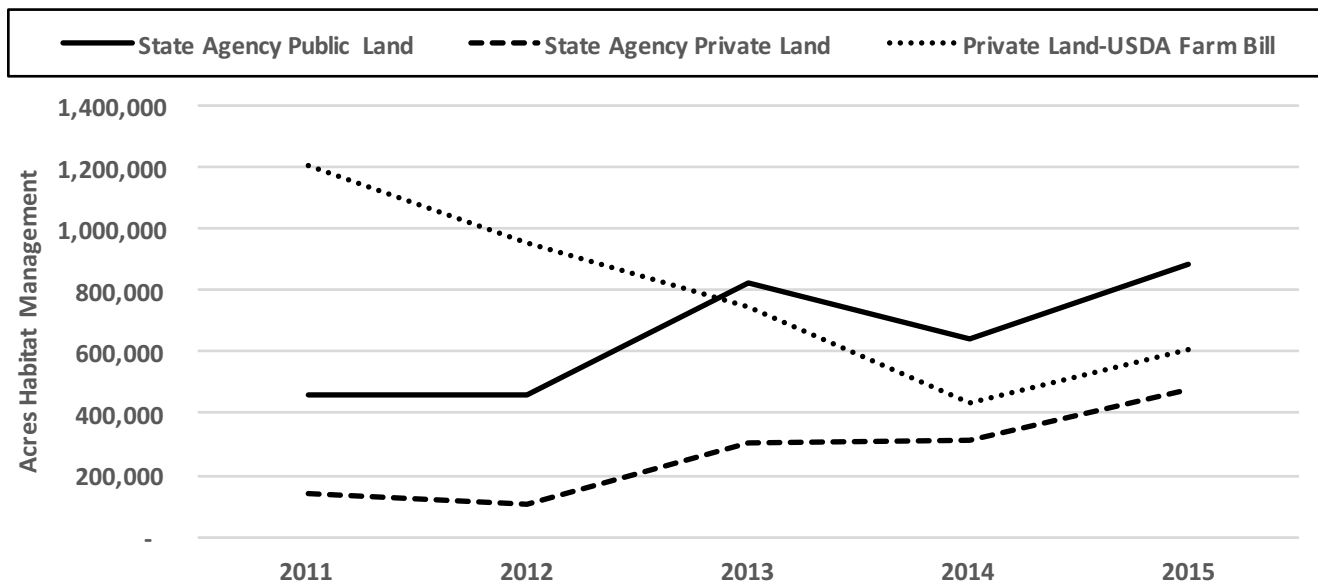


Figure 5. Trends in NBCI State Agency Bobwhite Habitat Inventory Index, 2011-2015. Includes data from standardized categories identified in Figures 1-3.



# STATUS OF BOBWHITE HUNTING

**T**he NBCI Hunting Inventory of state agency statewide quail hunting surveys for 2015-16 is a five-year update of data last reported in the 2011 State of the Bobwhite Report (pages 3-5). See that report for background on state surveys, particularly the high frequency of released, pen-raised quail. Comparing the quality of data for the 2011 and 2016 reports, state survey methodology changed relatively little, with continued high variability across states in identification of harvest of wild and released pen-raised quail, residents and non-residents hunters, “youth” and “senior” hunters, landowner hunters, etc. The NBCI report continues to report the gross number of quail hunters, disregarding any distinction between wild and pen-raised quail, thus providing an index of the potential interest in wild quail hunting.

## Results

Seventeen states reported recent annual hunting survey results, based on the following hunting seasons, 2015-16 (GA), 2014-15 (AL, DE, IA, IL, KS, LA, MD, MO, MS, NC, NE, OK, and TX), 2013-14 (SC and VA), and 2012-13 (FL). The estimated number of quail hunters ranged from 240 in Delaware to 43,622 in Kansas (Figure 6). Total number of quail hunters for these 17 states was 222,937, and they spent 1,023,283 days in the field (does not include Oklahoma hunters). Kansas, Oklahoma and Texas combined accounted for 47% of quail hunters.

Among NBCI states reporting recent data on statewide quail hunting, the number of quail hunters (hunting wild and/or released pen-raised bobwhites) was by far highest in Kansas, Texas and Oklahoma (20,758-43,622 quail hunters); mid-range, 10,000-17,000 quail hunters, in Alabama, Florida, Georgia, Illinois, Indiana, Missouri, Nebraska and North Carolina; lower, 1,000-9,999 quail hunters, in Iowa, Louisiana, Mississippi, South Carolina and Virginia, and lowest, <1,000 quail hunters, in Delaware and Maryland.

Comparing the 16 states with data for both 2011 and

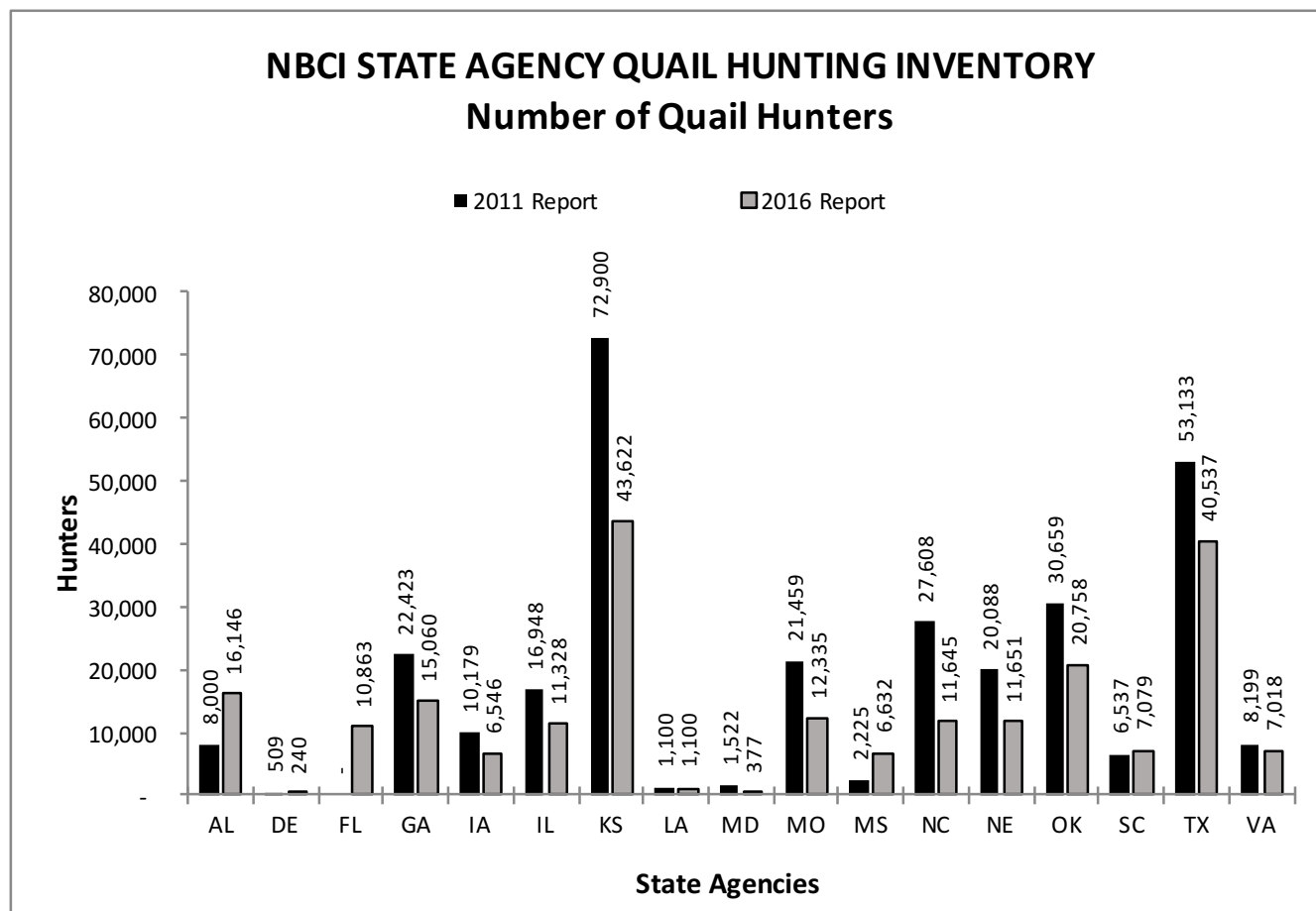


Figure 6. Estimated number of quail hunters (pursuing wild or pen-raised quail) in 17 states reporting for the 2015 NBCI Hunting Inventory. For those 17 states that also reported for the 2011 State of the Bobwhite Report, 2011 data are displayed.





2016 (Figure 6; excludes Florida, which only reported for 2016, and Indiana, Kentucky, New Jersey, Ohio, and Pennsylvania, which only reported for 2011), the total number of quail hunters declined 30 percent. Hunters declined in 12 states, did not change in Louisiana, and increased in Alabama, Mississippi and South Carolina, states where hunting of pen-raised quail could be a prominent part of survey results.

A common question is “how many quail hunters are there in the 25 NBCI states?” This was estimated as 357,542 in 2011 for the 21 reporting states (of the 25 NBCI states, Arkansas, Florida, Tennessee and West Virginia seldom collect quail hunting data). Applying the current -30% rate of change to the original estimate for 21 states, NBCI conservatively estimates there are about 249,846 bobwhite hunters. This is a conservative, minimum value, missing information from several states, and often from a large part of the hunting community, e.g., “seniors” and landowners.

## **Discussion**

The continued decline in quail hunting is not surprising based on parallel declines in range-wide bobwhite abundance, and the previous finding that the long-term average annual rate of decline in number of quail hunters was 2,524 (2012 State of the Bobwhite Report, pg. 36). The annual rate of decline for the 2011-2016 reports was 1,143 hunters. This slower rate of the loss of hunters could be the result of many factors, some “positive” (e.g., response by hunters to locally or periodically abundant wild quail abundance, state agency hunting access programs), many “neutral” (e.g., stability by a minimum, persistent, core group of wild quail hunters; increase in pen-raised quail), but mostly unknown factors. Access to private lands for quail hunting is an increasingly common priority of state agencies (e.g., Iowa, Kansas, Nebraska and Missouri access programs), and by extra privileges for youth (e.g., Kansas, Missouri).

A factor in the loss of wild quail hunters is the permanent loss in numbers following major, but temporary, weather-caused reductions in quail abundance. Quail hunting is relatively complicated because of reliance on bird dogs and required shooting skill, diminishing the potential for recruitment. Wild quail hunters who persist increasingly have less competition,

and the opportunity to take advantage of the weather-related upticks in bobwhite abundance where habitat has been maintained. Because of the complexity of quail hunting, however, resources can lag the opportunity presented by rapidly increasing quail populations. For example, during the 2015-16 hunting season a shortage of bird dogs was common among Texas quail hunting outfitters.

Distribution of quail hunting across the range is highly variable, with bobwhites recreationally extinct in some eastern states. Since the 2011 State of the Bobwhite Report, Pennsylvania joined New Jersey as a state where statewide wild bobwhite hunting surveys are not conducted because of extirpation, or near extirpation of wild bobwhites. Robust hunting of released, pen-raised bobwhites continues in these states.

Despite the reduction in quail hunting across 2011-2016 State of the Bobwhite Reports, persistent hunters recently amassed over 1 million days in the field, and continue to be strong cultural and economic forces in many areas. Further, this year’s NBCI Hunting Inventory does not reflect the much improved hunting reported in many areas during the 2015-16 hunting season (e.g., Oklahoma, Texas) as a result of a weather-induced increase in quail abundance. The NBCI State Conservation Report for Iowa Department of Natural Resources (page 37) indicates hunter numbers and harvest both increased during the 2015-16 hunting season over the previous year, and that the quail harvest was 18% above the 10-year average.

Although the NBCI Hunting Inventory focuses on state-scale data, the foundation of quail hunting is personal experience, and as such can be viewed as three-pronged: 1) habitat, 2) an abundance of wild quail, and 3) a satisfactory experience. Toward improved hunter satisfaction, some states are controlling hunting pressure on select public areas to improve the opportunity to have a satisfactory experience. Quail hunting satisfaction is often defined by bird dogs finding quail, and toward this end, NBCI’s Eighth National Quail Symposium features six studies of wild quail hunting using bird dogs, and will provide better understanding of the complexities of this important part of quail conservation.



# NBCI STATE AGENCIES

Alabama Department of Conservation & Natural Resources  
Arkansas Game & Fish Commission  
Delaware Division of Fish & Wildlife  
Florida Fish & Wildlife Conservation Commission  
Georgia Department of Natural Resources  
Illinois Department of Natural Resources  
Indiana Division of Fish & Wildlife  
Iowa Department of Natural Resources  
Kansas Department of Wildlife, Parks & Tourism  
Kentucky Department of Fish & Wildlife Resources  
Louisiana Department of Wildlife & Fisheries  
Maryland Department of Natural Resources  
Mississippi Department of Wildlife, Fisheries and Parks  
Missouri Department of Conservation  
Nebraska Game & Parks Commission  
New Jersey Division of Fish & Wildlife  
North Carolina Wildlife Resources Commission  
Ohio Department of Natural Resources  
Oklahoma Department of Wildlife Conservation  
Pennsylvania Game Commission  
South Carolina Department of Natural Resources  
Tennessee Wildlife Resources Agency  
Texas Parks & Wildlife Department  
Virginia Department of Game & Inland Fisheries  
West Virginia Division of Natural Resources

# ACRONYMS

BBS — USGS North American Breeding Bird Survey  
CP — Conservation Practice (as used in the Conservation Reserve Program)  
CP33 — Habitat Buffers for Upland Birds  
CP38 — State Acres for Wildlife Enhancement, SAFE  
CRP — Conservation Reserve Program  
DNR — Department of Natural Resources  
EQIP — Environmental Quality Incentives Program  
FSA — Farm Service Agency  
NBCI — National Bobwhite Conservation Initiative  
NBTC — National Bobwhite Technical Committee  
NGO — Non-Governmental Organization  
USDA NRCS — Natural Resources Conservation Service  
SAFE — State Acres for Wildlife Enhancement, CP38  
USDA — United States Department of Agriculture  
USGS — United States Geological Survey  
VPA-HIP — Voluntary Public Access and Habitat Incentive Program  
WMA — Wildlife Management Area

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