

**NBCI's**

# *Bobwhite Almanac*

*State of the Bobwhite 2018*

*Arkansas Golf Course  
Brings Bobwhites  
to the People | 19*



*Can't Hear the  
Turkeys for the  
Quail | 24*

*Moving Wild  
Bobwhites | 28*





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*John L. Seymour*

President

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**NBCI's**

# *Bobwhite Almanac*

*State of the Bobwhite 2018*



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Cover photo courtesy of © Dave Welling, [www.strikingnatureimagesbydavewelling.com](http://www.strikingnatureimagesbydavewelling.com). Wild bobwhites drinking from a small pond on a private ranch in the Rio Grande Valley of south Texas.



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 various 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 Quail and Upland Game Alliance, 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 bobwhites and, consequently, other species dependent on native grassland habitat. NBCI is headquartered at the University of Tennessee Institute of Agriculture.

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\*SEAFWA—Southeastern Association of Fish and Wildlife Agencies

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# Foreword



**Jim Douglas**

*Nebraska Game and Parks  
Commission Director*

Of all the memories hunters have from the field, many still remember the “*Oh my!*” moment that accompanies the first time they stepped into a covey of bobwhite quail—that frozen sense of having no idea what to do when they rose, while quickly realizing they had inserted themselves into one of the most exciting parts of nature and the outdoors. I had this feeling as a kid, and as a lifelong hunter, it is the same feeling I want our young hunters to remember long into the future.

I grew up in a house of hunters in Illinois and spent countless hours afield with my dad and brothers. Because of this interest, I eventually found myself as a public land habitat manager for the Nebraska Game and Parks Commission in the late 1970s and 80s. To maintain healthy populations of bobwhite quail, our biologists and land managers had a goal of one quail per acre in the areas we managed. I devoured any information I could find on the life history, reproduction, and management of this species.

What I found in my research is that for bobwhite populations to boom, there has to be a great collision of circumstances—successive winters and springs without dramatic weather events, and a sustained commitment to habitat management. Such a renewed boom is happening now in Nebraska and in other areas of bobwhite country. It is quite exciting.

However, facilitating and sustaining efforts for bobwhite management does not come without additional efforts and innovative partnerships, as NBCI knows all too well. First, because we have lost hunters due to periods of low population, we need to announce that quail can and in many cases are coming back. Through marketing, education, and other outreach, we need to be able to discuss long-term habitat solutions as well as answer simple hunter questions, like “*Can I still hunt the places I used to years ago?*”

But what about those who have never had that feeling of a covey rise at their feet? Our quail hunters are aging, and habitats have become marginalized and segmented. Therefore, we need to continue to pay attention to the recruitment of young and other new hunters and understand how to develop them into lifelong hunters. We need repetition. We need mentors. We continue to need entities like the NBCI and other partners to propel these actions into the future.

One way to create these situations is by letting the next generation witness the dogs and dog work that is so symbiotic to bobwhite quail hunting. To this day, I have never seen a person, young or old, who hasn’t stood with their mouth agape when an English pointer or another one of the iconic bird dog species goes on point. Events like field trials and mentored hunts can introduce these moments to all ages of hunters and often become first exposures. How can we expect funding support if we haven’t found a way to grow more hunters?

We must also continue to develop educational and marketing materials to reach private landowners, then share those messages across all of our non-government, state, and federal partners. And while partners are crucial to the proliferation of bobwhite quail, we must make sure that we are approaching these partners ready to shake their hand, not have our hands out only to receive. We must recognize both the needs of our partners and the Initiative itself, and see those overlaps. Innovatively, the NBCI has recently engaged with newer partners like the National Park Service and US Forest Service because of our mutual interest in bobwhite quail. The NBCI has also reached out to industry partners, and there is a fruitful future with this partner segment.

Bottom line: we must continue to look for the innovations, whether it is in hunter recruitment, management, or partnering, and stay the course with the Initiative. Because it is showing progress. So I would like to thank the staff of the NBCI, the Management Board, the technical committee, our diverse partners, and all the people on the ground accomplishing the day-to-day habitat work to maintain this extremely important part of our cultural and hunting legacy.

Lastly, I would like to remind the Board about our strategic planning session in late October in Nebraska, where we will continue to search for these innovations as well as spend some time afield hunting the bird we all love. Perhaps we will witness a covey rise together, and then compare notes afterward to see if we all had that same feeling of excitement we had the first time we saw it. With all of us already knowing the answer.





# Introduction

Think about this: Bobwhite conservation is at a historic high, even as bobwhite populations remain near historic lows in most states.

The states, quail organizations, and bobwhite research institutions have collaborated through the National Bobwhite Technical Committee (NBTC) to create a unified national initiative to lead, leverage, and enable restoration of our favorite bird. The resulting early years of the NBCI have been exhilarating as we came together, focused on a worthy mission, dug deep to develop winning strategies and tactics, and organized ourselves to succeed. We have grown bigger and stronger together, boosted by the Federal Aid in Wildlife Restoration Program and partnerships with other federal agencies, and have checked off a long list of early accomplishments that aid our mission.

It's the nature of the game that notable bobwhite restoration "successes" come slow, sometimes challenging our patience. There certainly are bright spots: bobwhites are booming in the western states in recent years, thanks to good habitat, good precipitation, mild winters, and sound management. NBCI has now documented that quail hunting is increasing in those states (page 65), evidence that restoration of wild bobwhites boosts hunter recruitment, retention, and reactivation. Meanwhile, the world's largest network of scientific bobwhite demonstration areas—the NBCI Coordinated Implementation Program—has 24 projects with 47 focal and reference areas across 19 states, covering more than 300,000 acres and more than 1,000 permanent bird and habitat monitoring points.

Bobwhite conservation is now transitioning into a more difficult phase: the long game. The NBCI's newness is wearing off, the initial adrenaline rush of excitement is slipping into a test of endurance. The realization is dawning that the necessary habitat restoration at landscape- and regional-scales will take generations. Long games can be manageable: the "duck guys" launched their wetland restoration efforts in earnest in 1934 when the Duck Stamp Act was passed, yet 80 years later their job is not finished, and they are still intensely restoring more wetlands.

The long game is both a weakness and a strength of the NBCI. Leadership, key personnel, attention spans, energy, and funding are subject to attrition in a long game, threatening to sap momentum. The history of bobwhite conservation is littered with the wreckage of failed quail initiatives that launched with enthusiasm but couldn't demonstrate quick solutions, and then lost the long game.

The NBCI community is now facing major challenges to the continuity of our long game:

- All seven state wildlife agency directors who comprised the original Directors' NBCI Committee have retired or moved on.
- Only 3 of the original 12 NBCI Management Board members are still in relevant positions.
- Ten of the 25 state agency quail coordinators are fairly new to the job, and to NBCI.
- Only about 8 of the 62 charter members of the old Southeast Quail Study Group, which started it all, are still in quail-related roles.
- The one non-government quail organization at the beginning of the NBCI has been replaced by at least four newer organizations.
- Finally, all the University of Tennessee administrators who worked so hard to establish a permanent home base for the NBCI are now gone.

Fortunately, the NBCI community is our strength, the best answer to discontinuity and the rigors of the long game. The NBCI offers continuity of institutional knowledge, experience, expertise, and perspective that are vital to shepherding the original vision and maintaining momentum. NBCI can improve the sense of community, provide orientation that shortens learning curves, and offer reliable information and support. If not for the NBCI and the broad community of dedicated bobwhite conservationists that comprise it, the long game and continuity challenges could be destabilizing. Instead, bobwhite conservation is at an all-time high, empowering all of us to persevere in tackling the restoration challenge.



**Don McKenzie**  
*NBCI Director*





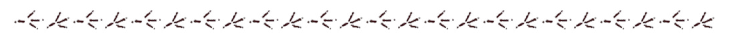


Left to Right: Reggie Thackston, Dan Small, Jef Hodges

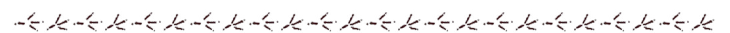
## Quail Tracks Brief but important snapshots of quail activity in NBCI's partner states

**ALABAMA** | Beginning this spring, habitat improvements and bobwhite/songbird populations at Boggy Hollow Wildlife Management Area (WMA), a 7,000-acre portion of the Conecuh National Forest near Andalusia, will be monitored using NBCI's Coordinated Implementation Program guidelines. Alabama Department of Conservation and Natural Resources partnered with the US Forest Service to establish the WMA, the state's first quail focal area. Mark Sasser, the state's quail coordinator until he retired in 2017, worked diligently to elevate interest in and improve bobwhite habitat on public and private lands, and was instrumental in the establishment of Boggy Hollow prior to his retirement.

**ARKANSAS** | The 2017 bobwhite call count route and brood survey data show upward trends in the statewide quail population, compared to numbers from the last four years. In addition, Arkansas Game and Fish Commission (AGFC) is currently improving habitat on more than 4,000 acres of land on six of its quail focal area Wildlife Management Areas (WMAs). AGFC is not alone in its efforts to restore quail habitat; the US Forest Service, Arkansas Natural Heritage Commission, the National Park Service, Henderson State University, and The Nature Conservancy are all completing habitat work (5,342 acres) to help the bobwhite. In addition, AGFC hired six additional Quail Forever Farm Bill Biologists to complement the Senior Farm Bill Biologist hired last year. These additions were critical to meet the increasing demand for technical service requests for quail habitat work in the state; over 24,000 acres of habitat improvements were contracted through state or federal programs last year alone.



**DELAWARE** | Cedar Swamp Wildlife Area (WA) was officially designated as Delaware's first NBCI focal area in 2016, and Ted Harvey Conservation Area has been designated as the accompanying reference area. Since the designations, the Division of Fish and Wildlife has conducted spring breeding bird (whistle call counts) and fall covey count surveys. Additionally, division staff conducted habitat surveys at both areas. The 2018 spring whistle call counts mark the beginning of the third year of data collection for Delaware. Habitat restoration efforts at Cedar Swamp WA began in fall 2016 and have continued through 2018. Management practices included: controlled burns, edge feathering, and the removal of hundreds of acres of agricultural lands and conversion to native forb/grass mixes. The division continues to reduce the amount of agricultural lands on our areas and restore these habitat types to early successional habitat. The division has begun collecting data for the spring survey period and plans to conduct fall surveys beginning in October.



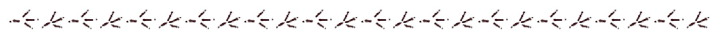
**FLORIDA** | The Florida Fish and Wildlife Conservation Commission (FWC) and cooperating partners (Florida Forest Service, Florida Park Service, US Forest Service, and Tall Timbers Research Station and Land Conservancy) continue to implement on-the-ground management to improve populations of northern bobwhite and other grassland species on public lands throughout Florida. All partners share a common vision and dedication for managing, enhancing, and restoring early successional habitat. To date, Florida has over 216,000 acres of total



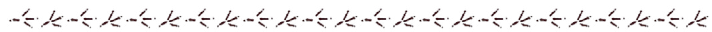
area of quail habitat on public land under favorable management for bobwhites and other grassland species. In addition, FWC and partnering agencies continue to provide technical assistance to landowners to enhance or create new bobwhite habitat throughout the state.



**GEORGIA |** Chickasawhatchee Wildlife Management Area (WMA) is on track to meet Georgia’s Bobwhite Quail Initiative’s 10-year goal of 0.5 quail per acre well ahead of schedule. In 2015, a Quail Focal Area was designated on Chickasawhatchee that is approximately 7,896 acres in size. Since then, 1,119 acres of pines have been thinned to an average of 40 square feet of basal area, and an additional 536.4 acres are currently in the process of being thinned. Concurrent with the timber harvest, 110 additional acres of brood fields were added, bringing the total to approximately 330 acres. Large burn blocks have been divided and now average less than 40 acres per block. Monitoring has shown an increase in quail numbers from 0.17 in 2015 to 0.29 quail per acre in 2017. In addition, Chickasawhatchee will provide additional quality hunting opportunities as habitat improvements continue. Upland pine savanna management on the WMA has not only benefited bobwhite quail but also non-game species such as Bachman’s sparrow and gopher tortoise.



**ILLINOIS |** The USDA Conservation Reserve Program (CRP) is by far the greatest source of potential quail habitat in Illinois. As of September 2017, Illinois had 895,401 acres of CRP, including 71,016 acres of Habitat Buffers for Upland Birds (CP-33); 26,991 acres of State Acres for Wildlife Enhancement (SAFE/CP-38); and 92,189 acres of Pollinator Habitat (CP-42). Southern Illinois University has begun implementation of a Pittman-Robertson grant to assess habitat and population dynamics, and their effects on bobwhite populations in Illinois. This project is intended to help facilitate the monitoring and vegetation surveys for an Illinois quail focus area.



**INDIANA |** The Indiana Division of Fish and Wildlife (IDFW) Private Lands Program has received a \$1 million grant from NRCS and ~\$800,000 in private partner donations (total ~\$1.8 million) to implement a Regional Conservation Partnership Program called Grasslands for Gamebirds and Songbirds throughout four priority regions. Besides increasing financial incentives for private landowners enrolling in conservation programs that are within the

focal regions, IDFW is also hiring three full-time grassland biologists to help in the effort. Private landowners will also receive habitat management assistance through habitat “strike-teams.” This conservation initiative will be crucial to the success of the newly minted Goose Pond NBCI Coordinated Implementation Program area where bobwhite research will also begin at the onset of population and habitat monitoring. IDFW Science Program and Public Lands Programs are partnering with Purdue University and the University of Georgia (UGA) to execute two bobwhite quail research projects. The primary goal of these projects is to contrast seasonal diet selection and nutritional characteristics of quail populations on reclaimed mine-lands relative to those in agricultural landscapes. UGA will be tasked with a project investigating harvest rate effects on survival, movement, and population density. Both projects will serve to improve habitat and population management across public lands in the state.



**IOWA |** Iowa’s 2017 quail roadside count index was unchanged from the previous year, making it the fourth consecutive year that the index has been above the 10-year average. Harvest numbers were not yet available for the 2017 hunting season at the time of this writing, but they are also expected to be above the 10-year average. Hunters reported good hunting success last fall across most of Iowa’s bobwhite range. Habitat-wise, seeding and establishment of 40,000 acres of Iowa’s Early Successional Quail Habitat project should be mostly completed by the spring of 2018. This special Conservation Reserve Program (CRP) State Acres For wildlife Enhancement practice requires landowners to manage 25% of the CRP contract in early successional habitat specifically for bobwhite quail. State quail populations should see benefits from this 40,000-acre program beginning this summer and fall. Bobwhite quail hunting prospects look promising for the fall of 2018 as Iowa’s quail range saw below-normal winter snowfall, and likely above-normal hen survival. More hens for reproduction favor another increase in quail numbers this fall.

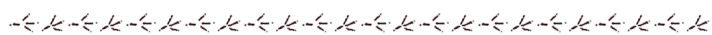


**KANSAS |** In 2015, Kansas partnered with Iowa, Missouri, and Nebraska on a Regional Conservation Partners Program grant titled Grassland Bird and Grazing Lands Enhancement. For its share of the project, Kansas received \$750,000 of federal funds through the Environmental Quality Incentives Program (EQIP) and Agricultural Conservation Easement Program, and leveraged an

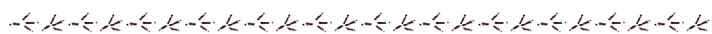




additional \$750,000 of state and partner funds for habitat improvements and protection on grazing lands in the Smoky Hills ecoregion through 2020. This effort has been very successful, with all allocated EQIP funds committed by the spring of 2018. Through this project, 2,354 acres of invasive trees were removed, 5,511 acres of prescribed fire were applied, 62,776 feet of firebreaks were established, 6,009 acres were treated through grazing plans, 496 acres of invasive grass were removed, and 1,286 acres of native grass were planted. For example, the Rice Family of Cloud County utilized this grant to work on habitat on their 320-acre farm. Within their 100-acre pasture, they were able to remove all invasive trees and conduct a prescribed burn. They have also adopted a newly developed grazing plan for the property that includes a patch burn rotation. They reported finding five quail coveys on the property this winter, and they have since begun working with biologists on other properties through the Habitat First program. This is one of many success stories through this program.

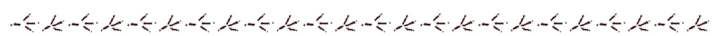


**KENTUCKY** | The Kentucky Department of Fish and Wildlife Resources (KDFWR) has initiated two new NBCI Focus Areas at Peabody Wildlife Management Area and Wendell H. Ford National Guard Training Center to accompany the NBCI Focus Area in Livingston County. Additionally, KDFWR, in collaboration with the University of Tennessee, initiated a four- to five-year research project on Bluegrass Army Depot to study the effects of fescue and native warm-season grass grazing on bobwhite movements. KDFWR also published a first-of-its-kind Peabody Research Summary designed to inform hunters and quail enthusiasts about the research and management taking place on the Commonwealth's premiere quail focus area on Peabody Wildlife Management Area.



**LOUISIANA** | With the help of NBCI, Louisiana Department of Wildlife and Fisheries (LDWF) and the US Forest Service have agreed to develop and monitor a quail focal area in the Kisatchie National Forest (KNF) in the western part of the state. Although this same area, located in the Vernon Unit of KNF, has been an emphasis area for quail since 2010, the area has been expanded and established as an official NBCI Coordinated Implementation Program Focal Area that is 5,992 acres in size. Work on the KNF Vernon Quail Emphasis Area has begun, with the first year of bird monitoring and habitat monitoring conducted in 2017. Bird monitoring for 2018 is currently ongoing, as well as a number of prescribed habitat treatments. Extensive

habitat work for bobwhites also continues on Sandy Hollow Wildlife Management Area (WMA), a 4,000-acre WMA in southeast Louisiana. This year, approximately 2,100 acres were enhanced with prescribed fire, and an aggressive prescribed burning regime will be continued in the future. Additionally, there are plans to enhance habitat by treating approximately 1,500 acres with different methods of timber harvest over the next five years. With the help of the Atchafalaya Region Chapter of Quail Forever, there has also been development of a project to improve the fallow field habitat found on Sandy Hollow over the next couple of years. Collectively, these efforts should continue to improve the bobwhite populations on the WMA, as indicated by the summer and fall surveys.



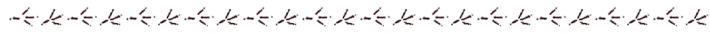
**MARYLAND** | Momentum is building on several fronts that may benefit Maryland bobwhites in the coming years. Management efforts have been ramped up on several key wildlife management areas with the help of additional equipment and staffing. Private lands may also benefit with the recent addition of Maryland into the NRCS Working Lands for Wildlife bobwhite project. Additionally, Quail Forever has established a chapter in Maryland, making it the first bobwhite-focused conservation organization to be active in the state in over a decade.



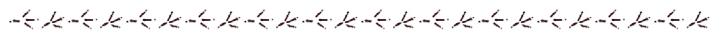
**MISSISSIPPI** | The Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) has continued to add staff during the last year to manage quail and other wildlife resources on public and private lands. The MDWFP added a new forester to increase timber management capacity on Wildlife Management Areas (WMAs). Restructuring of existing personnel and the addition of a new WMA biologist has also increased regional capacity to manage public lands. Timber thinning, prescribed burning, and other quail-friendly habitat enhancement efforts continue on several upland WMAs throughout Mississippi. The MDWFP has also added two new biologists to its Private Lands Program (PLP), which now has seven regional biologists and a program coordinator. This is the largest personnel capacity the program has had in its 10-year history. Although PLP biologists are not focused specifically on quail, their technical guidance activities promote many habitat management practices that benefit quail. These increases in staff capacity are significant accomplishments for implementing quail and other wildlife habitat management activities in the state.



**MISSOURI** | The Missouri Department of Conservation’s (MDC) quail program is currently under review. The review process is utilizing information from the State Wildlife Action Planning process, the Biologist’s Ranking Information process of NBCI 2.0, data from monitoring and research, staff input, and landowner interest levels to identify Quail Restoration Landscapes (QRLs). QRLs will represent the best places for the deployment of agency and partner resources to achieve quail restoration on a landscape-scale. Based on data from fall covey counts and August roadside surveys, quail populations have been stable to slightly increasing in many areas of northern and western Missouri since 2015. Hunters have responded accordingly, and for the first time since 2003, the number of Missouri hunters pursuing quail increased. Missouri recently selected the Bee Ridge quail focus area as its second NBCI Coordinated Implementation Program quail focal area. Bee Ridge, along with the 2C quail focal area, is participating in a national study in cooperation with the Farm Service Agency to evaluate the impact that Conservation Reserve Program lands have on quail populations.



**NEBRASKA** | It was another great year for bobwhites in 2017, and 2018 is looking good as well, with a statewide increase in bobwhite abundance of 25% on the April Rural Mail Carrier Survey. Harvest during the 2017 season, however, was lower than in 2016 by around 23%. Unseasonably hot, dry conditions, as well as large amounts of crops still in the field during the early part of the season, likely contributed to the lower-than-expected harvest. Work continues apace in the Meridian Quail Initiative focus area, as do annual whistle and covey counts. Nebraska is one of several states that, in partnership with the NBCI and with funding from the Farm Services Agency, is investigating the role of the Conservation Reserve Program in bobwhite conservation.



**NEW JERSEY** | Eighty wild bobwhites have been translocated from Georgia to the New Jersey Pine Barrens this year as part of a multi-state research study overseen by Tall Timbers Research Station and Land Conservancy. Originally, 2017 was the third and final year of this study, but it has been extended an additional year. Preliminary 2017 results include 13 nesting attempts, with 6 nests being successful and producing a total of 57 chicks. A formal recovery plan was drafted in 2017 with an effort to determine the feasibility of a large-scale translocation

effort to restore wild populations that are below the level of detection.



**NORTH CAROLINA** | In 2015, the North Carolina Wildlife Resources Commission (NCWRC) acquired the Voice of America Game Land, a 2,818-acre grassland habitat for bobwhites, Henslow’s sparrows, and many other grassland species. For many years, this property was the site of several Voice of America radio towers, and its long-term management (principally mowing) created what may be North Carolina’s largest grassland. The NCWRC now manages this unique property, principally with prescribed fire, though other techniques such as mowing, disking, or herbicide application may be used in the future as needed. This property and another Voice of America site nearby are the only known nesting sites in the region for Henslow’s sparrow, a species of special concern in the state. All hunting on the property is administered through the NCWRC’s permit hunting system to ensure high quality opportunities. Hunts are offered for quail, deer, rabbits, doves, woodcock, and snipe.



**OHIO** | Habitat assessments, fall covey counts, and spring bird surveys have been completed for the second year at the Ohio Division of Wildlife’s first NBCI Coordinated Implementation Program quail focal area, the 10,000-acre Fallsville Quail Heritage Area in Highland County. Approximately 25% of the area is publicly owned.

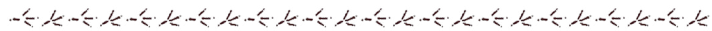


**OKLAHOMA** | Annual roadside surveys indicated that Oklahoma’s bobwhite population was lower than the excellent season that was 2016-17 and in line with the 10-year average for the state. Warm and dry conditions this winter created a perfect storm of difficult hunting conditions. Production during the summer of 2017 was about average across the state, with the exception of southwest Oklahoma, which saw the area dive into a drought that has continued through the present, and quail populations subsequently responded negatively. Provided rainfall and a continued mild summer, northwest Oklahoma is primed for another solid year of quail hunting, however, as habitat conditions brought on by rain are looking good. The Oklahoma Department of Wildlife continues to monitor the Cross Timbers NBCI Coordinated Implementation Program Focal Area and two reference areas. Management during this past year consisted of seasonal grazing and prescribed burning in units that were

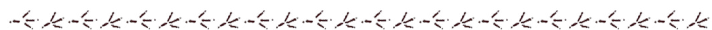




due to be burned this year based on the fire return interval plan, and efforts seem promising for bobwhite habitat restoration there as well as on adjacent lands.



**PENNSYLVANIA** | Although wild bobwhites were deemed extirpated in 2014, the Pennsylvania Game Commission (the Commission), in partnership with NBCI, Letterkenny Army Depot (LEAD), and Quail Forever (QF), has begun restoration efforts for bobwhite quail within its northern range. The chosen site at LEAD consists of a 3,680-acre focal area that at one time in the not-too-distant past held wild quail. This area was historically home to some of the highest densities of quail within the Commonwealth. Like the rest of the state and much of the bobwhite’s range, changing agricultural practices and development have pushed the birds out. With the case of LEAD, it was primarily succession of the needed grass/forb/shrub habitat type into a pole stage that negatively affected the population once persisting here. After developing a comprehensive management plan for the LEAD Bobwhite Quail Focus Area (BQFA), habitat work began during the latter half of 2017. To date, there have been over 600 acres of prescribed fire treatments, 100 acres of overstory removal, 22 acres of herbicide treatment, and approximately 25 acres of disking. A 1,400-acre timber sale will remove unwanted overstory within the BQFA this summer. The Commission, working with crucial NGO and state agency partners, has drafted a translocation plan specific to the LEAD BQFA. This plan draws from much of the work presented at the 8th National Quail Symposium and experts from across the bobwhite range. As the habitat restoration work continues to draw closer to the goal, Pennsylvania hopes to begin working closely with partner states that may be willing to assist in this monumental effort of northern range restoration.



**SOUTH CAROLINA** | South Carolina's four focal areas are all manipulating habitat to benefit bobwhite, and birds are beginning to increase. The state’s two Farm Bill Biologists and Quail Forever cooperative biologist are fully entrenched in three different focal areas. In an effort to assist private landowners manage their lands, they are maximizing the allotment of funds placed in a bobwhite funding pool within the state’s Environmental Quality Incentives Program allocation. Another cost share option for landowners is a new program that is available because of an agreement between the US Forest Service and the South Carolina Department of Natural Resources (SCDNR),

the Collaborative Landowner Assistance Program (CLAP). CLAP is designed to assist landowners with property near national forests defray the costs of managing for bobwhites by providing cost share for practices such as winter disking, installing firebreaks, thinning, and prescribed burning. The additional habitat created by this program will assist in providing more connectivity between private and public lands and potentially create more of a landscape-level change across the state. In an effort to find more funds to support the South Carolina Bobwhite Initiative (SCBI), the SCDNR and Tall Timbers Research Station and Land Conservancy (TTRS) have partnered to form the South Carolina Bobwhite Funding Partnership (SCBFP), funds of which will be split equally between the SCBI and TTRS’s Carolina Regional Quail Project. The SCBFP’s inaugural fund raising event attracted over 200 attendees and generated nearly \$31,000. A second fundraising event has been planned and will feature celebrity wild game chef Hank Shaw providing a cooking demonstration.



**TENNESSEE** | The Tennessee Wildlife Resources Agency Bobwhite Restoration Team was active this past year, visiting each of the agency’s four bobwhite focus areas and conducting an evaluation aimed at assessing the status of management and future needs of each of the areas. Most importantly, the team recommended one of the areas, Wolf River Wildlife Management Area, to become Tennessee’s first NBCI Coordinated Implementation Program area. Staff from the University of Tennessee have begun habitat assessment on the area and a reference area at Milan Army Ammunition Plant. Over the next several months, the team will be drafting a five-year strategic plan and conducting stakeholder meetings.



**TEXAS** | The Oaks and Prairie Joint Venture (OPJV) partners, with the National Wild Turkey Federation serving as the lead partner, received a 2017 Regional Conservation Partnership Program grant scheduled to hit the ground June 2018. The \$2.9 million grant is addressing significant declines in grassland wildlife populations and the loss of natural water-cycle conditions through the improvement and restoration of native grassland habitats in the Southern Great Plains. The project will include dedicated staff to work alongside staff from Texas Parks and Wildlife Department, Oklahoma Department of Wildlife Conservation, the Natural Resources Conservation Service in Texas and Oklahoma, and other OPJV partner



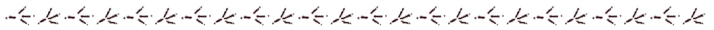


organizations to strategically deliver grassland ecosystem improvement projects on private lands. Through this collaborative effort, the OPJV will continue to offer their highly successful Grassland Restoration Incentive Program. The program has already delivered over \$1.1 million in funding to producers who have restored wildlife habitat on over 57,000 acres of grasslands in its first three years of existence. Additional financial assistance will be provided through the Environmental Quality Incentives Program on qualifying projects in Texas and Oklahoma. The deliverable for this combined effort is 95,000 acres of improved native grasslands over the life of the project.

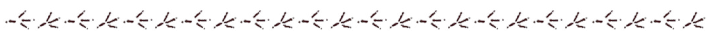


**VIRGINIA** | The NRCS Working Lands for Wildlife (WLFW) Cattle and Quail Program kicked off last fall in Virginia with a series of well-attended landowner and professional “Beef and Bobs” events headlined by the Center for Native Grasslands Management’s Dr. Pat Keyser. Beef and Bobs WLFW projects were implemented on 25 farms across 15 counties, directly affecting 398 acres, and interest continues strong. The National Park Service’s (NPS) Manassas National Battlefield Park became the state’s second NBCI Coordinated Implementation Program (NBCI CIP) Focal Area, launching with a CIP workshop at Manassas last August. Manassas is a unique island of habitat in a sea of suburbia that still has quail, proving that enough habitat management can overcome some pretty big hurdles. This second focal area is made possible not only by the local NPS staff, but through a partnership with the Smithsonian Conservation Biology Institute’s Virginia

Working Landscapes (VWL) program. The VWL staff agreed to assume the challenge of quail and habitat monitoring on the reference area for the model focal area. Virginia now has focal areas in two distinctly different landscapes, which should strengthen long-term findings. Virginia also joined the WLFW pine savanna program and has developed promotional materials. Trial runs last year met with good success, which is expected to continue.



**WEST VIRGINIA** | The West Virginia Division of Natural Resources (WVDNR) continues to make progress on its early successional habitat management goals. Most efforts focus on creating young forest for grouse, turkey, and songbirds but also include attempts to enhance habitat for bobwhite. The Tomblin Wildlife Management Area (WMA) was administratively selected this past winter to focus the WVDNR’s bobwhite habitat enhancement efforts. The Tomblin WMA is 25,000 acres in varying stages of surface mining and reclamation and is, coincidentally, the state’s elk restoration site. While the current habitat is being objectively evaluated for bobwhite, specific management plans are being developed. Breeding bird survey points were established this spring with surveys planned to begin in 2019. The WVDNR staff continue to conduct gamebird brood surveys, which includes any bobwhite observations, but only a couple of bobwhite, if any, are reported annually.





## 2018 NBTC Leadership Award



*Robert Perez (left) presents the NBTC Leadership Award to Catherine Rideout (right)*

**Catherine Rideout**, the official liaison between the National Bobwhite Technical Committee (NBTC) and Partners in Flight since 2012 (the longest serving non-quail conservation organization representative in NBTC Steering Committee history), received the 2018 NBTC Leadership Award during the 2018 NBTC annual meeting in Albany, Georgia.

Rideout joined NBTC in 2003 (then the Southeast Quail Study Group) at the Potosi, Missouri, meeting “out of professional interest spurred by a growing sense of responsibility to help build bridges between the quail and songbird communities, based on our tremendous mutual interests,” said NBTC Chair-elect Robert Perez. “She has worked diligently and professionally to broaden our minds and vision, continually striving for more and better integration of priority non-game grassland birds into quail conservation,” Perez said. “She co-coordinated a half-day bobwhite/songbird workshop at the Northeast and Southeast Partners in Flight meeting in Virginia Beach in October 2014 to foster better collaboration. In addition, due in part to her leadership as coordinator of the East Gulf Coastal Plain Joint Venture, open pine management for bobwhites and grassland birds remains a top conservation priority across that six-state geography.”

## 2018 NBTC Group Achievement Award

The 2018 NBTC Group Achievement Award for 2018 recognizes the **Leadership Committee of the 2017 Joint Quail Conference (JQC)**, in Knoxville, Tennessee, July 24-28, 2017. Committee members spent two years leading and implementing the largest gathering of professional quail biologists—242 registrants—in more than a decade, providing a tremendous opportunity for communication between managers and researchers. The JQC also provided four products with national impact: the 23rd Annual NBTC meeting; the 8th National Quail Symposium; Proceedings of the 8th National Quail Symposium; and the launch of the new e-journal, NBCI National Quail Symposium Proceedings.

Individuals in the group included Roger Applegate, Furbearer/Small Game/Wildlife Health Program Leader, Tennessee Wildlife Resources Agency (TWRA); Penny Barnhart, Accounting Specialist, NBCI; Dr. Thomas Dailey, Science Coordinator and Assistant Director, NBCI; Andy Edwards, Regional Biologist, Quail Forever; Beth Emmerich, Resource Scientist, Missouri Department of Conservation, and Chair of the NBTC Science Subcommittee; Molly Foley, Data Analyst, NBCI; Alyssa Merka, Communications Specialist, NBCI; Dr. Kelly Reyna, Director of Sustainable Agriculture and Assistant Professor of Wildlife Management, Texas A&M – Commerce, and Vice Chair of the NBTC Science Subcommittee and academic representative on the NBTC Steering Committee; and Timothy White, Wildlife Biologist, TWRA.



*Roger Applegate, Andy White, Alyssa Merka, Dr. Kelly Reyna, Molly Foley, Penny Barnhart, Dr. Thomas Dailey, Beth Emmerich (left to right). Not pictured, Timothy White.*



## 2018 NBCI Director's Fire Bird Award

Presented periodically to “a person or group especially deserving of timely recognition and gratitude for uniquely valuable contributions supporting the NBCI’s ‘lead, leverage, and enable’ role in bobwhite conservation,” the 2018 NBCI Director’s Fire Bird Award went to **Dr. Pat Keyser**, director of the Center for Native Grasslands Management (CNGM) at the University of Tennessee (UT).

NBCI Director Don McKenzie said Dr. Keyser is not only well known for his promotion of one of NBCI’s most important goals, the promotion of native grass forage in the eastern US, but “is arguably the person most responsible for enabling the NBCI’s growth and maturation into a nationally capable initiative” by leading the effort to locate NBCI headquarters at the university when a request for proposals for a permanent home base was distributed in 2007.

“He sold the concept to his department head and the dean of agricultural research and drafted the winning proposal,” McKenzie said. “Since then, UT, NBCI, and CNGM have created an extraordinary synergy and landed a third closely related center—the Shortleaf Pine Initiative—while rewarding UT’s gamble on NBCI, and conversely rewarding the Southeastern Association of Fish and Wildlife Agencies’ and the National Bobwhite Technical Committee’s gamble on UT. The state of bobwhite conservation would be smaller and weaker today but for that collective gamble.”



*Don McKenzie (left) presents the NBCI Director's Fire Bird Award to Dr. Pat Keyser (right)*

## 2018 NBCI Fire Bird Conservation Awards

The vast array of approaches that individuals and entities can bring to the table in the effort to return wild bobwhites to the landscape never ceases to amaze, and the thirteen 2018 NBCI National Fire Bird Conservation Award winners are no exception.

The award’s name symbolizes the historic 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 “weeds” that provide bobwhites with suitable habitat. Both naturally occurring fires and fires intentionally set by landowners to clear farm fields and woodlots 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 and other wildlife that require early successional habitat to survive.

Award recipients are chosen by the respective NBCI-member state’s quail coordinator for their contributions to that state’s efforts toward habitat-based restoration of wild bobwhite populations. The awards are announced by the NBCI at the annual meeting of the National Bobwhite Technical Committee, which was in Albany, GA this year.

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

And the 2018 winners are...





## Alabama



Steven Mitchell (right) and Robert Perez (center) present a Fire Bird Award to ALPFC, accepted by Jeff Thurmond (left)

Appropriately enough, Alabama’s winner of the Fire Bird Award is the **Alabama Prescribed Fire Council (ALPFC)**. To proactively expand the use of prescribed fire in the state, the council last year implemented “Learn and Burn” workshops for landowners and professionals to receive live fire training from experienced prescribed fire managers. (Helping the council sponsor those workshops are the Alabama Forestry Commission, the Alabama Association of Consulting Foresters, Southeast Regional Partnership for Planning and Sustainability, and the Chattahoochee Fall Line Conservation Partnership.)

The council had three winter workshops: one for 85 participants burning 2,641 acres on 10 burn units, another for 75 participants burning 2,233 acres on 8 burn units, and one for 50 participants burning 548 acres on 5 burn units. A dormant season nighttime burn attracted 25 participants who burned 207 acres on three burn units, and a growing season burn attracted 45 participants who burned 503 acres on six burn units. Additional workshops are planned.

“The ALPFC has taken a proactive stance in training interested landowners and professionals in a hands-on manner,” said Steven Mitchell, the state’s quail coordinator.

## Arkansas

In 2016, the Arkansas Game and Fish Commission (AGFC) designated bobwhite restoration as an agency priority. For this effort to be successful, significant land use changes on private lands had to occur, one being the increased use of prescribed fire.

**Clint Johnson**, an AGFC private lands biologist, took a lead role in promoting and implementing prescribed fire on both private and public lands. He developed the “Learn to Burn” program, which is used to educate and encourage the use of prescribed burnings on private lands and is used by all private lands staff throughout the state. Johnson developed the presentations and agendas for all workshops throughout the state and coordinated and led 15 workshops attended by 300 landowners, resulting in more than 1,700 acres of private lands burned over two years.

Johnson additionally serves as an instructor at Arkansas’ statewide prescribed fire school, where he teaches new employees from the Arkansas Forestry Commission, AGFC, and the Natural Resources Conservation Service about the safe, objective-driven use of prescribed fire. He helped develop AGFC’s prescribed burn qualifications and maintains records of employee completion and deficiencies to ensure all staff are qualified to participate on prescribed burn projects. He also serves as one of AGFC’s “burn bosses,” frequently traveling the state in that role. He annually submits and completes more contracted acres in the state’s Acres for Wildlife Program (provides seed, chemicals, and equipment for bobwhite restoration) than any other private lands biologist in the state, while assisting landowners with details such as seeder and sprayer calibration, actual seed planting, and tree thinning.

“Clint has been a valuable asset to not only the private section but also to the entire AGFC bobwhite restoration efforts,” said Marcus Asher, state quail coordinator.



Marcus Asher (left) presents a Fire Bird Award to Clint Johnson (right)

## Delaware

While **Sean O’Connor** has helped burn over 1,200 acres of bobwhite and been responsible for planting warm season grasses and wildflowers, his biggest contribution has been in staff efficiency. O’Connor developed a system incorporating an iPad to monitor and collect data, “a huge improvement” over past data collection, which was all paper-based. All the data is linked to a central server accessible to any credentialed individual.



“This ability to access data from any computer has decreased the time to enter data and get burn permits, and increased the time actually working on the landscape,” said Justyn Foth, the state’s quail coordinator. “With a limited staff, efficiency is the most important source of being able to achieve the habitat goals we set each year.”



*Craig Rhoads (right) presents a Fire Bird Award to Sean O'Connor (left)*

## Georgia



*Jess McGuire (left) presents a Fire Bird Award to GADNR Region 5 Game Management staff, accepted by Brent Howze (center) and Alan Isler (right)*

The marching orders for the Georgia Department of Natural Resources (GADNR) Wildlife Resources Division’s **Region 5 Game Management Section** in 2015 were fairly straightforward—grow quail on four wildlife management areas (~17,000 acres) in southwest Georgia (a regional bobwhite focal landscape) with a primary goal of maximizing quality public hunting opportunities. The results? Approximately 325 acres of brood fields have been added, burn blocks decreased from a 250-acre average to 40 acres, growing season burns increased from a yearly average of 1,750 acres to 8,754 acres, and a target average basal area of 40 was set for pine uplands, requiring coordination between the forest management unit, game management, and non-game conservation entities.

Two Wildlife Management Areas (WMA) have already reached the goal of a bird per two acres, and staff size swelled from 5 to 11 with assistance from the Florida-Georgia Quail Coalition. The project renewed interest in quail management and hunting throughout southwest Georgia, stimulating more private landowners to become involved.

## Kansas

**Logan Martin** went from being a “biotech” when he was hired in 2013 to a district biologist in 2016 – and the state’s nominee for the Fire Bird Award this year. His district includes four counties in far southeastern Kansas where, historically, some of the best quail hunting in the state had been found and quail were king. The same area is now described as being “behind enemy lines” in the fight to maintain quail where major changes in farming practices, the introduction of cool season grasses, and rapid succession were perfectly aligned to drive down populations.

The Kansas Quail Initiative was already underway when Martin began work with the Kansas Department of Wildlife, Parks, and Tourism (KDPWT). While there had been earlier initiatives, this one reduced the size of the focus areas and had significant funding dedicated to it from the department and partners. One of the two focus areas was entirely in Martin’s district, which offered both opportunity and challenge. The initiative’s coordinator left the department and, subsequently, his replacement as coordinator also left, leaving Martin, still a biotech, in charge. (That initiative is now in the assessment stage.)

Martin also played a major role in the newly invigorated statewide private lands habitat program, Habitat First. In a state with very limited public land, KDPWT’s private lands programs have long been a major focus. However, because of its increasing complexity both to biologists and landowners, KDPWT chose to create a habitat committee to review, simplify, and then grow the program. Martin was



*Jeff Prendergast (left) presents a Fire Bird Award to Logan Martin (right)*





asked to lead marketing efforts for the new campaign, working with a contracted marketing firm in the development of a new brand and promotional materials for the program. During the process, he ensured the bobwhite was included on the new logo and featured prominently on promotional materials. His experience led to representing the state on the communications subcommittee for the NBTC, providing a valuable link between Kansas, NBTC, and NBCI.

“Martin’s efforts to improve habitat within his own district while also looking for ways to engage landowners across our state demonstrates his commitment to quail in Kansas and beyond,” said Jeff Prendergast, the state’s quail coordinator and small game biologist.

### ***Kentucky***

Kentucky Department of Fish and Wildlife Resources recognized Farm Bill Biologist **Madeline Pratt**, who joined the wild bobwhite restoration effort in 2012 to complete the first NBCI Coordinated Implementation Program (NBCI CIP) monitoring in the state and subsequently volunteered to complete an extra third year of monitoring due to the rapidly changing landscape of private lands in western Kentucky.

“She has completed more CIP habitat monitoring points than anyone else in the country,” said John Morgan, the state’s coordinator of restoration efforts. “She has been pivotal in training efforts as well, sharing her vast wealth of knowledge in a ‘train-the-trainers’ event in 2015 and again in 2018 at a multi-state CIP training event. Pratt averages almost 1,000 acres of prescribed fire annually, continues to support CIP monitoring with guidance and landowner contacts, and conducts spring and fall bird monitoring on the state’s bobwhite focal area.”

### ***Missouri***

Wildlife Ecologist **Max Alleger’s** work in the development of “Grazing Best Management Practices for Grassland Birds on Private Lands” and the development and implementation of the Audubon Conservation Ranching Program “are significant efforts that have the potential to make landscape-level changes to grassland management and subsequent improvement in bobwhite habitat,” said David Hoover, the state’s quail coordinator.

The grazing document is designed to help private lands biologists understand grazing management principles and make basic recommendations that meet production and conservation objectives. It includes a detailed list of best management practices that improve terrestrial and aquatic resources in a working grasslands setting and detailed information on grassland and pasture types common in Missouri. It also serves as a guide for determining when to consult with more experienced staff and grazing management professionals to help producers reach their production and conservation objectives.

The Audubon Conservation Ranching Program provides an additional market for cattle producers that utilize grazing practices that benefit grasslands birds, including bobwhites. The program is helping farmers and ranchers conserve grassland birds while improving their bottom line by leveraging the Audubon brand to establish a reliable supply chain and drive consumer interest in premium, conservation-friendly beef products, helping producers implement practical, beneficial conservation practices while participating in cost-share and incentive programs, developing market-based incentives that allow consumers to participate in conservation and producers to sell beef at a premium and create better habitat on working grasslands.

### ***Ohio***

**Tim and Sandy Shoemaker** of Millstone Creek Farms near Hillsboro are the Buckeye State’s 2018 Fire Bird Award winners. The Shoemaker’s farm falls within Ohio’s Fallsville Quail Heritage Area, Ohio’s bobwhite focal area. For the past 18 months, the couple has worked with the state’s wildlife management staff, the Natural Resources Conservation Service, and others to incorporate native warm-season grasses into their rotational grazing system. The conversion began before the announcement of the Working Lands for Wildlife quail program across the fescue belt (page 26).

While the Shoemakers have a bit more than a year before they can start grazing their converted grass stands (so it can’t be called a success quite yet), they have been willing spokespeople for fescue pasture conversion for both beef production and quail habitat.



## Pennsylvania

A munitions storage facility in Franklin County, Letterkenny Army Depot (LEAD), is in the heart of historical Pennsylvania quail country, the location of some of the last-known bobwhite sightings and the state's first Bobwhite Quail Focus Area where the state will begin recovery efforts in the bird's northern range.

A group of **LEAD Natural Resources Volunteers**, including John Greenawalt, Jeff Yeager, Gerald Cline, Michael Bowling, Raymond Etter, Raymond Harbaugh and Harold Kauffman, have donated a day of labor each week to complete various habitat improvements. For over a year, this small, dedicated group has shown up at first light with tools in hand to tackle the day's objectives. Most participants range in age from 60 to 90. Membership requires 140 hours per year in order to hunt, trap, and fish on the facility; most of the participants have over 400 hours. Most work days involve removing overstory with chainsaws, cutting, dragging and working in heavy vegetation in weather that is always very hot or very cold... and they bring homemade snacks to share with the group.

"These are salt-of-the-earth people and without their dedication and hard work, this project would not be possible," said Tom Keller, a biologist with Pennsylvania Game Commission and the state's quail coordinator. "Because of [their] commitment to wildlife and especially the bobwhite, there is hope that Pennsylvania farms and fields will once again ring with the distinctive whistle of this important native species."



Lewis Cameron (PGC), Raymond Harbaugh, Harold Kauffman, John Greenawalt, Craig Kindlin (LEAD Natural Resources Manager), Gerald Cline, and Tom Keller (left to right). Not pictured: Michael Bowling, Raymond Etter, and Jeff Yeager.

## South Carolina

A private Orangeburg County landowner in the middle of the Oak Lea Bobwhite Focal Area, **Jack Vallentine**, is South Carolina's Fire Bird Award winner, not just for personal participation in the South Carolina Bobwhite Initiative (SCBI) on his family land, but because of his dedication to reaching out to other private landowners to get them involved, becoming a vocal leader for the project in his community. His proactive nature led to a request for him to be featured in a short video promoting the state's initiative to other landowners, which was shown around the state. He is also an active participant in the initiative's Facebook discussions and broadly shares new information from the initiative's website.

"Jack Vallentine is a prime example of the type of individual that the SCBI needs to be successful," said Michael Hook, the state's quail coordinator.

## Tennessee



Roger Applegate (left) presents a Fire Bird Award to Stephen Thomas (right)

A wildlife habitat biologist with the Tennessee Wildlife Resources Agency (TWRA) in east Tennessee, **Stephen Thomas** works with the Natural Resources Conservation Service to deliver USDA conservation practices and serves as a member of TWRA's Northern Bobwhite Restoration Team, formed in 2017 to guide bobwhite restoration statewide. Over the past year, Thomas was charged with leading a "subject matter action team" that developed decision-making tools and processes for evaluating TWRA's first NBCI Coordinated Implementation Program (NBCI CIP) bobwhite focal area.

"His technical expertise and leadership were critical to the success of this process," said Roger Applegate, state quail coordinator.







*Doug Jobes, Steve Riley, Matt Reidy, Mark Lange, and Robert Perez (left to right) accept the Fire Bird Award on behalf of GRIP Project Managers.*

## Texas

Since 2013, the Oaks and Prairies Joint Venture's (OPJV) Grassland Restoration Incentive Program (GRIP) has put 60,000 acres of grassland management practices on the ground in more than 100 projects at the edge of the quail decline in Texas. The **Texas Parks and Wildlife Department's GRIP Project Managers** "have been invaluable in providing local knowledge of habitat conditions, potential conservation practices, technical guidance throughout the project, and final evaluation of each project," said Robert Perez, the state's quail coordinator. "The program would not be possible without the hard work and the relationships the local managers built with private landowners and OPJV partners."

Project managers include Jess Oetgen, Matt Reidy, Doug Jobes, Josh Turner, Mark Lange, Bobby Eichler, Charlie Newberry, Raymond Sims, Dan Davis, Laura Sherrod, Erin Wied, Dan Davis, Jamie Killian, and Jon Hayes.

## Virginia

One challenging aspect of quail conservation on private working lands is monitoring and follow-up. **Virginia Working Landscapes (VWL)**, a program of the Smithsonian Conservation Biology Institute with a focus on maintaining species diversity and conservation compatible with working lands, reached out to the state's private lands biologists to offer help in assessing private properties where state quail team members had done significant wildlife habitat work. Their intensive efforts in a multi-county region led to specific research on the gains in wildlife diversity seen from quail habitat management. Additionally, their reports to landowners were instrumental in keeping landowners engaged, which, in turn, stimulated community-wide interest and "friendly competition" among landowners, leading to more habitat creation.

VWL staff have partnered with the state private lands team on numerous field days and outreach events, and routinely refer new landowners to private lands staff. In addition, they have become an instrumental partner in the establishment of a second NBCI focal area in Virginia, in conjunction with Manassas National Battlefield Park, attending a multi-day workshop on NBCI's Coordinated Implementation Program (NBCI CIP) and offering to help with the intensive monitoring required by CIP.





*"There's a whole lot more than golf going on here now."*

# **Arkansas Golf Course Boasts Native Prairie, a Variety of “Birdies”**

**John Doty** | *NBCI Communications Director*

It began as a simple quest by a self-described “Oklahoma country boy” to reduce the maintenance costs on the 27-hole Ben Geren Golf Course in Fort Smith, Arkansas, which had a maintenance crew barely large enough to maintain 18 holes.

The result was a gem in the Natural State’s second-largest city that is attracting a broad spectrum of interest, from Arkansas Audubon to the Southeastern Grasslands Initiative to Future Farmers of America classes, the state’s botanist, the US Fish and Wildlife Service, and others. And at least two coveys of bobwhites, one at each end of the course, have also taken up residency here.

“There’s a whole lot more than golf going on here now,” says course superintendent Jay Randolph.

This wasn’t Randolph’s first rodeo... or golf course. Upon arriving in early 2016, “I knew we needed to reduce

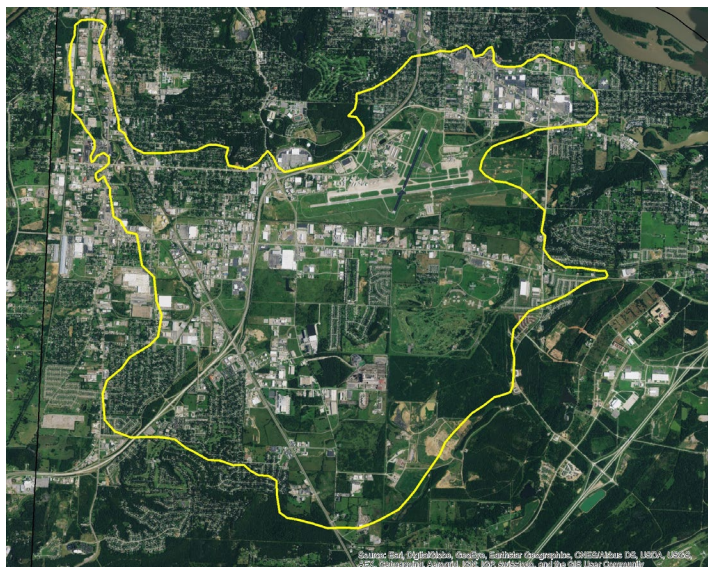
mowable acres,” said Randolph, who grew up in the Osage plains of Oklahoma hunting prairie chickens and bobwhites. And he was just 15 hours away from a wildlife biology degree from Northeastern State University when he jumped to Oklahoma State to earn a degree in horticulture (with a specialty in turf grass) and launch a golf course management career.

During his search for potential solutions at Ben Geren, he discovered the 275-acre course was set amid what was once the 10,500-acre Massard Prairie, a large, tall grass prairie of native grasses and forbs that had been reduced by development to only 200 scattered acres. He also discovered the course even had a few tiny scraps of prairie, scraps that were being consistently mowed as part of facility maintenance.

“I decided to explore the possibility of returning areas of rough to native prairie and salvaging the existing remnants,







**Above:** Original Massard Prairie boundary from the land township map survey in July 1829; the golf course and park are just right of center on the map.

reestablishing the ecosystem and what comes with it," Randolph said. He contacted the Arkansas Game and Fish Commission (AGFC) to see if they could offer any assistance. "I just needed some advice."

AGFC's Levi Horrell, current assistant regional supervisor at the Beaver Lake Regional Office, responded with the state's Acres for Wildlife Program ([www.agfc.com/en/get-involved/in-the-field/acres-for-wildlife/](http://www.agfc.com/en/get-involved/in-the-field/acres-for-wildlife/)), which provides free technical assistance, as well as free packets of seed with a mixture of native warm-season grasses and forbs for qualified applicants.



**Above Left:** Prescribed burn in December 2017 on prairie acres next to a sand bunker; "We really try to blur the edges between golf course and native prairie habitat," says Randolph. **Above Right:** Post-burn around a tee box complex; "The burn gives us the ability to go back in and seed other grasses or forbs we don't currently have in those areas. Also, switching to native vegetation around the tee complexes helps us reduce water use." Photos by Jay Randolph.

## 2016

To begin saving the prairie remnants at the golf course, Randolph sprayed 12 oz/acre Plateau plus 1 qt/acre methylated seed oil in early April 2016 and then mowed the remnants down to 6-8 inches "to get as much light to the soil as possible to help seed bank germination" later in the year. He also began collecting seed in June from the few remaining virgin prairie sites, continuing into November. At the end of the 2016, season records showed 70 forbs and 22 grasses in the golf course's remnant areas, including big bluestem, little bluestem, Indiangrass, switchgrass, and three native species of milkweed.

The growing season was also spent backpack-spraying non-native invasives in the remnants, most notably Japanese honeysuckle, Queen Anne's lace, and sericea lespedeza, an approach applied annually.

Conversion work on the areas of rough started in April with application of glyphosate and fluazifop, and then glyphosate only in June, August/early September, and mid-October. This routine would be repeated annually. Some of the areas under re-construction were also seeded.

It was this year that he heard the first quail. "I have no idea where it came from, but Fort Chaffee [which the course was originally part of] actively manages for quail on thousands of acres. It's about two miles away, as the crow flies."

## 2017

In early 2017, Randolph requested a prescribed burn on 15 of the course's prairie remnant acres, with the help of the Arkansas Forestry Commission and the volunteer fire





departments from Barling and White Bluff, and began hand-seeding the acreage with prairie seed collected in 2016. This year, he not only collected seed again from the virgin prairie remnants outside the golf course, but also transplanted about 60 plants from a virgin area that was being developed as a subdivision. Among the species were Nuttall's pleatleaf, pink milkwort, and Oklahoma grasspink orchid, all rare.



**Above:** Nuttall's pleatleaf, a plant of conservation concern in Arkansas. Photo by Karen Schwartz.

The glyphosate/fluazifop spraying routine continued on the areas of rough under re-construction. In mid-April, volunteers seeded 15 acres using the state's Acres for Wildlife mix and seeded additional re-construction areas with the native prairie mix collected earlier.

The day before Christmas, Randolph had another prescribed burn of the course's remnant areas, plus much of the re-constructed areas of rough.

### 2018

This year, the remnant areas have been seeded by hand and drill, and seed collection from virgin prairie remnants is once again underway. Areas of rough under re-construction are being sprayed and 15 acres seeded with the state's Acres for Wildlife mix.

### The Reaction

"We have a lot of people come through here to see what we've done, and we have golfers come in talking about hearing and seeing quail, especially now that we have two coveys and the birds are nesting," says Randolph.



**Above:** Bobwhite nest found on Ben Geren Golf Course. Photo by Jay Randolph.

That's not all. In addition to the course's relationships with AGFC and the Arkansas Forestry Commission:

- The Arkansas Natural Heritage Commission inventories plant species and provides advice;
- Arkansas Audubon's NATIVE Project (Native Agriculture to InVigorate Ecosystems) uses seed from five different native forbs at the golf course to provide to eligible farmers for planting in one- to nine-acre plots so they can grow and sell the seed themselves. The hope is to have enough native Arkansas seed to be used in projects across the state ([www.ar.audubon.org/sites/g/files/amh656/f/static\\_pages/attachments/audubons\\_native\\_project\\_fact\\_sheet.pdf](http://www.ar.audubon.org/sites/g/files/amh656/f/static_pages/attachments/audubons_native_project_fact_sheet.pdf));
- The Arkansas Audubon Society started conducting bird inventories this year for the golf course;
- The University of Arkansas and University of Arkansas/Fort Smith are both conducting research projects on the course;
- Western Arkansas Master Naturalists harvest seed and help with native prairie education and outreach;
- Future Farmers of America (FFA) chapters bring members to the course for educational activities related to native prairie;



**Above:** Jay Randolph explains the habitat restoration work underway to a group of Branch High School Future FFA members. "We're teaching them tall fescue with seedheads waving in the breeze is NOT prairie," he says. Photo by Ron Koch.

- Several local photographers in the area have made the golf course a regular stop;
- The discovery of the Rattlesnake Master, a forb characteristic of tall grass prairies, and the rattlesnake master stem-borer moth (*Papaipema eryngii*), a candidate for listing which requires this specific plant to complete its life cycle, attracted quite a congregation. AGFC personnel, the US Fish and Wildlife Service, the University of Arkansas, the







**Left:** Western Arkansas Master Naturalists coordinated a butterfly walk in the Massard Prairie Reestablishment Areas this summer as part of National Pollinator Week.



**Above:** Rough blazingstar blooms in late summer/early fall, attracting a whole host of pollinators when not much else is blooming. Photo by Karen Schwartz. **Below:** Prairie blazingstar in bloom. Photo by Jay Randolph.

**Right:** Lori Spencer, the "Arkansas Butterfly Lady," points out a butterfly to a budding naturalist on the butterfly walk.



**Left:** Swallowtail butterfly in the early morning light. **Center:** Gulf fritillary butterfly, whose butterfly uses the Passionflower vine as a host plant. **Right:** Hummingbird moth pollinating rough blazingstar. In addition to attracting pollinators, these forbs and native plants bring in many small insects for bobwhite chicks. Photos by Karen Schwartz.



Arkansas Natural Heritage Commission, and Jim Wiker, a renowned lepidopterist from Illinois, joined up to investigate. It was found between holes 3 and 4 on the “Silo” portion of the course. (“It just shows it doesn’t take huge areas of conservation to have a large impact,” says Randolph.);

- Randolph has addressed gatherings of personnel from other golf courses around the state and several are expressing interest.

**The Future**

The golf course’s 90 acres that Randolph has established in prairie will have to be maintained, of course. But now he has his eye on 200 acres of woods across the road, which is part of the 1,200-acre regional county park, just like the golf course.

“It used to be prairie,” said Randolph. Thinning, burning and resurrection of another piece of prairie appears to be in the future.

Did his strategy save Ben Geren money? “I’m not sure I can say that, because we invested what we saved into other course improvements,” Randolph said.

So could the kingdom of maintained turf grasses play any sort of role in bobwhite restoration?

Randolph is adamant: “Every single golf course has some acres they can put into this kind of management,” Randolph asserts. Translated into the NBCI regional context, it means approximately 9,600 golf courses in the 25 NBCI states with an average size of 150 acres, or approximately 1.45 million acres. Sixteen percent of those acres, on average, are in “rough.” That’s 232,000 easily accessible acres that draw thousands of visitors each year.



**Above:** Prescribed fire is applied to the area around The Silo, which was built in the 1880-90s and is the namesake for the “Silo 9” holes of golf. The site was the first documented farm in Arkansas to use bermudagrass as forage for livestock. Photos by Jay Randolph.



**Above:** Bobwhite habitat restoration sign at Ben Geren Golf Course. Photo by Jay Randolph.

“I applaud Jay Randolph for initiating the project at Ben Geren because it utilizes the rough areas of the course to benefit quail habitat and reduce labor and maintenance costs associated with these areas,” said Marcus Asher, the state’s quail coordinator. “It’s also a tremendous marketing tool for habitat in general because the course is highly visited, and the showy nature of the wildflowers creates an eye-pleasing landscape for golfers enjoying their hobby.”

As an aside, Randolph tells a story of a complaint he got from a golf course neighbor whose home adjoined the course. “She was used to the regular mowing we did, but now vegetation had grown up on the course near her house, and she was concerned about mice. I explained what we were doing for the prairie and the bobwhites. She said she enjoyed hearing them call from her porch every day, and if that was what it was about, then she was fine with it.”





# DELAWARE

*Sometimes, People Can't See the Forest for the Trees.  
In Delaware, You Can't Hear the Turkeys for the Bobwhites.*

**John Doty** | *NBCI Communications Director*

Sometimes it seems that hunters will complain about anything, right? Like deer hunters at Delaware's 5,000-acre Cedar Swamp Wildlife Area complaining that they can't see the deer from as far away since some ag fields (corn, soybeans, and wheat) have been converted to native grasses and forbs, and brushy cover has been added as part of the state's bobwhite focal area efforts. "The deer are still there, they just can't see them from 400 yards away anymore," laughed Craig Rhoads, manager of Delaware Division of Fish and Wildlife's Habitat Conservation and Management program.

Then there's the turkey hunters. "If I got this complaint once I would have laughed it off," Rhoads said, "but after hearing it four or more times, I had to give it some credence." It seems turkey hunters are complaining... about not being able to hear their quarry because of all the bobwhites calling.

Seriously.

During a training session immediately following the August annual meeting of the National Bobwhite Technical Committee in Albany, Georgia, Rhoads was commenting about the Cedar Swamp Focal Area and noted they were seeing and detecting surprising numbers of birds at certain times and places.

So, what's up in the second-smallest, yet sixth-most-densely-populated state in the US? The smallest NBCI-member state (at 1,954 square miles) and the second-most densely populated NBCI-member state next to Maryland? Maryland borders it on the south and west, Pennsylvania (where bobwhites are extirpated and they are hoping for translocation) borders it on the north, and New Jersey (where wild quail are nearly extirpated and are being translocated into the state) borders it to the east.

Rhoads has a theory of why bobwhites have survived, and it's only a theory. "There is a remnant quail population that has survived in a 20-mile-long, almost totally protected corridor in the state. The Cedar Swamp Focal Area sits almost in the middle of it." (See map). He also believes that because the entire corridor is adjacent to the Delaware



*Photo by Craig Rhoads.*

River and Delaware Bay, the marsh structure "most of the day" is similar to grasslands structure and provides many of the same benefits. "And the fringes have a lot of shrubby habitat in transition zones to the agricultural fields that may have allowed the bobwhites to persist."

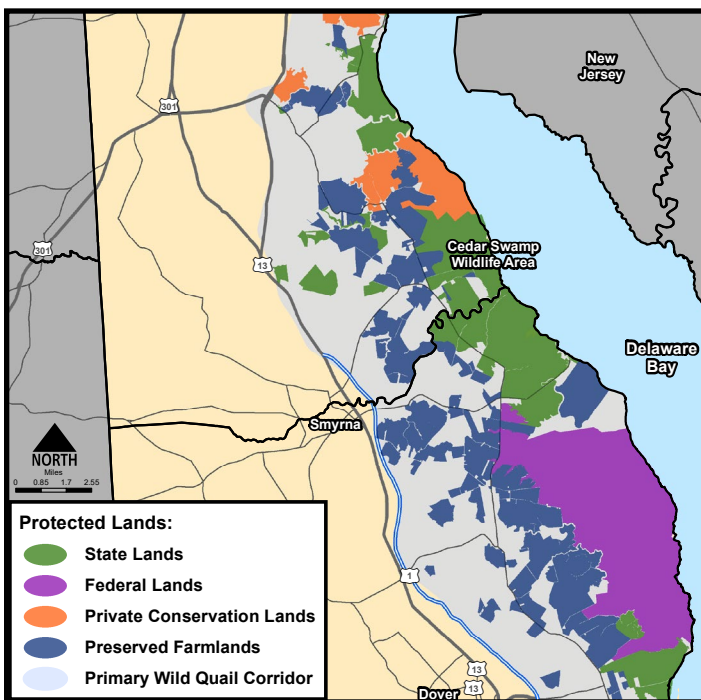
Delaware designated the wildlife area, which has about 3,000 acres of upland habitat, as a bobwhite focal area and began habitat work in 2012. Much of the area was being intensely farmed using "clean" practices. They began removing invasive species, such as massive autumn olive hedgerows, and added buffers to many of the fields. They set their sights on an NBCI Coordinated Implementation Program Focal Area designation in 2016, initiated the more intensive monitoring required, started taking agricultural fields out of production (200 acres at last count), and began dividing large fields into smaller units. They've also increased prescribed burn frequency on five- to ten-acre plots and are burning 150 acres or so annually.

"Spring counts in 2014 averaged 0.57 birds per point with a max of 3 birds at any one point," said Rhoads. "This has climbed every year with 2017 having an average of 0.84 birds per point with a max of 5 birds at one point. In spring 2014, quail were only detected at 6 points, while in 2017, they were detected at 10 points. Fall surveys have only been conducted in 2016 and 2017, with average coveys detected increasing from 1.8 per point in 2016 to 2.2 per point in 2017, and a max of 8 coveys detected at one point in 2017."



"In 2017, we also did fall surveys at five of our spring points not used as part of the official fall data collection to see if our random points were representative of the larger property and detected an average of 2.5 coveys per point at these locations, including another point that had 8 coveys, showing that our random points were very similar to other locations throughout the focal area," Rhoads explained. "We haven't compiled the numbers for 2018 yet, and we'll be working with NBCI to verify our estimates in the near future."

Quail hunting on Cedar Swamp was closed in 2016, and a regulation change to close hunting for wild quail state-wide is in the works, but Rhoads is optimistic that it can be re-opened on a limited basis in the future, at least if the work being done at Cedar Swamp continues on its current track.



**Upper Left:** Cedar Swamp Wildlife Area map. **Lower Left:** Ag buffer installation. **Upper Right:** Newly planted shrub hedgerow. **Lower Right:** Strip disking. Photos by Craig Rhoads.





# Working Lands for Wildlife

## NBCI Rolls Out In-Service Technical Training

**John Doty | NBCI Communications Director**

NBCI “found a new gear” this year in what may be the largest concentrated effort ever applied to re-integrating wild bobwhites into the nation’s working landscapes, and the effort is expected to advance at a faster pace in 2019.

NBCI and the Center for Native Grasslands Management (CNGM) partnered this summer to push a budding Natural Resources Conservation Service (NRCS) program that targets one of NBCI’s primary strategies for the bird’s restoration—reconnecting cattle and quail at a landscape scale.

Working together, and with funding from NRCS through Quail Forever, NBCI and CNGM developed and delivered technical in-service training to NRCS staff and their partner biologists in Missouri and Kentucky on implementing NRCS’s Working Lands for Wildlife (WLFW) Bobwhite in Grasslands component. The program provides technical and financial assistance to cattle producers interested in converting pastures of endophyte-infected fescue or other exotic grasses to drought-tolerant native grasses. It will also assist them in developing a grazing plan.

Originally including eight states and 150,000 acres, Tennessee and Maryland have since joined the program (it is at the discretion of each NRCS state conservationist). In addition to Tennessee, Missouri, and Kentucky, other grasslands project states include Arkansas, Indiana, Illinois, North Carolina, Ohio, and Virginia.

The NRCS-funded grasslands workshops were conducted over two days, with a classroom session the first day and then a field trip to native grass pastures under grazing management to “tie the classroom concepts together in the field,” said NBCI Grasslands Coordinator Jef Hodges. The training has received high marks from participants.

Indiana and Tennessee are already on the training schedule for next year, and Hodges expects the schedule to continue to ramp up in 2019.

“It’s estimated that as much as 85% of tall fescue is infected with an endophyte fungus that causes cattle a wide range of problems,” NBCI Director Don McKenzie said. “As a cool-season grass, fescue doesn’t produce nearly as well as natives during the droughty summer months. A strategic landscape-scale mixture of native warm-season grasses and forbs that complement prevalent introduced cool-season forages will help producers, cattle, quail, and other grasslands wildlife.”

A second NRCS bobwhite program, the Pine Savanna Project for Bobwhite, is applying a similar approach to restoring declining pine savanna habitat using native grasses, timber thinning, and prescribed fire on up to 82,000 acres (currently) across six states (currently)—Alabama, Florida, Georgia, New Jersey, North Carolina,

**“I learned quite a bit. I’m looking forward to adding this info to my toolbox!”**

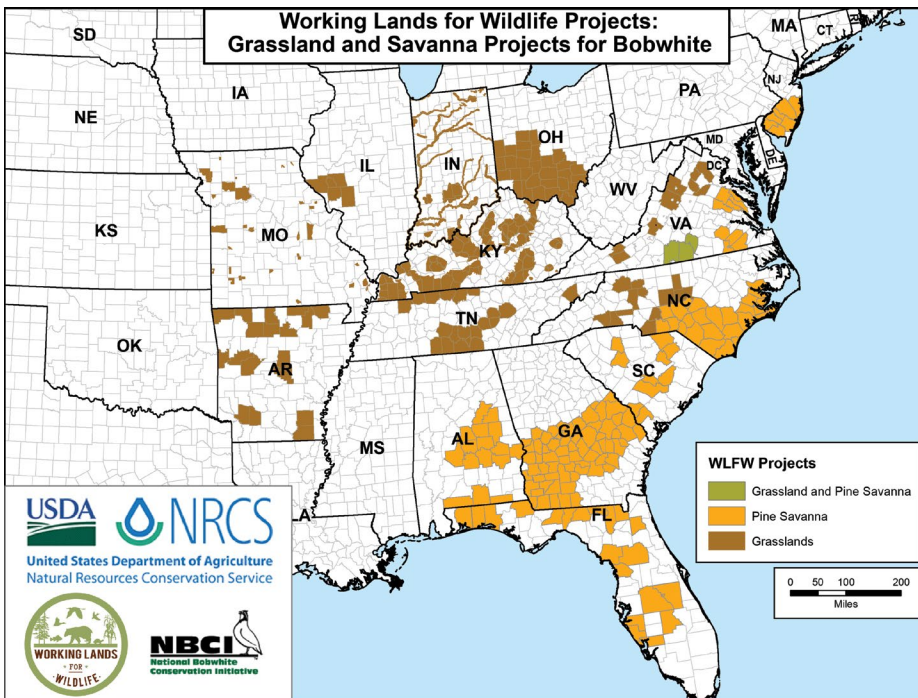
**– Missouri Workshop Attendee**



and South Carolina. It tackles another of NBCI's primary strategies for restoring bobwhites—reconnecting forests and quail.

NBCI is working with the National Bobwhite Technical Committee's forestry subcommittee, the University of

Georgia, and other partners to roll out and ramp up the pine savanna project technical in-service training for NRCS staff and partners next year.



**Opposite:** Pat Keyser gives a presentation to WLFW attendees in Linneus, MO. **Left:** WLFW Grassland and Pine Savanna project map **Below:** Workshop attendees enjoying a day in the field to put to use what they learned in the classroom. Photos by Jef Hodges.





# Moving Wild Bobwhites

*Not as easy as it sounds...*

**Don McKenzie | NBCI Director**

It seems easy: just move wild bobwhites from where they are to where they aren't and watch them flourish. It is widely known that wildlife managers have used that technique successfully for many other species such as white-tailed deer, elk, and wild turkey. What is not so widely understood is that abundant suitable habitat and compatible land uses were already present at the release sites for those species.

If abundant suitable habitat was already present, and if it really were so simple for bobwhites, our favorite bird would have been fully restored long ago.

Agencies and quail hunters have been moving wild bobwhites all over the US for many decades, but with mostly poor results. The difficulties are many: suitable habitat is usually lacking or is not maintained in subsequent years, and without it, bobwhite translocations will never be successful; bobwhites are inherently short-lived; widely varying methods have been used, too often with poor planning or unrealistic expectations; and the state of the science is still in development.

Despite this history, the conservation need for a reliably successful translocation option for bobwhites is growing. As wild populations decline and become more fragmented across their historic range, more sites, regions, and even entire states have no wild birds left to work with. Even ideal habitat conditions created at those locations have no chance to restore a population. The basic choices then are to (1) give up on that location, or (2) conduct translocations. For places that have few or no wild bobwhites left, but where dedicated conservationists are determined to make a difference—a situation that includes some NBCI focal areas—a viable translocation option provides vital motivation and hope.

To meet this growing conservation need, bobwhite scientists and managers are working hard to figure out how to successfully move wild bobwhites. A national group of bobwhite scientists began by co-authoring the first comprehensive synthesis of the science of translocating wild bobwhites and published their report in the Quail 8 symposium proceedings in 2017 ([www.quailcount.org/quail8/library.html](http://www.quailcount.org/quail8/library.html)). Much of the ongoing research is being led by the research team at Tallahassee, Florida's Tall

Timbers Research Station and Land Conservancy, on study sites in several eastern seaboard states.

As the science advances, we have an opportunity to improve our procedures. A couple states (e.g. Georgia, Kansas) already have developed their own policies guiding when and how to conduct bobwhite translocations. However, no national guidance exists to promote consistent standards and procedures among all bobwhite states. The National Bobwhite Technical Committee (NBTC) and NBCI recently convened a team to build on those state policies and the advancing science by drafting voluntary national standards intended to aid states and others in evaluating and conducting interstate movements. These standards aim to (1) increase the probability of consistent success; (2) protect public resources and promote accountability; and (3) advance long-term scientific learning about bobwhite translocations.

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***If it really were so simple for bobwhites, our favorite bird would have been fully restored long ago.***

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Presumably, the most important reason for failed bobwhite translocations of the past is inadequate habitat at the release site, though relatively little objective documentation of those release-site habitat conditions exists. The NBCI Coordinated Implementation Program has recently identified minimum habitat standards to support a sustainable population for the long term: 1,500 acres of year-round suitable habitat that comprises  $\geq$  25% of the release site's landscape. That standard is a solid starting point for translocation guidance. A nationally applicable methodology to objectively measure bobwhite habitat quantity and quality is in development.

Nationally coordinated and broadly endorsed standards for when and how to move wild birds can benefit both donor states (which anticipate increasing requests for wild birds in coming years) and recipient states by





**Right:** *Translocated wild bobwhite adjusts to his surroundings following his release in New Jersey. Wild bobwhite translocation provides vital motivation and hope for some restoration efforts. Photo by John Parke, New Jersey Audubon.*

responding more effectively to political pressures and ensuring public resources are managed wisely. Even more important, national bobwhite translocation standards can help create more successes and reduce the number of disappointments, thus boosting bobwhite restoration momentum. Ultimately, the NBCI and NBTC aim to make

wild bobwhite translocations a valuable and feasible conservation tool by using the best available science and coordinating the collective wisdom of our 25 member states and conservation partners.





# NBCI Coordinated Implementation Program Update

*"Continuous census is the yardstick of success or failure in conservation." – Aldo Leopold*

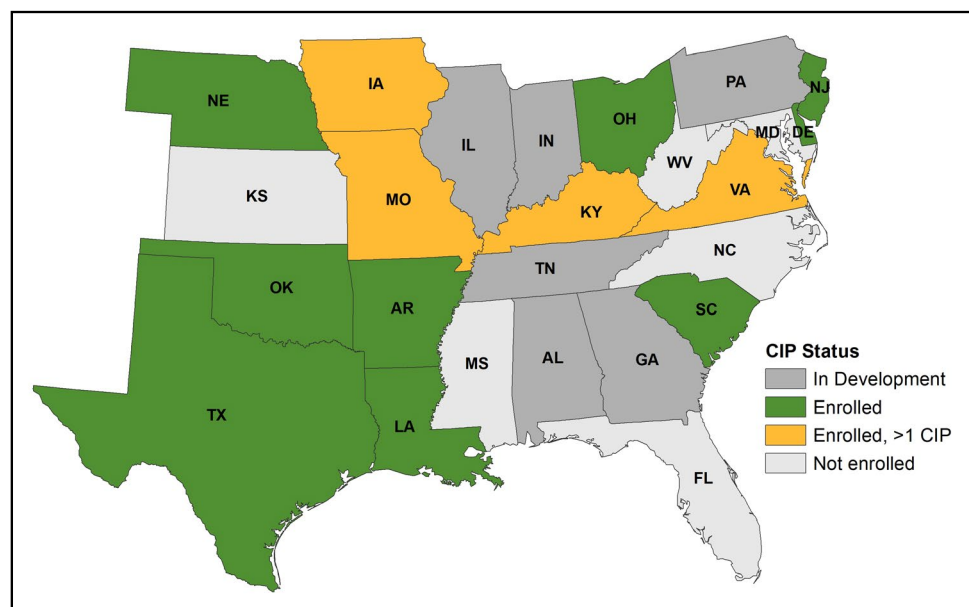
**Tom Dailey and Molly Foley | NBCI Science Coordinator and Data Analyst**

Quail populations continue to be relatively high on lands enrolled in the NBCI Coordinated Implementation Program (NBCI CIP). A preliminary crude tally of calling male bobwhite during the breeding season across 2013-17 reveals a marked benefit from habitat, with 83.8% more bobwhites heard on NBCI CIP Focal Areas than on reference areas (i.e., study areas with minimal prescribed bobwhite habitat). On the best-performing areas, across 14-60 listening stations per focal area, an average of >3 bobwhites have been measured calling, and often >9 are heard at the best listening stations. NBCI CIP aims to demonstrate success—defined as an abundance of bobwhites—with prescribed habitat management and measurements of populations and habitat. The technical aspects of NBCI CIP can be found at [www.quailcount.org](http://www.quailcount.org).

Participation in NBCI CIP grew the past year, with 24 projects (47 focal and reference areas) in 19 states (Figure 1). Iowa, Missouri, and Virginia have two CIPs, and Kentucky has three CIPs. Biologists are collecting data this summer, and once they enter data into the NBCI CIP

database, official enrollment begins. NBCI CIP focal areas range in size from 1,694 acres (Delaware NBCI Cedar Swamp Focal Area) to 27,238 acres (Texas NBCI Austin County Focal Area) acres, and average 7,374 acres. Size is mostly limited by the large amount of monitoring. Across CIPs, there are >1,000 monitoring points, and by the end of 2017, 20,351 birds had been documented in the breeding season, and 3,446 calling coveys were measured in the fall. As a preliminary measure of habitat improvement on select areas, coordinators reported 32,406 acres of habitat management for 12 NBCI CIP Focal Areas, either those enrolled or in development (Figure 2). These data are reported in detail in the NBCI Habitat Management Inventory (page 57). Development of new CIPs was aided by an in-field habitat assessment workshop hosted by the Kentucky Department of Fish and Wildlife Resources and a CIP design webinar hosted by NBCI.

NBCI CIP services to partners grew markedly the past year. Two new databases—habitat monitoring and management—were added at the University of Tennessee.



CIP data analysis is proceeding under a new partnership among NBCI, the US Department of Agriculture (USDA) Farm Service Agency (FSA), and the University of Georgia Warnell School of Forestry and Natural Resources, under the direction of Dr. James Martin. This 2-year project is determining the contribution of the USDA FSA Conservation Reserve Program (CRP) to population restoration of bobwhite and grassland birds in focal areas enrolled in the NBCI CIP. The project covers Indiana, Iowa, Kentucky, Missouri, Nebraska, and Ohio.

NBCI CIP calls for comprehensive analysis in the middle of its 10-year

Figure 1. Coordinated Implementation Program Participation Status as of spring 2018.



duration, and with pilot data collected in 2013, the FSA project begins a process that will benefit all CIP projects. Progress toward analysis included two meetings with CIP coordinators hosted by the Missouri Department of Conservation, with assistance from Quail Forever and the Georgia Department of Natural Resources. NBCI collaborates with the NBTC Science Subcommittee to implement CIP.

NBCI CIP participants/key partners include: Alabama Division of Wildlife and Freshwater Fisheries/US Forest Service (USFS); Arkansas Game and Fish Commission/Pea Ridge National Military Park–National Park Service (NPS); Delaware Division of Fish and Wildlife; Georgia Department of Natural Resources; Illinois Department of Natural Resources/Southern Illinois University; Indiana

Division of Fish and Wildlife; Iowa Department of Natural Resources; Kentucky Department of Fish and Wildlife Resources/Wendell Ford National Guard Training Center; Louisiana Department of Wildlife and Fisheries/USFS; Missouri Department of Conservation; Nebraska Game and Parks Commission; New Jersey Division of Fish and Wildlife; Ohio Division of Wildlife; Oklahoma Department of Wildlife Conservation/Oaks and Prairies Joint Venture; Pennsylvania Game Commission/Letterkenny Army Depot; South Carolina Department of Natural Resources/USFS; Texas Parks and Wildlife Department/Oaks and Prairies Joint Venture; and Virginia Department of Game and Inland Fisheries/Manassas National Military Park–NPS.

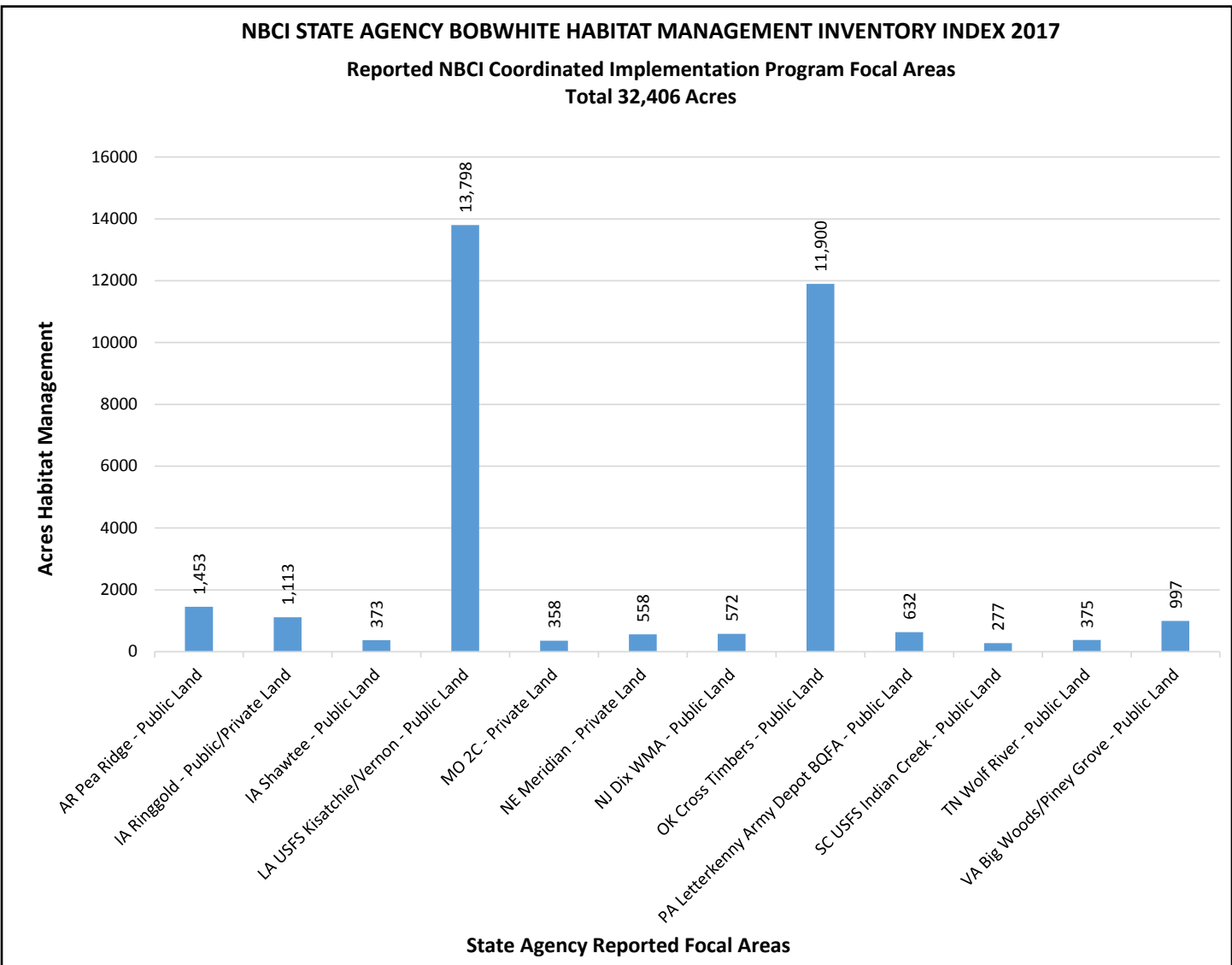


Figure 2. NBCI Habitat Management Index for 2017 for 12 NBCI CIP Focal Areas, including projects enrolled and those in development.





# "Natives First" Gaining Traction in Washington, DC and on the Ground

**Tom Franklin and Jef Hodges** | *NBCI Agriculture Liaison and Grasslands Coordinator*

Congress and the Trump Administration are responding to calls from NBCI to give preference to native vegetation for conservation practices offered to farmers and ranchers by the Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA). NBCI is also providing scientific information to US House and Senate Agriculture Committees and Hill leadership about the conservation advantages of native plants over introduced plants. We explain that the historical conversion of the rural landscape from native prairies and forest savannas to agricultural crops and introduced forages caused a serious decline of many species including bobwhite, lesser prairie-chicken, grassland songbirds, monarch butterflies, and other pollinators. We explain that the restoration of native vegetation will provide greater value for improving water quality, soil health, carbon sequestration, livestock forage, and biomass, while enhancing pollinator and wildlife habitat. Native grasses and wildflowers are known to provide ecosystem services as well as or better than introduced vegetation, and they avoid the negative impacts on bobwhites and other wildlife that are created by wide-spread use of sod-forming grasses, such as K-31 tall fescue, bermudagrass, and bahiagrass.

A leading member of Park Cities Quail and influential constituent of House Agriculture Committee Chairman Conaway recently wrote to him, declaring, "I am reaching out to you today to ask that you include a native plant standard in the Farm Bill to help restore the seriously declining bobwhite quail throughout Texas and rural America, while also greatly benefitting landowners, the economy, and the agricultural environment." Mr. Conaway responded with the following statement: "Achieving progress in expanding the use of native plants and improving existing native habitats should be reasonably attainable using the tools of this Farm Bill. To be certain there is a clear message to USDA, I will work with my colleagues to incorporate the ideals and priorities of your letter through the conference report drafting process."

NBCI staff is working with House and Senate staff, encouraging specific language in the Farm Bill that directs the Secretary of Agriculture to create a preference for

planting native vegetation for conservation practices funded by USDA where feasible and appropriate.

In addition to advocating for an enhanced Farm Bill in DC, NBCI is working closely with the Under Secretary of Agriculture, NRCS, and FSA leaders to promote the increased use of native vegetation under existing USDA authorities. We are urging them to educate their employees and partners in local offices about the benefits of native vegetation and to direct them to offer native vegetation options to farmers and ranchers for their Conservation Reserve Program, Environmental Quality Incentive Program, and Conservation Stewardship Program contracts.

In addition to working with Congress and USDA decision makers in Washington, NBCI staff is collaborating with the University of Tennessee Institute of Agriculture's Center for Native Grasslands Management and University of Georgia to educate NRCS, FSA field staff, University Extension, partner biologists, and landowners about how to incorporate native grasses into grazing and forestry practices to benefit bobwhites and other grassland birds, as well as agricultural production. This work is being performed in connection with the NRCS Working Lands for Wildlife bobwhite quail projects that currently include 16 states within the core range of the northern bobwhite (see page 26).

While the ultimate on-the-ground results of NBCI's Farm Bill advocacy and discussions with USDA are yet to be fully achieved, important progress is being made toward incorporating "Natives First" into the fabric of US agricultural policy.

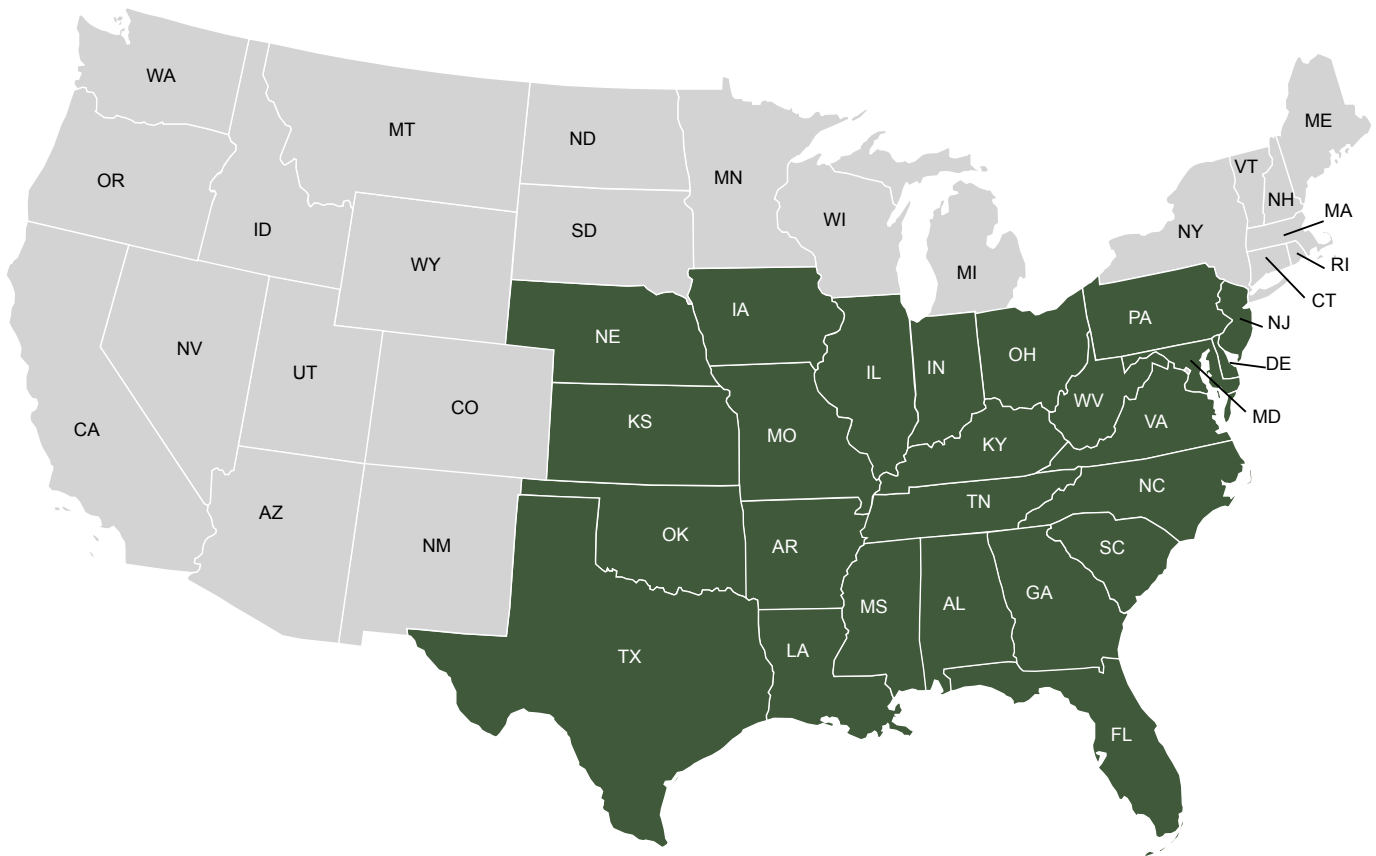


# State Conservation Reports

This section contains highlights of bobwhite conservation during 2017 and early 2018, as reported by each state's NBCI quail coordinator. The most up-to-date information on 2018 bobwhite population and hunting information is available on state agency websites, which are embedded in the electronic version of this report on [www.bringbackbobwhites.org](http://www.bringbackbobwhites.org). State quail coordinator contact information can be found at the end of each report.

Bobwhite conservationists continued aggressive and innovative restoration, including millions of acres of habitat management, education programs, monitoring, and research. Most state conservation reports now include charts of habitat management reported for their state for the NBCI Habitat Inventory, page 57. Bobwhite populations stabilized or grew in areas where weather was mild, and bobwhite hunting continued at a high level in much of the Midwest and Great Plains. Private land voluntary public access programs for quail hunting remained strong and expanded to more states. As reviewed in the NBCI Hunting Inventory (page 65), range-wide participation in quail hunting might have reached a peak during the 2016-17 season, but states with an abundance of habitat and mild weather continue to provide above-average quail hunting.

State agencies continued to expand quail restoration in spite of challenging budgets, forging partnerships with public and private land agencies, hunting organizations, research institutes, and non-government organizations. All are needed to bring about the landscape-scale change that is needed to restore sustainable bobwhite populations.



*NBCI member states that make up the core historic bobwhite range*





## Alabama — Alabama Department of Conservation & Natural Resources

*Population:* Alabama's quail population remains near all-time lows and has declined more than 80% since 1960. On private lands, healthy, huntable populations exist only on properties intensively managed for quail. Quail populations have responded positively to habitat manipulation on some Wildlife Management Areas (WMAs), particularly in longleaf and shortleaf reforestation projects. Quail calling surveys show that the best concentrations are on Barbour WMA in the southeast portion of the state, Freedom Hills WMA in the northwest portion, and Geneva State Forest WMA near the Florida state line. Efforts continue to increase populations on other WMAs through manipulation of contract farming with field buffers and timber thinning.

*Hunting:* The Alabama Division of Wildlife and Freshwater Fisheries (AWFF) 2016-17 hunter surveys indicated approximately 10,055 quail hunters harvested about 320,400 quail. Only 13% of the harvest was wild birds.

*Management:* AWFF partners with various agencies, organizations, and private landowners to improve and restore quail habitat on public and private lands. Management efforts include:

- Select north Alabama WMAs with farming leases are managed for small game by leaving larger buffer field edges and standing crops in the field. Longleaf pine restoration continues on Barbour WMA and Fred T. Stimpson Sanctuary, along with prescribed burning programs to restore grasslands. Shortleaf pine restoration continued on AWFF and Forever Wild lands on Lauderdale and Freedom Hills WMAs.
- A quail monitoring program is now carried out on 17 WMAs across the state; some of these WMAs have large agricultural fields and contract farming in grains, totaling almost 4,000 acres. Calling surveys are conducted during spring and fall. Management practices include fallowing field edges and a bi-annual rotation of these buffers to maintain early successional habitat adjacent to the woodlands through fall disking. This has primarily been accomplished by well-defined modifications and requirements of the contracts with the farmers. In addition, a percentage of cropland has been left unharvested adjacent to these field buffers, as part of the contract requirements.
- Efforts continue between AWFF and National Forests in Alabama to establish quail management units on the state's four national forests, beginning with Conecuh National Forest (CNF). In 2017, an MOU between AWFF and US Forest Service (USFS) established the Boggy Hollow WMA on a portion of CNF as a small game and quail focal area. This 7,000-acre area was a cooperative effort between AWFF, USFS, Quail Forever (QF), the Conecuh Chapter of QF, and National Wild Turkey Federation. The WMA is Alabama's first NBCI Coordinated Implementation Program (NBCI CIP) focal area. Building on previous quail surveys, NBCI CIP guidelines for population and habitat monitoring will start on the WMA in 2018. Management efforts will primarily focus on timber thinning and more frequent prescribed fire, as well as a reduction in the size of the burned units. The Quail Forever Chapter in South Alabama has a MOU with CNF, allowing them to manage some of the wildlife openings with annual and perennial plantings to benefit quail. AWFF staff and National Forest staff are working with the Chapter to maintain these wildlife openings for quail in the WMA, as well as wildlife openings on the remainder of CNF.
- AWFF partnered with the USDA Natural Resources Conservation (NRCS) to provide technical assistance and cost share opportunities to private landowners through the Working Lands for Wildlife: Bobwhite in Pine Savannas project.
- Reported 47,000 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Steven Mitchell, Wildlife Biologist, [steven.mitchell@dcnr.alabama.gov](mailto:steven.mitchell@dcnr.alabama.gov)

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## Arkansas — Arkansas Game & Fish Commission

*Population:* Arkansas Game & Fish Commission (AGFC) 2017 call count route data show a 13% increase from 2014, and 2017 brood survey data found that chicks/observer were 36% greater than the 10-year average.

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

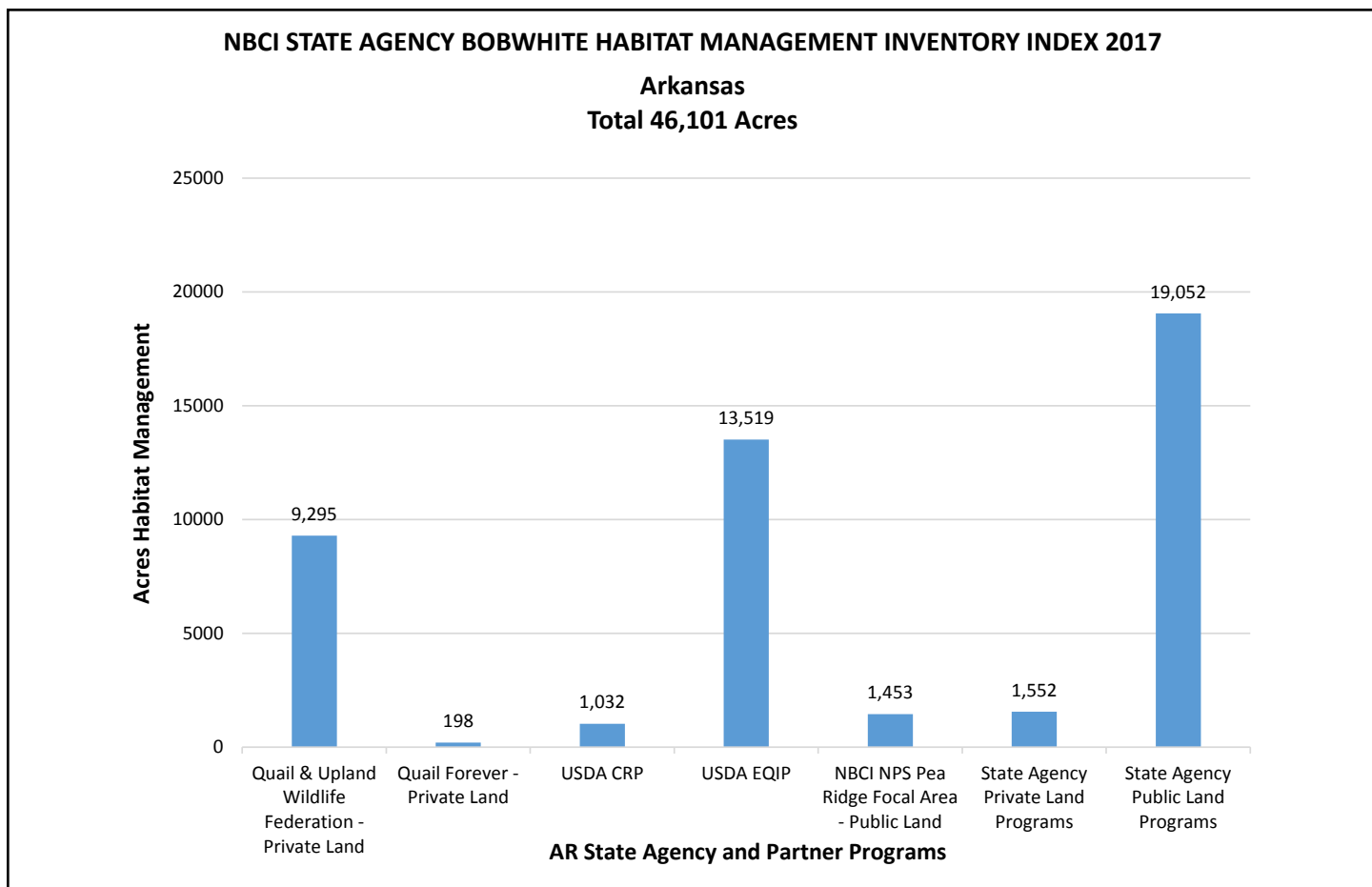
*Management:* Quail management highlights include:

- A total of 4,073 acres of habitat is being created or enhanced on five focal areas during 2018.
- Seven Quail Forever Farm Bill biologists have been hired on to provide technical assistance and get habitat on the ground within the seven quail focal landscapes in the state.



- Partner habitat projects on Forest Service, Arkansas Natural Heritage Commission, Henderson State University, Pea Ridge National Military Park, The Nature Conservancy, and Buffalo National River are currently being completed on 5,342 acres using funding from AGFC.
- On AGFC lands that are not focal areas, 19,052 acres were improved in the name of quail using disking, prescribed fire, planting native plants, spraying, and timber stand improvement.
- Pea Ridge National Military Park, an NBCI Focal Area, completed 1,453 acres of habitat improvements on their lands.
- Landowners enrolled 1,032 acres of land into USDA Conservation Reserve Program Practices CP2, CP21, CP33, CP38e, and CP42; 14,551 acres of quail-friendly habitat were created using USDA Environmental Quality Incentives Program funding.
- An NRCS Regional Conservation Partnership Program proposal was submitted and approved that will bring an additional \$600,000 for landowners to implement beneficial practices for quail for the next three years.
- With funding from NRCS’s Pollinator and Working Lands for Wildlife Initiatives, more than 8,000 acres of habitat are being improved.
- AGFC’s Acres for Wildlife Program, along with private lands biologist assistance, facilitated 1,552 acres of early-successional habitat management.
- AGFC held 12 promotional/educational workshops in the last year to educate landowners and partner agency personnel about the specifics of quail habitat and financial assistance available to landowners.
- Reported 46,101 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Marcus Asher, Quail Program Coordinator, [marcus.asher@agfc.ar.gov](mailto:marcus.asher@agfc.ar.gov)



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

*Population:* Spring breeding bird surveys were initiated on 9 June 2017 and were repeated twice-monthly through 30 July 2017 (n = 4 rounds); surveys were conducted at Cedar Swamp Wildlife Area (WA) and Ted Harvey Conservation Area,





our focal area and reference area, respectively. We surveyed 112 points (i.e., 2 sites x 14 points per site x 4 rounds) over the two-month survey period. Mean calling birds ranged from 0.4 (Standard Error [SE] = 0.202) to 1.5 (SE = 0.465) across rounds at Cedar Swamp Focus Area (Figure 6). No birds were observed calling at Ted Harvey Conservation Area. During the 2017 fall covey count field season (October 17–November 9), we surveyed 30 points (i.e., 2 sites x 5 points per site x 3 rounds) over the six-week survey period. At Cedar Swamp WA, fall covey counts differed across survey rounds. During the first survey period, mean covey counts were 1.6 (SE = 0.927) and ranged from 0–5 coveys. During the second survey period, mean covey counts were 2.2 (SE = 1.428), but ranged from 0–7 bobwhite coveys per survey point. During the third and final fall survey period, mean covey counts were 2.8 (SE = 1.393), but ranged from 0–8 bobwhite coveys per survey point. Comparatively, at Ted Harvey Conservation Area, the first, second, and third survey period mean covey counts were 0 per survey point.

*Hunting:* The 2016-17 Hunter Mail Survey, annually sent to ≥ 20% of Delaware hunters, estimated 196 hunters harvested 1,714 quail. Hunters were asked to identify whether the birds they harvested were, to the best of their knowledge, wild or released pen-raised birds. Respondents indicated that 125 (7.87%) quail harvested were of wild origin.

*Management:* The Delaware Division of Fish and Wildlife (DFW) continues to partner with NBCI. Through this partnership, Division biologists and habitat managers are identifying Wildlife Management Areas within Delaware that would benefit from future habitat management and support a natural or reintroduced bobwhite population. To date in Delaware, accomplishments include:

- Cedar Swamp WA, in New Castle County, was designated as our first NBCI Coordinated Implementation Program (NBCI CIP) focal area. Approximately 27.27% (1,500 acres) of the area was identified as habitat that could support bobwhites.
- Division biologists completed breeding season (whistle call) surveys from June 9–July 30, 2017. At both the focal and reference areas, 14 plots were surveyed for presence and distribution of bobwhites.
- From October 17–November 9, DFW biologists conducted fall covey counts on five plots at each location.
- Habitat management activities on the focal area have been focused on the gradual removal of agricultural leases and the establishment of hedgerows, field buffers, and native warm season grasses/forbs. Additional habitat management activities include chemical and mechanical removal of invasive species. Within large open fields, area managers are incorporating hedgerows and expanding field buffers to reduce large open areas and provide additional protective escape cover. These habitat management activities are expected to continue during the next several years.
- Reported 3,359 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Justyn R. Foth, Ph.D., Waterfowl, Turkey, and Upland Gamebird Biologist, [justyn.foth@state.de.us](mailto:justyn.foth@state.de.us)

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### **Florida – Florida Fish & 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 2015-16 telephone survey which indicate 7,428 hunters harvested roughly 134,266 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:

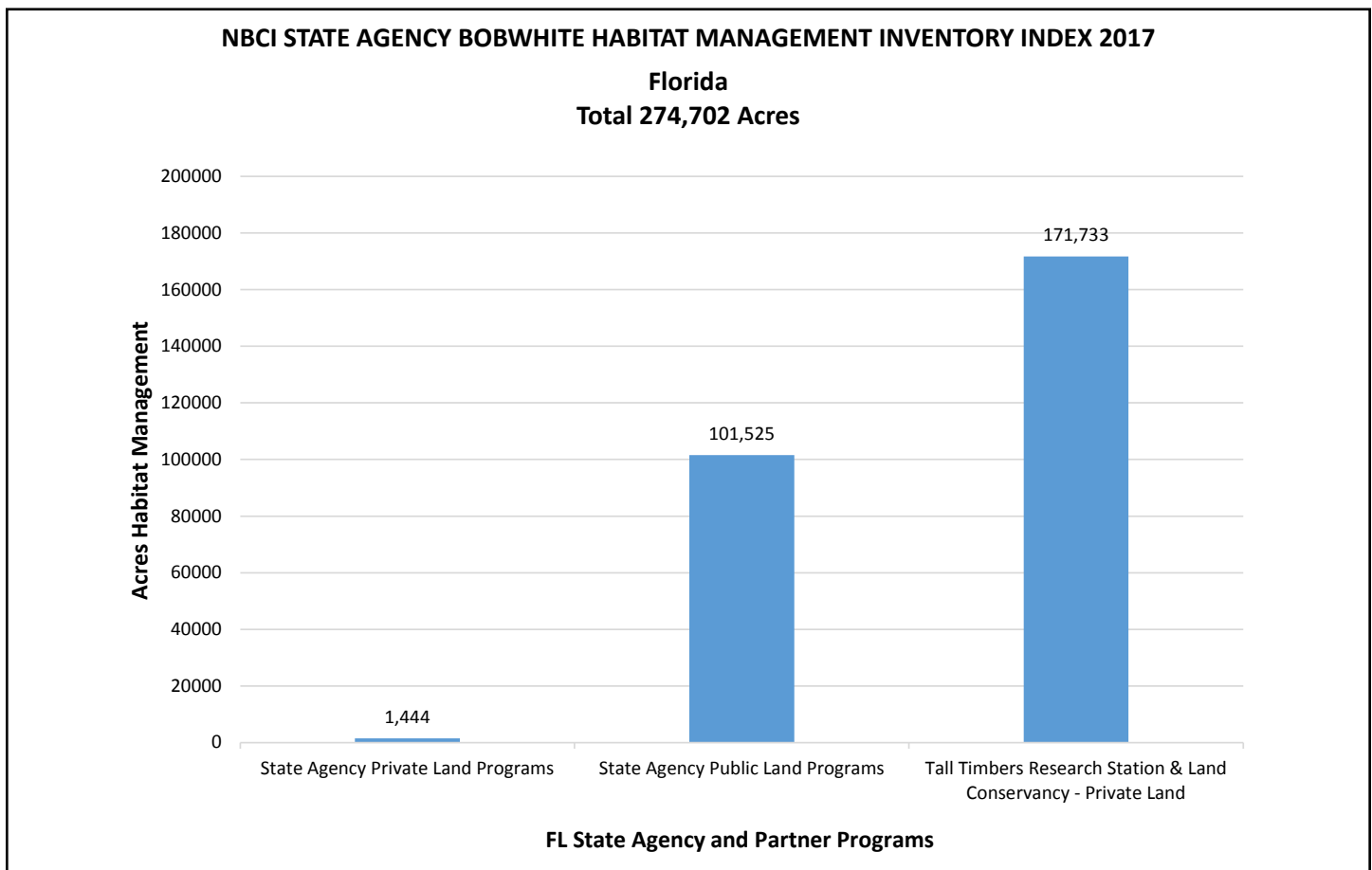
- To advance Florida’s strategy, the Upland Ecosystem Restoration Project (UERP) was developed in 2006 as a cooperative effort between the state’s four primary land management agencies (Florida Fish and Wildlife Commission [FWC], Florida Forest Service, Florida Department of Environmental Protection, and US 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.
- Collectively, under UERP and other efforts, Florida has over 216,000 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 227,461 acres of total area of quail habitat on private land throughout Florida.

- Completed over 250 fall covey call counts on public land bobwhite focal landscapes. In addition, completed species and habitat monitoring for other fire-dependent grassland species on UERP focal landscapes.
- FWC private lands biologists worked with numerous landowners to provide technical assistance and cost share opportunities to create over 1,444 acres of new bobwhite habitat throughout the state.
- The Florida/Georgia Quail Coalition (a cooperative partnership with FWC, Georgia Department of Natural Resources Wildlife Resources Division, Quail Forever [QF], and TTRS) continues to support increased bobwhite management on public land focal areas. To date, QF Chapters in Florida have raised over \$45,000 towards bobwhite conservation efforts within the state.
- Reported 274,702 acres of quail management for the NBCI Habitat Management Inventory.

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



**Georgia — Georgia Department of Natural Resources, Wildlife Resources Division**

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

*Hunting:* From 2012-15, estimated bobwhite hunter numbers declined by 7% (15,060 hunters for 2015 season; ±910), and estimated bobwhite harvest increased by 26% (504,683 harvest for 2015 season; ±12,203). The proportion of pen-reared quail in the harvest increased by 43% (458,916 harvest for 2015 season; ±12,184), and the wild bobwhite harvest decreased by 43% (45,767 harvest for 2012 season; ±6,324). Wild bobwhite harvest decreased from 2012-15 but remains 149% higher than numbers observed 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 November 2014). Other quail

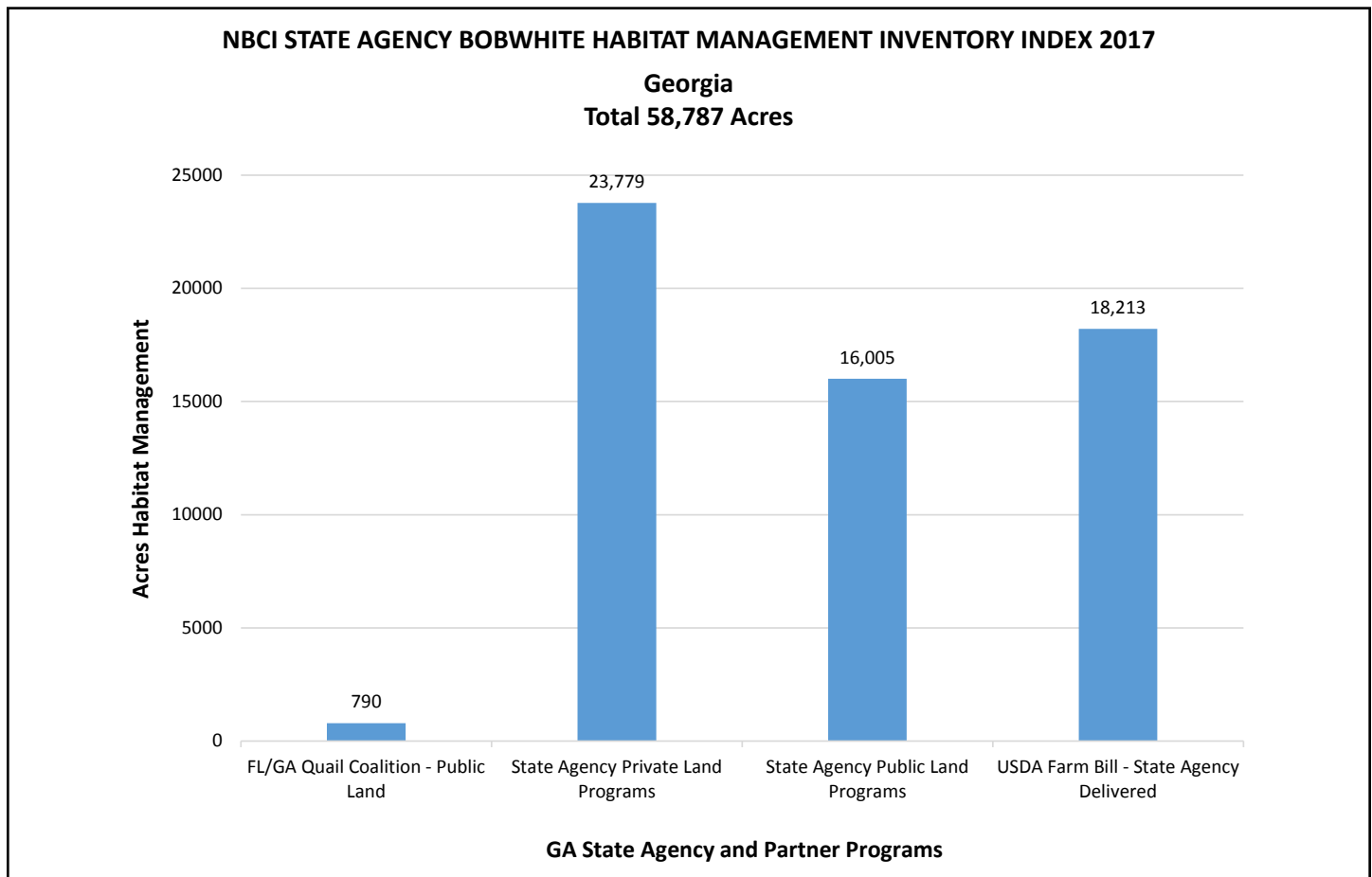




management highlights include:

- BQI continued to partner with USDA Natural Resources Conservation Service to deliver the Working Lands for Wildlife: Northern Bobwhite in Pine Savannas program on more than 18,000 acres of working farms and forests in Georgia's Upper Coastal Plain. Practices such as thinning timber, prescribed burning, brush management, and disking are being implemented to increase quality quail habitat across the landscape. The competitive ranking process for the project is based on the NBCI Coordinated Implementation Program (NBCI CIP) Focal Tier designation. Biologists also monitored compliance on contracts, totaling about 1,700 acres from the previous year.
- BQI biologists provided technical assistance to landowners throughout Georgia's Upper Coastal Plain that impacted more than 23,000 acres of habitat.
- Georgia continues to focus intensive quail management efforts on five Wildlife Management Areas (WMAs), totaling about 24,500 acres that serve as core habitats in the BQI. 2017 saw over 14,000 acres of these areas managed intensively for huntable densities of quail, with most of these public areas reaching densities of greater than one bird per three acres.
- Monitoring efforts include fall covey counts on seven WMAs, two private focal areas, and Oconee National Forest, covering over 20,000 acres. Spring monitoring for several pine savanna species was conducted on five WMAs and two private land properties (over 16,000 acres).
- The Florida/Georgia Quail Coalition (a partnership WRD, Quail Forever, Florida Fish and Wildlife Commission, and Tall Timbers Research Station and Land Conservancy directed at supporting bobwhite management on public lands) has contributed over \$50,000 to create 790 acres of habitat on Georgia WMA BQI Focal Areas. The funds are donated by Quail Forever chapters in Georgia that have an interest in wild quail hunting opportunities on public lands.
- Reported 58,787 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Dallas Ingram, State Quail Coordinator, [dallas.ingram@dnr.ga.gov](mailto:dallas.ingram@dnr.ga.gov)



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

**Population:** The Illinois Department of Natural Resources (IDNR) roadside counts for bobwhite are very similar to the USGS North American Breeding Bird Survey protocol. In 2017, as reported in the [2017 Quail Annual Status Report](#), observers across Illinois recorded an average of 0.55 quail per stop (a 14.6% increase from 2016), and quail were recorded at 27.5% of the stops (a 13.6% increase).

**Hunting:** Harvest estimates are based on results from the 2016-17 Illinois Hunter Harvest Survey. An estimated 7,356 hunters (a 4% decrease from the 2015-16 season) harvested 35,951 wild quail (a 23.6% increase from the 2015-16 season). Quail hunters averaged 1.06 quail per trip (a 104% increase).

**Management:** IDNR continues to operate under a statewide [Wildlife Action Plan](#) (where quail are considered a species in greatest conservation need) and as a partner of NBCI. Quail management highlights include:

- The USDA Conservation Reserve Program (CRP) is by far the greatest source of potential wildlife habitat in Illinois. In September 2017, Illinois had 895,401 acres of CRP (a slight decrease of 94.0 acres from April 2017), including:
  - [USDA CP-33 Habitat Buffers for Upland Birds](#) – 71,016 acres enrolled, a 5,096-acre increase from April 2017.
  - [USDA CP-38 State Acres for Wildlife Enhancement \(SAFE\)](#) – 26,991 acres enrolled, a 2,529-acre increase from April 2017.
  - [USDA CP-42 Pollinator Habitat Initiative](#) – 104,823 acres enrolled, an increase of 12,634 acres as from April 2017.
- Dr. Mike Eichholz and Dr. Eric Schaubert (Southern Illinois University) began moving forward on a Pittman-Robertson grant to assess habitat and population dynamics, and their effect on bobwhite populations in Illinois. This project is intended to help facilitate the monitoring and vegetation surveys for an Illinois bobwhite focus area.
- Dr. Mike Ward and colleagues (University of Illinois) continued research investigating grassland wildlife response to the SAFE program, cover crops, and other agricultural practices.
- Reported 58,827 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator, Acting: Wade Louis, Agriculture and Grassland Wildlife Program Manager,  
[wade.louis@illinois.gov](mailto:wade.louis@illinois.gov)

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

**Population:** Results of the Indiana Division of Fish and Wildlife (IDFW) 2017 statewide bobwhite whistle count index showed no significant change between the last survey year (i.e., 2015). Bobwhite whistle call surveys were not conducted in 2016 due to personnel limitations. On average, observers in 2017 heard approximately 4.6 males/route, or (0.31 males/stop), compared to 4.2 males/route in 2015. Spring and summer precipitation levels in 2017 were not different than average. Spring and summer weather likely had little negative impact on populations where quality habitat is available, as 2017 quail harvests on public lands generally increased over 2016.

**Hunting:** Bobwhite hunting season dates in Indiana are divided by Interstate 74. North Region dates were November 1 – December 15, 2016 (daily bag limit: 4); South Region dates were November 1, 2016 – January 10, 2017 (daily bag limit: 8). Indiana does not annually collect hunter harvest records for bobwhites, but harvest was likely better on public lands compared to the previous year.

**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:

- Gamebird Habitat Development Program = 804 acres.
- Wildlife Habitat Cost Share Assistance Program = 620 acres (mostly impacting quail, but not every acre).
- Total state cost share programs benefiting quail = 1,424 acres.
- The Private Lands Unit continued providing technical assistance to landowners to create habitat in county priority areas across the state, creating a total of 6,653 acres that benefit bobwhites (including all programs – CRP, Game Bird Area, CS, SAFE, etc.).
- CP-38 State Acres for Wildlife Enhancement (SAFE) in Indiana has 56,343 acres enrolled; the CP-38 SAFE specific to bobwhites has 23,275 acres enrolled.



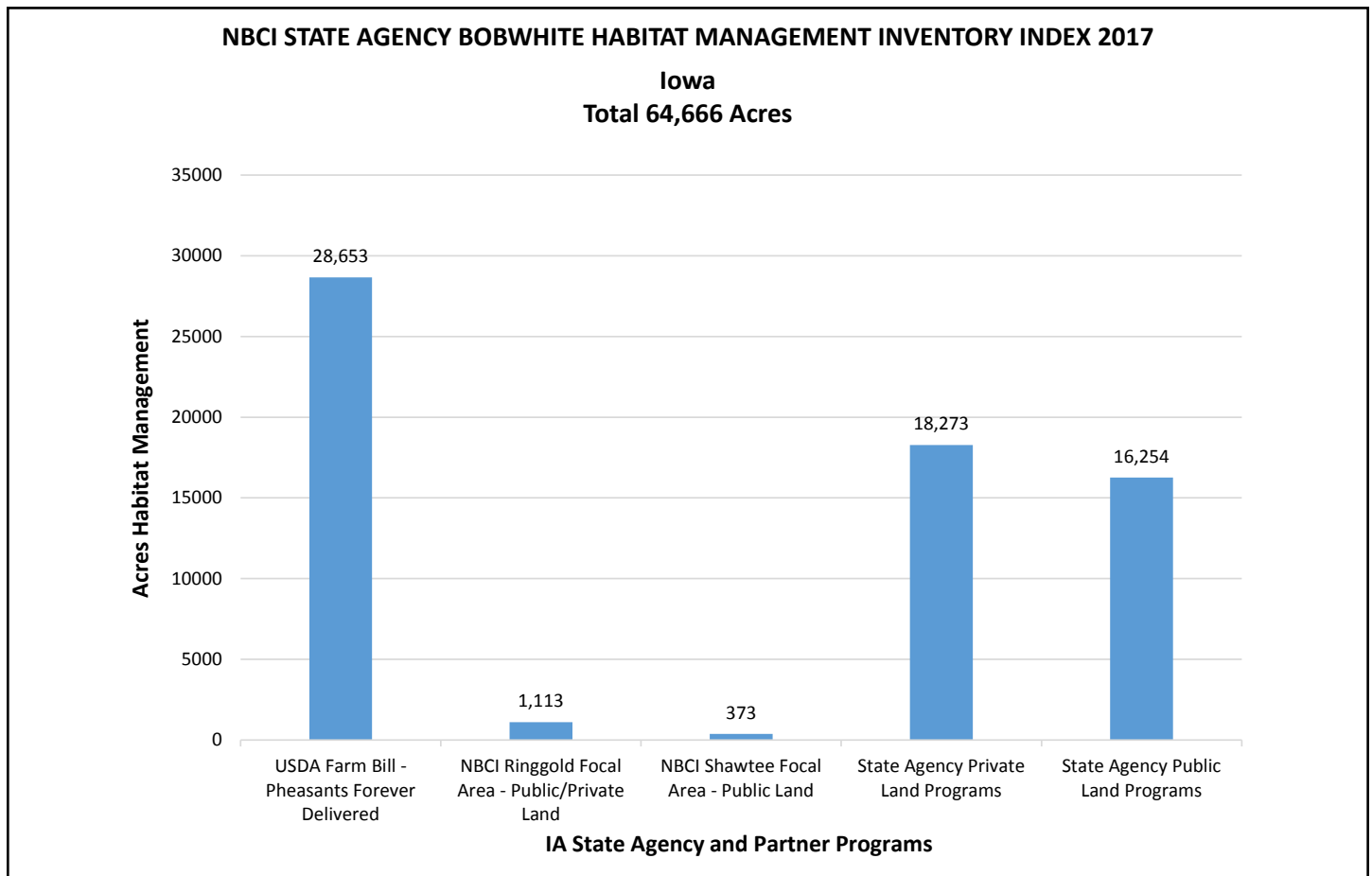


- CP-33 (Habitat Buffers for Upland Birds) has 10,402 acres enrolled.
- The Public Lands Unit improved over 6,500 acres on approximately 20 IDFW properties.
- Beginning in 2019, the Public Lands Unit is implementing light grazing on several IDFW properties as a tool for managing warm-season grasses.
- Currently, the Wildlife Science Unit is implementing its statewide bobwhite population monitoring.
- IDFW staff have determined, and subsequently received approval from NBCI, the state's first NBCI Coordinated Implementation Program (NBCI CIP) incorporating both public and private lands areas. Population, harvest, and habitat monitoring will begin in 2019.
- The Wildlife Science Unit is collaborating with Purdue University on research into bobwhite nutrition and resource selection during breeding and over-winter seasons on reclaimed mine-lands and agricultural areas at the NBCI CIP Focal Area at Goose Pond Fish and Wildlife Area (FWA), and Hillenbrand FWA. Research on bobwhite populations in the context of hunter harvest is also being considered.
- Reported 13,189 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Matthew Broadway, Small Game Biologist, [mbroadway@dnr.in.gov](mailto:mbroadway@dnr.in.gov)

**Iowa — Iowa Department of Natural Resources**

*Population:* The Iowa Department of Natural Resources (IDNR) 2017 statewide bobwhite August roadside index of 1.13 quail per 30-mile route declined slightly, but was statistically unchanged from the 2016 index of 1.47. The index remains well above the ten-year average of 0.7 quail per route and close to the long-term average of 1.37 quail per route. Quail numbers have been higher the last three years than they have been the past two decades. Iowa experienced a relatively mild winter during 2017-18, which bodes well for good hen survival, and populations are expected to remain stable or perhaps increase in 2018.



*Hunting:* Hunter numbers and harvest during the 2016-17 hunting season were similar to 2015-16 season. An estimated 10,005 hunters (compared to 9,762 in 2015-16) harvested 24,366 quail (compared to 28,362 in 2015-16). The 2016-17 quail harvest was 29% above the 10-year average. Hunting and harvest numbers for the most recent hunting season (2017-18) were not available at press time, but are expected to be similar to 2016-17 numbers.

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

- Iowa continues participation in the NBCI Coordinated Implementation Program (NBCI CIP), with two officially identified focal areas, plus many other public lands receiving quail management focus.
- Iowa established a new CRP SAFE practice for bobwhite titled Early Successional Quail Habitat. All acres were signed into contracts in 2017, and seeding and establishment should be mostly completed by the spring of 2018. This special CRP practice requires landowners to manage 25% of the CRP contract in early successional habitat specifically for bobwhites. State quail populations should begin to benefit from this 40,000-acre program this summer and fall, and hopefully for the next 10 years.
- Iowa has a 46,500-acre allocation of USDA CP-33 Habitat Buffers for Upland Birds, of which 25,146 acres have been enrolled.
- Iowa received a \$3 million 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. Over 24,000 acres have been enrolled in the program since early 2016. Each area has a habitat management plan and is open to public hunting.
- Reported 64,666 acres of quail management for the NBCI Habitat Management Inventory.

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

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

*Population:* 2017 statewide bobwhite breeding abundance index was 3% above 2016 index and 24% and 36% above previous 5- and 10-year averages, respectively.

*Hunting:* According to the 2016-17 hunting season statistics, 62,653 quail hunters harvested 519,795 bobwhites.

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

- In 2018, KDWPT added three habitat specialists through a partnership agreement with Habitat Forever for performing habitat work in areas of the state that consistently lack available contractors. All habitat work for these positions is prioritized for walk-in hunting properties.
- KDWPT was a partner on a RCPP grant for grassland birds for 2015-20. All \$1.5 million in funds were spent or obligated as of spring 2018. While quail were not the only species targeted through this effort, they were a major beneficiary of these efforts and funds.
- In 2017, KDWPT worked with the USFWS Habitat and Population Evaluation Team to develop a statewide bobwhite occupancy map.
- Bobwhites are a species of conservation importance for both State Wildlife Grant and USDA program funding ranking processes.
- Reported 322,499 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Jeff Prendergast, Small Game Specialist, [jeff.prendergast@ks.gov](mailto:jeff.prendergast@ks.gov)

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### **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 69% since 1960. The 2017 index is 69.1% below our 1981 restoration target. Statewide, there was no change between 2016 and 2017, however the western and central portions of the state experienced a 10% and 7% decline respectively.



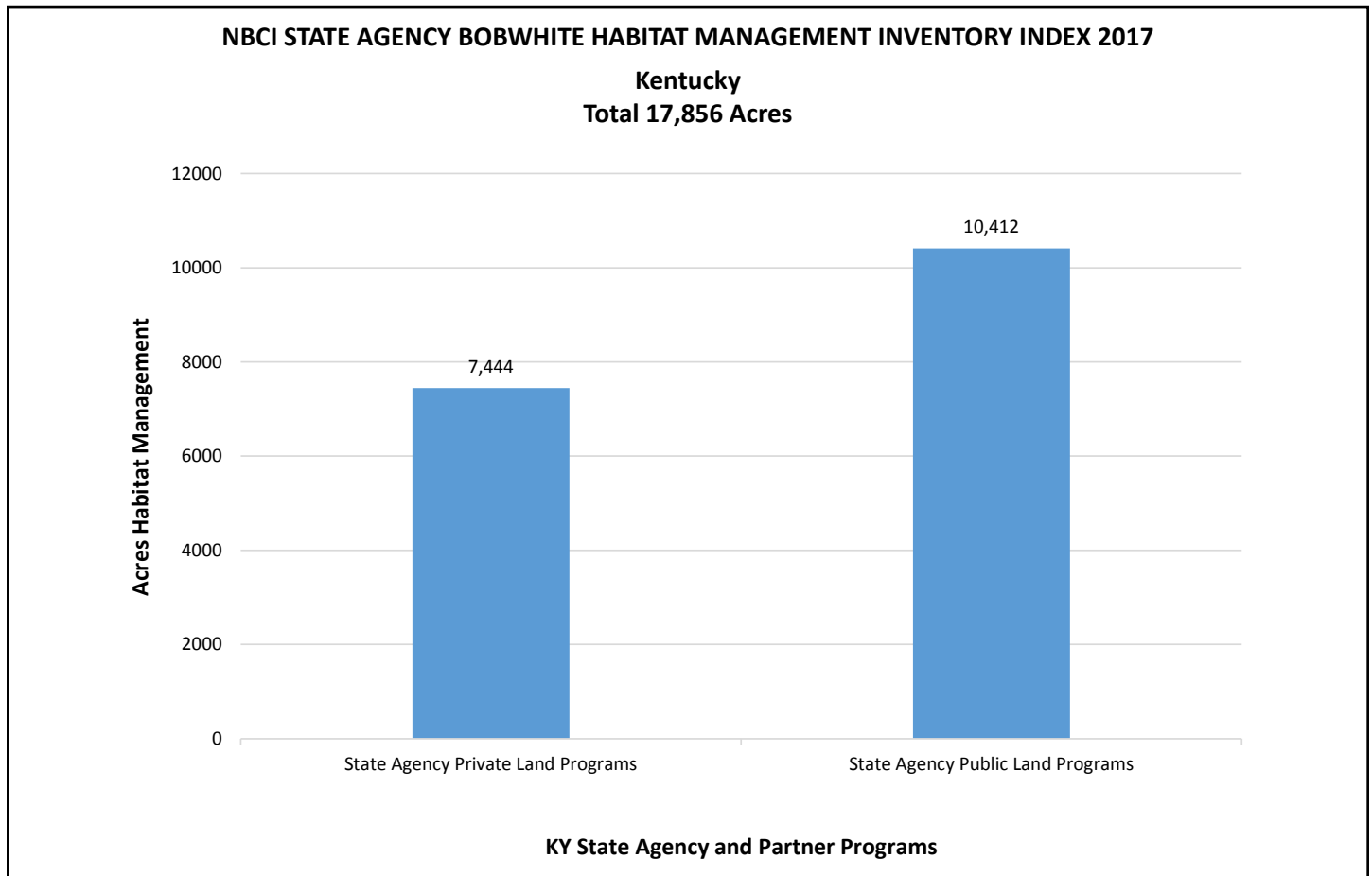


**Hunting:** On average, hunters bagged 0.56 birds/hour in 2016-17 hunting season and observed 0.24 coveys per hour. The harvest rate is 35% below the 5-year average, and covey detections were 43% below the 5-year average.

**Management:** The agency continues to operate under a statewide Quail Plan and as a partner with NBCI. Quail management highlights include:

- In collaboration with the University of Tennessee (UT), KDFWR initiated a 4-5 year research project at Bluegrass Army Depot to investigate bobwhite use of native warm-season grass and fescue pastureland.
- Kentucky biologists hosted an NBCI Coordinated Implementation Program (NBCI CIP) habitat monitoring training exercise in western Kentucky. KDFWR, National Guard, Southern Illinois University, UT, and Indiana Department of Natural Resources biologists attended the event. NBCI staff were also on hand for filming and technical assistance.
- Kentucky has initiated two new NBCI CIP Focal Areas at Peabody WMA and Wendell H. Ford National Guard Training Center.
- Spring breeding bird surveys have been initiated on five state focal areas and three NBCI CIP Focal Areas.
- Analysis of KDFWR quail harvest data determined number of hours hunted and number of hunters in a party were the two most important factors in explaining hunter success.
- KDFWR published the Peabody Research Summary, a first-of-its-kind booklet designed to inform hunters and quail enthusiasts.
- Membership of the Kentucky Bobwhite Battalion Facebook page ([www.facebook.com/KentuckyQuail](http://www.facebook.com/KentuckyQuail)) increased to over 3,500 members.
- Reported 17,856 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinators: John Morgan, Small Game Program Coordinator, [john.morgan@ky.gov](mailto:john.morgan@ky.gov) and Cody Rhoden, Small Game Biologist, [cody.rhoden@ky.gov](mailto:cody.rhoden@ky.gov)



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

*Population:* The Louisiana Department of Wildlife and Fisheries (LDWF) annual 2017 Bobwhite Whistle Survey combined results were not significantly different than 2016. 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 2016-17 estimated that 1,500 persons hunted wild quail and bagged an estimated 2,600 quail.

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

- LDWF East and West Gulf Coastal Plain Prescribed Burn Initiatives, National Fish and Wildlife Foundation (NFWF) Grant LDWF Natural Heritage Program: 5,140 acres were burned in 2016-17.
- USDA NRCS programs in 2017: 702 acres were planted to longleaf pine and 3,957 acres burned.
- The Longleaf Stewardship Fund in 2017: 126 acres were planted to longleaf pine and 2,021 acres burned.
- Worked with the NRCS, National Wild Turkey Federation, and other agencies to hold longleaf pine workshops for private landowners and land managers.
- Began bird and habitat monitoring on the Kisatchie National Forest Vernon Quail Emphasis Area: 5,992 acres in focal area and 7,806 acres in Peason Ridge Wildlife Management Area (WMA) reference area.
- Continued quail habitat improvements at Sandy Hollow WMA, including roughly 1,500 acres of timber harvests/habitat improvements, 2,100 acres of prescribed burning, and planned 800 acres of herbicide treatments to control hardwood brush.
- Additional prescribed burning was contracted on Sandy Hollow, Clear Creek, and Bodcau WMAs: 5,208 acres.
- Reported 29,893 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Cody Cedotal, Resident Small Game/Wild Turkey Program Manager, [ccedotal@wlf.la.gov](mailto:ccedotal@wlf.la.gov)

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## **Missouri — Missouri Department of Conservation**

*Population:* The Missouri Department of Conservation (MDC) 2017 state bobwhite abundance index of 1.71 quail per 30-mile route was 9.8% above the 2016 index of 1.56 and 19.5% below the 10-year average (2007-16 average = 2.1).

*Hunting:* Missouri's Small Game Post-Season Harvest Survey is conducted every other year; the most current data is from the 2016-17 season. The total number of hunters pursuing quail in 2016 was 14,945, a 21% increase from the 2014-15 season. Averages for daily and season bags were down slightly from 2014 at 1.72 and 6.74 respectively. Total harvest was 100,748, down 8% from the 2014-15 season. Based on field reports, quail hunting during the 2016 and 2017 seasons was best in northern and southwestern portions of the state, where suitable habitat exists on a larger scale.

*Management:* Quail management highlights in 2017 include:

- MDC's quail program is currently under review. The review process is utilizing information from the State Wildlife Action Planning (SWAP) process, the Biologist's Ranking Information process of [NBCI 2.0](#), data from monitoring and research, staff input, and landowner interest levels to identify Quail Restoration Landscapes (QRLs). QRLs will represent the best places for the deployment of agency and partner resources to achieve quail restoration on a landscape scale.
- MDC continues participation in the [NBCI Coordinated Implementation Program](#) (NBCI CIP), with two focal area projects—the 2C quail focal area in Carroll County and the newly added Bee Ridge quail focal area in Knox County.
- Outreach efforts continued via the [Small Game Prospects](#) resource, [Covey Headquarters Newsletter](#), periodic [MDC Quail blog](#), a habitat management calendar, news items, and public events.
- Three new cooperative Farm Bill Biologists have been hired, bringing total cooperative positions in Missouri to 10. MDC continues to leverage conservation dollars through cooperative partnerships with the National Wild Turkey Federation, Quail Forever, and the Quail and Upland Wildlife Federation. In addition to the USDA cooperative Farm Bill biologist positions, these partnerships have been used to increase private land cost-share funding pools and promote youth hunting opportunities.
- MDC staff are in the fifth and final year of a research project studying quail reproductive success and population

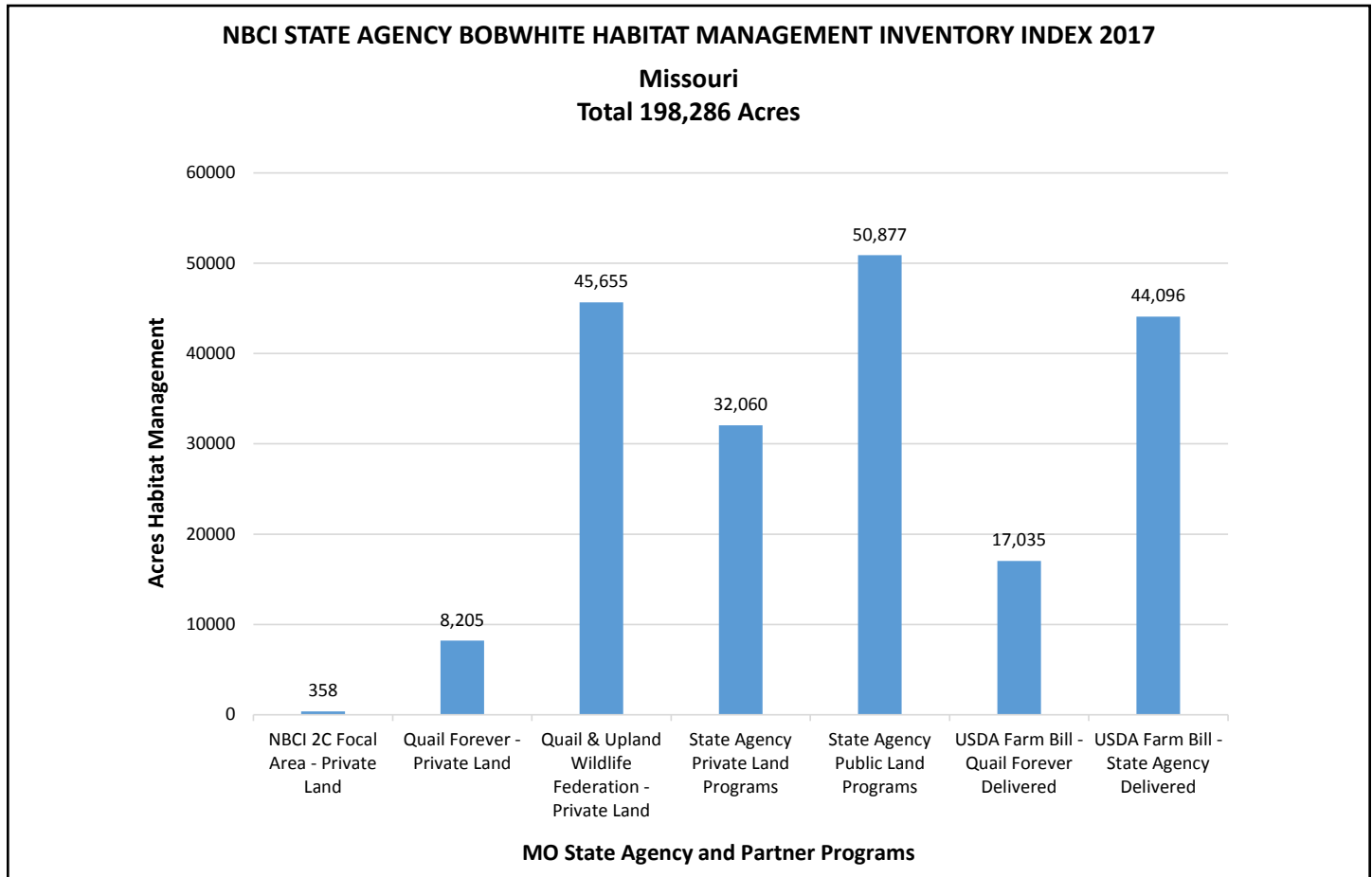




response to traditional management (crops, linear shrub rows, discrete patches of nesting cover) vs. grassland landscape management (native grassland community managed with fire and grazing).

- In collaboration with the University of Missouri, MDC is entering into the second and final year of two research projects studying quail brood survival and winter habitat use on traditionally managed areas vs. grassland management areas.
- Reported 198,286 acres of quail management for the NBCI Habitat Management Inventory.

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



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

*Population:* Maryland’s statewide bobwhite population has declined more than 90% over the past 50 years. The highest densities occur in the eastern part of the state.

*Hunting:* The Maryland Department of Natural Resources (MDNR) 2016-17 Annual Hunter Mail Survey estimated about 230 bobwhite hunters harvested 400 wild birds. The survey only requests data on wild quail hunts, but hunting of pen-raised quail remains popular.

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

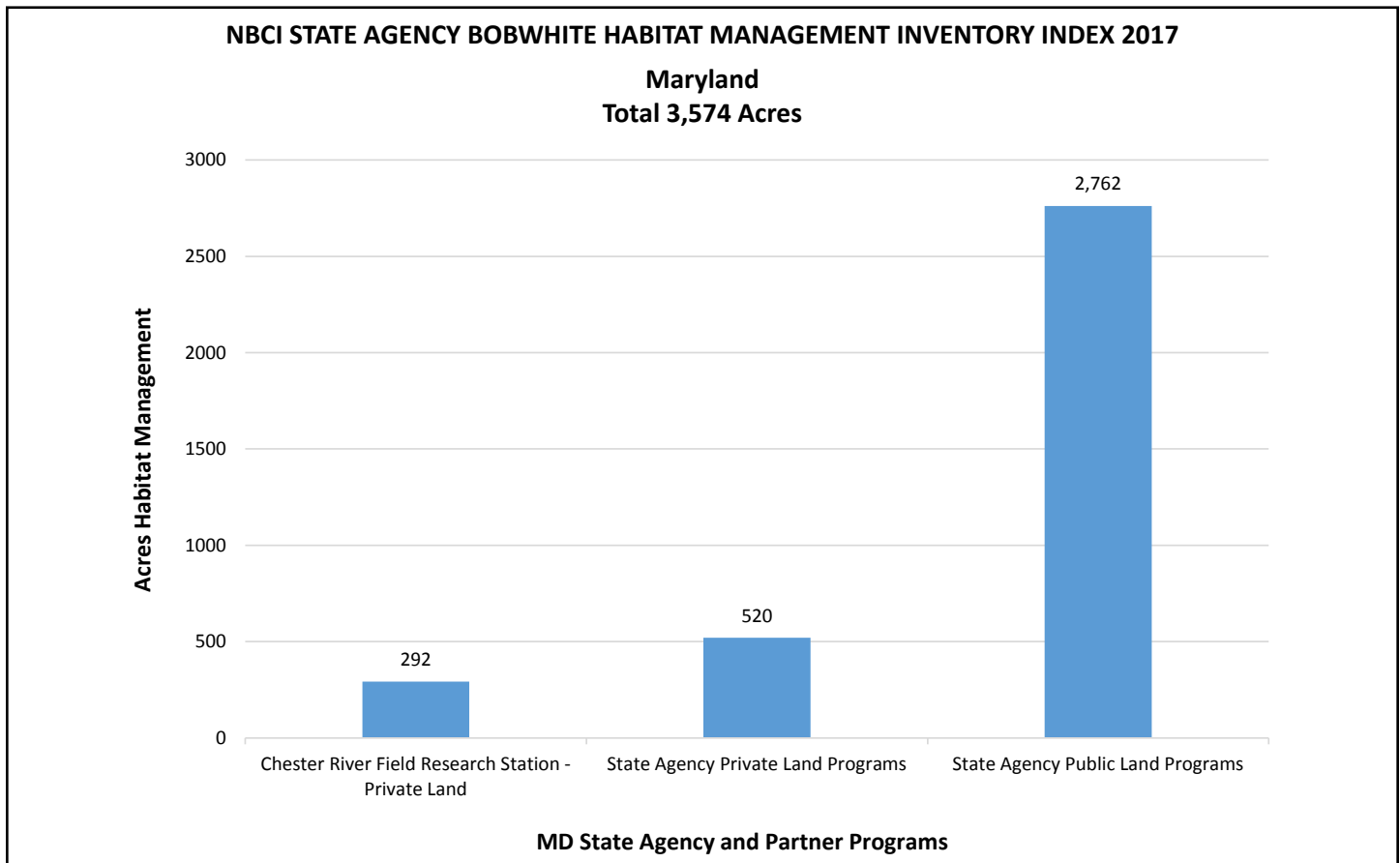
- Four MDNR Wildlife Management Areas encompassing about 11,000 acres continue to be managed with a focus on bobwhite and other early-successional species. Monitoring via summer and/or fall surveys indicates stable or increasing populations on most areas.
- Additional emphasis on active forest management and prescribed burning within the current quail range has led to many acres of new or planned projects.
- Approximately 20,000 acres are currently enrolled in quail-friendly practices under the USDA Conservation Reserve



Program.

- Maryland has recently joined the Working Lands for Wildlife Bobwhite Program.
- MDNR 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. A MDNR/NRCS cooperative biologist may be hired within a year.
- Washington College, with funding from MDNR, continued a successful regional habitat initiative to restore bobwhite habitat and protect water quality in the upper Chesapeake Bay watershed.
- Reported 3,574 acres of management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Bob Long, Upland Game Bird Project Manager, [bob.long@maryland.gov](mailto:bob.long@maryland.gov)



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

*Population:* The Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) 2017 Wildlife Management Area (WMA) bobwhite abundance index was 1% above 2016 index.

*Hunting:* 2016-17 hunting season statistics were above the previous year, previous 5-year, and previous 10-year averages.

*Management:* Quail management highlights include:

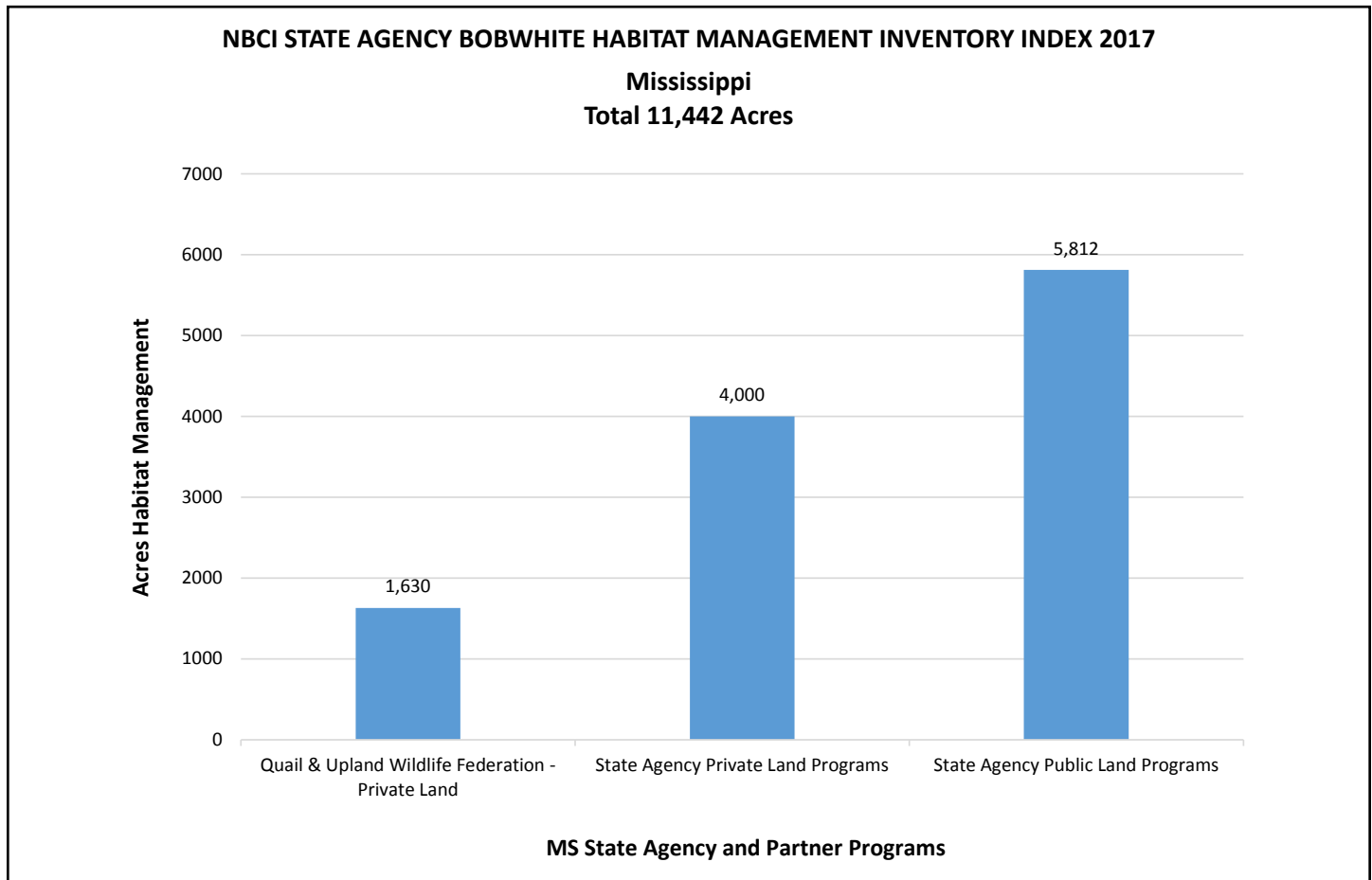
- Continued promotion of USDA CP-38 Bobwhite Quail Habitat, CP-38 Black Belt Prairie Restoration, and USDA CP-33 Habitat Buffers for Upland Birds practices.
- Cooperated with conservation partners to implement quail-friendly habitat management via Mississippi Partners for Fish and Wildlife Program (Uplands, 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 seven WMAs.





- Continued education and outreach via public contacts and website.
- Reported 11,442 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Rick Hamrick, Habitat/Small Game Program Leader, [rickh@mdwfp.state.ms.us](mailto:rickh@mdwfp.state.ms.us)



**Nebraska — Nebraska Game and Parks Commission**

*Population:* The Nebraska Game and Parks Commission (NGPC) statewide abundance index from the 2017 Bobwhite Whistle Count survey was 14% higher than 2016, with regional indices of relative abundance ranging from a 15% decrease in the Republican region to 45% increase in the Northeast region. Data from the 2017 July Rural Mail Carrier survey indicated statewide indices were 29% higher than in 2016. Changes in indices ranged from a 41% decrease in the Northeast region to an 82% increase in the West Platte region.

*Hunting:* During the 2017-18 bobwhite hunting season (28 October 2017-31 January 2018), 16,741 hunters harvested 86,959 bobwhites during 108,756 days afield. These figures were up compared to the 21,789 hunters (-23%) harvesting 112,916 bobwhites (-23%) during 144,026 (-25%) days afield the previous year.

*Management:* NGPC continues to partner with NBCI 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. Spring whistle and fall covey count surveys were completed in the focus area and the reference area again in 2017. 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 and Federal Aid in Wildlife Restoration grant W41T. NBCI CIP habitat assessment was conducted during the summer of 2016. A summary of habitat improvements and research include:

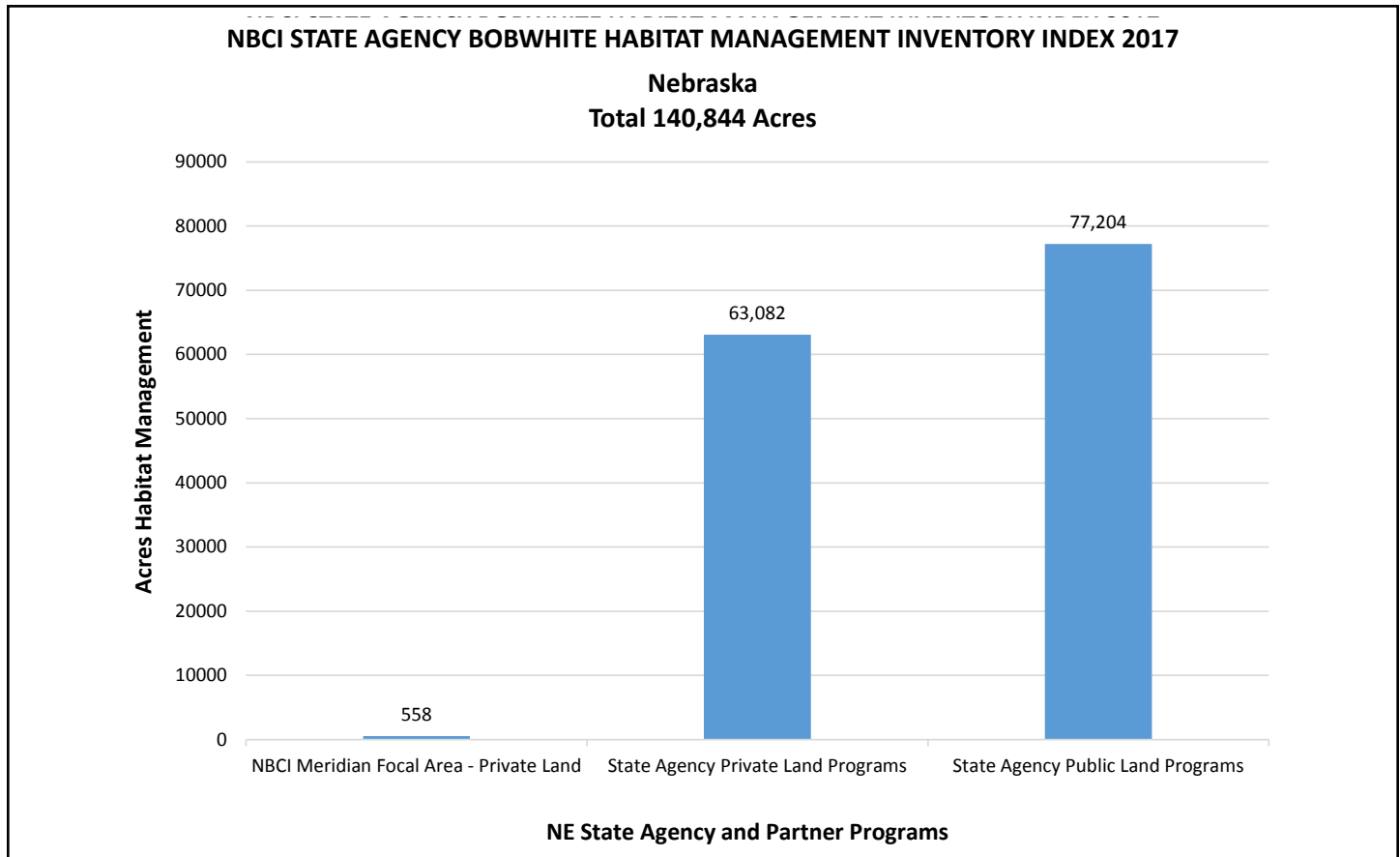
- As part of the Early Successional Habitat Initiative, 77,204 acres across the state were managed for the benefit of



quail, pheasants, and other upland game.

- As part of the Focus on Pheasants program, 52,105 acres were managed for upland game, including bobwhite.
- University of Nebraska doctoral student Mandy Lipinski continues field work on a Federal Aid in Wildlife Restoration project investigating micro-climatic impacts on bobwhite habitat use and population dynamics in south-central Nebraska.
- Reported 140,844 acres of quail management for the NBCI Habitat Management Inventory.

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



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

**Population:** Bobwhite population remains very low, according to USGS North American Breeding Bird Survey data: 0.00/route in 2017; 0.00/route in 2016; 0.00/route in 2015; 0.01/route during 2012-17.

**Hunting:** Wild quail hunting season has been closed since 2011. Hunting pen-raised birds is permitted at two New Jersey Department of Environmental Protection (NJDEP) Wildlife Management Areas (WMAs) and on licensed 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. A formal Recovery Plan draft was completed in 2017 with a possibility of large scale translocation. Quail management highlights include:

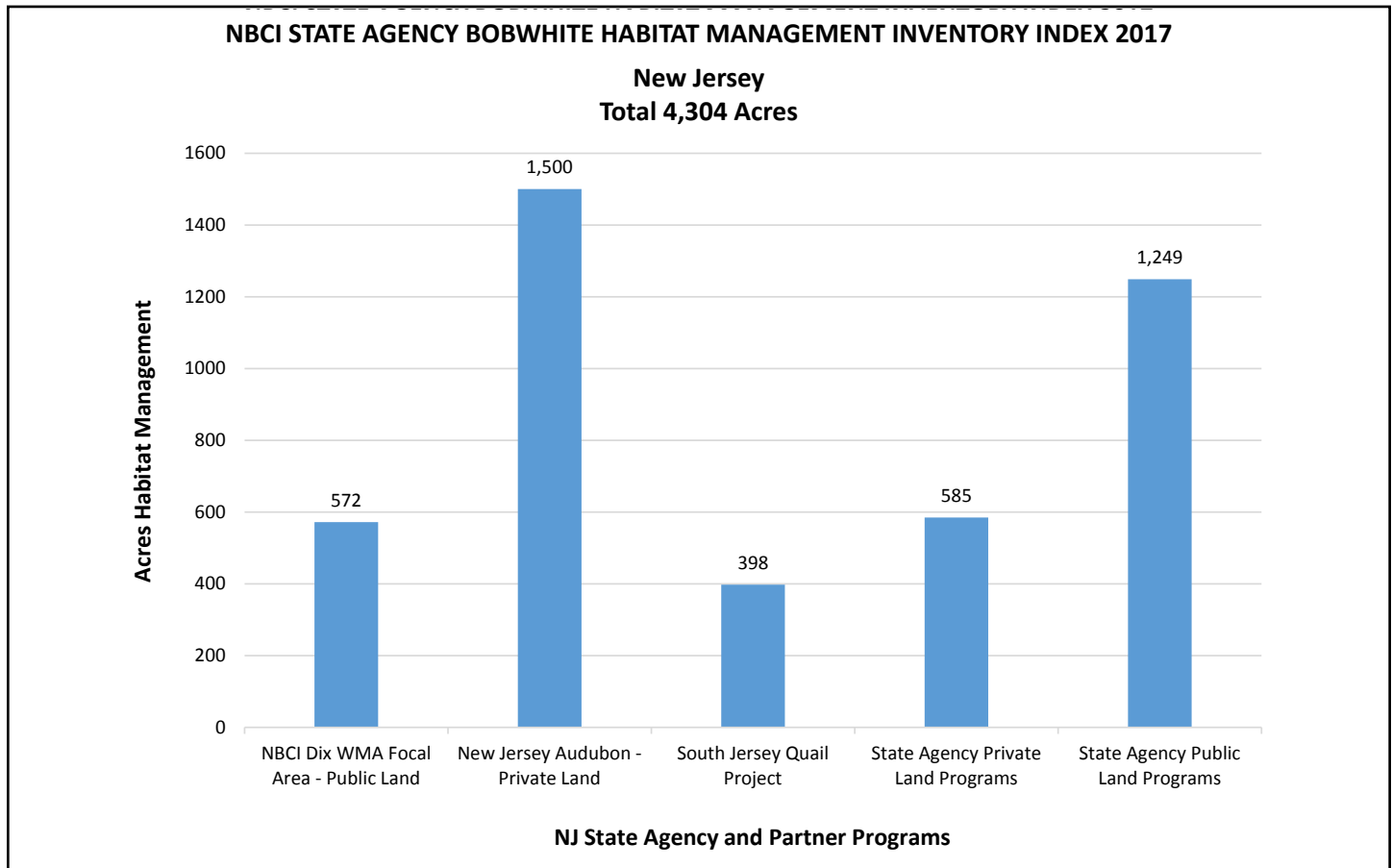
- Conservation partners NJDFW, New Jersey Audubon, Tall Timbers Research Station and Land Conservancy (TTRS), US Fish & Wildlife Service, University of Delaware (UDEL), Pine Island Cranberry Company, and Pine Creek Forestry completed the third of its three-year research study on translocation. 2017 preliminary results: 58 adults have died from predation by mammals (65%) or raptors (21%), translocation stress factors (3%), or unknown causes (10%); a total of 13 nests were located in 2017 with 6 being successful, producing a total of 57 chicks. Winter weather does not appear to be a limiting survival factor even with this past winter being harsh. A fourth-year release was approved for an extension of this study.





- A small technical committee was formed with cooperation between sportsmen, NGOs, and NJDFW on site ranking of potential future translocation sites. Ranking metrics include environmental consideration such as; NBCI Coordinated Implementation Program (NBCI CIP) habitat and population monitoring, predator index study, and insect abundance/diversity. Special considerations include landscape and site connectivity, funding eligibility, human impacts, a state-approved long-term management plan, and conspecifics. Site ranking should be completed fall of 2018.
- New Jersey Natural Resources Conservation Service (NRCS) has designated seven southern counties for enrollment in their Environmental Quality Incentives Program, Working Lands for Wildlife, focusing on pine savannas for northern bobwhite. Monies allocated were used and work is being completed.
- Reported 4,304 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Jimmy Sloan, Upland Habitat and Wildlife Biologist, [james.sloan@dep.nj.gov](mailto:james.sloan@dep.nj.gov)



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

*Population:* Quail populations across the state have declined for many years and remain 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 for regional and statewide trends. Populations are generally declining, but stable or increasing in a few areas where landowners are committed to intensive habitat restoration and management.

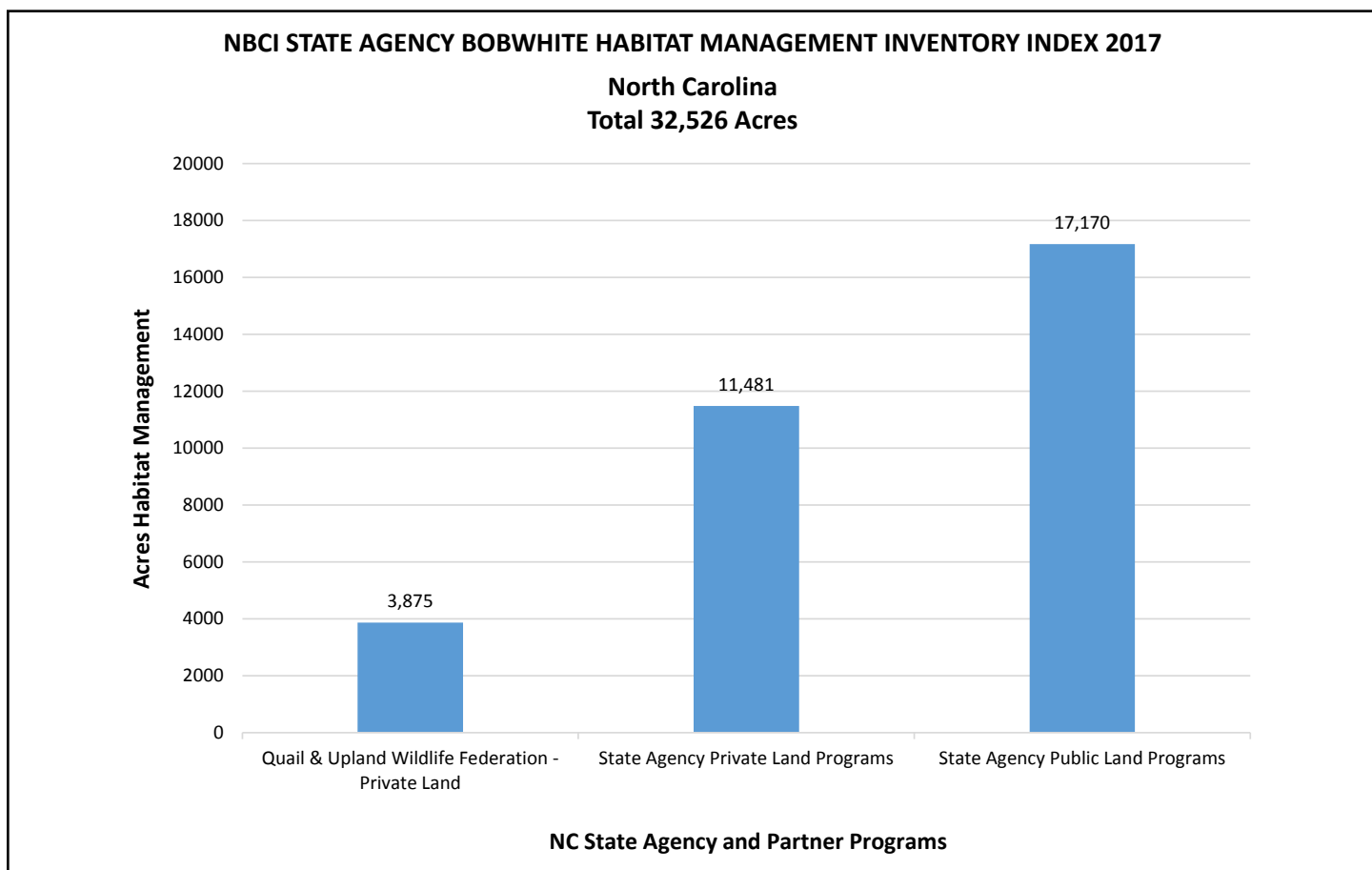
*Hunting:* Each year, the North Carolina Wildlife Resources Commission (NCWRC) uses a post-season survey to estimate the number of hunters, hunting effort, and harvest of all game species in the state. During the 2016-17 season, approximately 12,500 hunters spent 82,000 days hunting quail and harvested 56,500 birds. The bulk of this hunting and harvest occurred in the coastal plain of eastern North Carolina, with very little quail hunting taking place in the piedmont, and almost none in the mountains. The agency's Avid Hunter Survey captures additional important information about quail hunting in the state and points to higher success rates on private lands as compared to game lands.

*Management:*



- Researchers and students from North Carolina State University recently completed a project investigating nest survival and nest-site selection in the presence of growing-season fire on Fort Bragg Military Installation. Their project has provided valuable information for managing bobwhite habitat with prescribed fire.
- NCWRC biologists continue to use acoustic sound recorders to survey for bobwhites. In October of 2017, a total of 31 recorders were deployed on 7 sites across the state, with coveys heard at many locations. This technology offers a cost-effective way to collect basic information about bobwhites on these sites.
- Continued outreach via *The Upland Gazette*, covering early-successional species and habitats. *The Upland Gazette* is now included each year in spring and fall guides of Wildlife in North Carolina, the agency's magazine, which has more than 55,000 subscribers.
- Reported 32,526 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinators: Christopher D. Kreh, Upland Game Bird Biologist, [chris.kreh@ncwildlife.org](mailto:chris.kreh@ncwildlife.org) and Mark D. Jones, Wildlife Research Program Supervisor, Private Lands Program, [mark.jones@ncwildlife.org](mailto:mark.jones@ncwildlife.org)



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

*Population:* Ohio's bobwhite population estimate, based on recent surveys, is less than 60,000 (i.e., this is the upper confidence limit on the mean estimate). Rates of change among population indices since 1984 indicate a population half-life of about seven years (i.e., population will decline 50% in seven years) unless rates of decline change in future years.

*Hunting:* Results of Ohio Department of Natural Resources (ODNR) Division of Wildlife hunter harvest surveys over the last two years show that quail hunting participation has declined significantly in Ohio. In 2011-12, approximately 3,000 hunters pursued wild quail in Ohio. In the most recent surveys (2014-15 season), 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



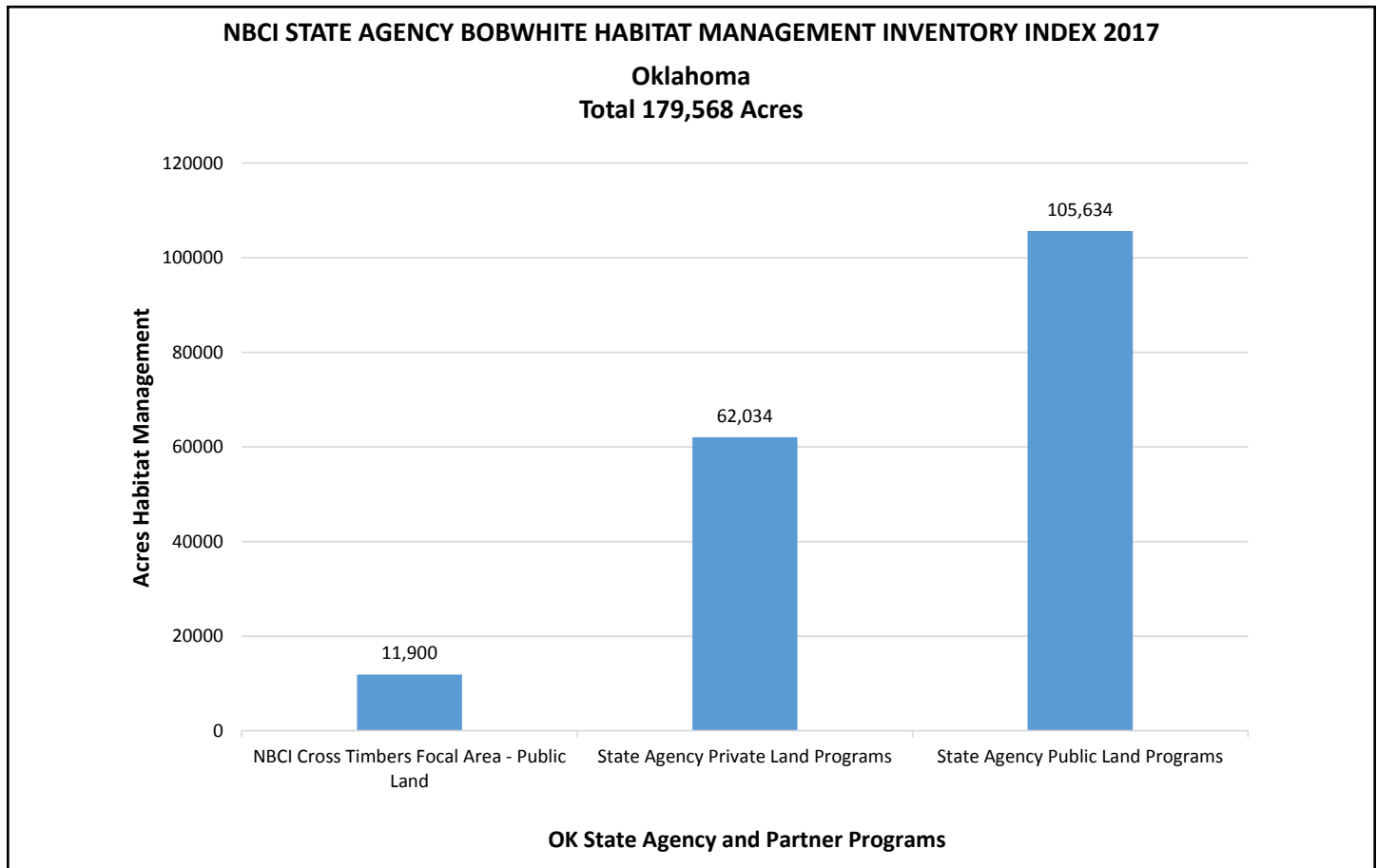
landowners to develop in 2015 Ohio's first NBCI Coordinated Implementation Program (NBCI CIP) quail focal area, the Fallsville Quail Heritage Area. This area is approximately 10,000 acres in size with about 25% of the area consisting of public wildlife areas. Habitat assessments, fall covey counts, and spring bird surveys have been completed for the first year.

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

**Oklahoma — Oklahoma Department of Wildlife Conservation**

*Population:* Overall, the statewide number of quail observed per 20-mile route was down from 8.17 quail/route to 2.98 quail/route. This was below the 28-year average of 5.56 and slightly below the 10-year average of 3.15. There were three regions up from 2016, south-central, southeast and north-central. The south-central region was up from 0.19 quail/route to 0.42 quail/route. This indicated a fairly low density, even though the region increased over 2016. The southeast region increased from 1.77 quail/route to 2.14 quail/route. This represents the fourth consecutive year of increased production in the southeast and the highest this region has been since 2008, but still below the 28-year average of 4.72 quail/route. The north-central region increased from 2.94 quail/route to 2.97 quail/route. The largest decrease occurred in the northwest region, dropping from 15.67 quail/route in 2016 to 4.22 quail/route in 2017, a decline of 73%. The southwest region was not far behind, with a drop from 22.13 quail/route in 2016 to 7.33 quail/route in 2017, a decline of 67%. The northeast region declined from 2.47 to 1.07, a decline of 56.6%. Though this does not look promising, a more recent look at quail numbers (10-year rather than 28-year average) indicates that Oklahoma is right at the 10-year average in most areas. Statewide, the 10-year average was 3.15 quail/route and this year it was 2.96 quail/route. The northwest, southwest, and south-central regions were all slightly below their respective 10-year average, while the north-central, northeast, and southeast were all at or above their 10-year average.

*Hunting:* From 1986-2016, hunter numbers have declined by 74.9% (111,000 to 27,830), but are up 48% from our lowest estimate in 2013. Estimated hunter numbers increased 27% from 2015 (20,276). The estimated number of quail





harvested has also decreased by 81.8% (2,700,000 to 491,485), but we are up 16.7% from the harvest from last year (409,284 in 2015; 491,495 in 2016). These numbers are higher due to four successful reproductive seasons, highly managed public lands, and more private landowners' awareness and managing their properties accordingly. Such management practices include: prescribed burning, 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 128,798 acres during 2017 to assist private landowners with quail conservation. Highlights include:

- The Oklahoma Department of Wildlife Conservation (ODWC) continued its partnership with Oklahoma State University (OSU) to conduct research on four ODWC Wildlife Management Areas. The current research project began April 1st and is currently testing out GPS units on quail.
- ODWC also continued the 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, three spring and fall monitoring seasons have been surveyed within the CIP focal area, and two seasons in two reference areas. In addition, CIP habitat surveys have been completed within all 39 monitoring points.
- Reported 179,568 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator, Acting: Allan Janus, Research Supervisor, [allan.janus@odwc.ok.gov](mailto:allan.janus@odwc.ok.gov)

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### ***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 US (USGS North American Breeding Bird Survey [BBS] data 1966-2012). 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 Pennsylvania are from pen-reared and released birds. The state is now open to put-and-take quail hunting, with a split season running from mid-October through the end of February allowing an 8-bird daily limit with 24 in possession.

*Management:* PGC completed the Northern Bobwhite Quail Management Plan in 2011, and is a partner with NBCI. The management plan calls for establishing Bobwhite Quail Focus Areas (BQFA), with the intent to reintroduce bobwhites by 2020:

- In 2017, Letterkenny Army Depot (LEAD) in Chambersburg was selected as the state's first BQFA, and an MOU was signed partnering PGC, LEAD, and Quail Forever. Other crucial partnerships within the project include Shippensburg University and Harrisburg University.
- A comprehensive BQFA management plan was completed, and monitoring and habitat management operations began in 2017. Monitoring for the project has included spring whistle counts, fall covey counts, BBS point counts, a BBS route, CIP habitat monitoring, and pollinator surveys, primarily for baseline data prior to habitat restoration efforts. Habitat restoration to date has included approximately 600 acres of prescribed fire treatment, 100 acres of overstory removal, 22 acres of herbicide treatment, 25 acres of disking, and planting over 2,000 shrubs.
- A detailed project translocation plan is currently in the review process. Reintroduction will require the partnership of other states in providing wild northern bobwhites for Pennsylvania. It is thanks to NBCI and so many of its member



states' continued support that Pennsylvania has made such great strides in its effort to bring back bobwhites.

- Reported 632 acres of quail management for the NBCI Habitat Management Inventory.

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

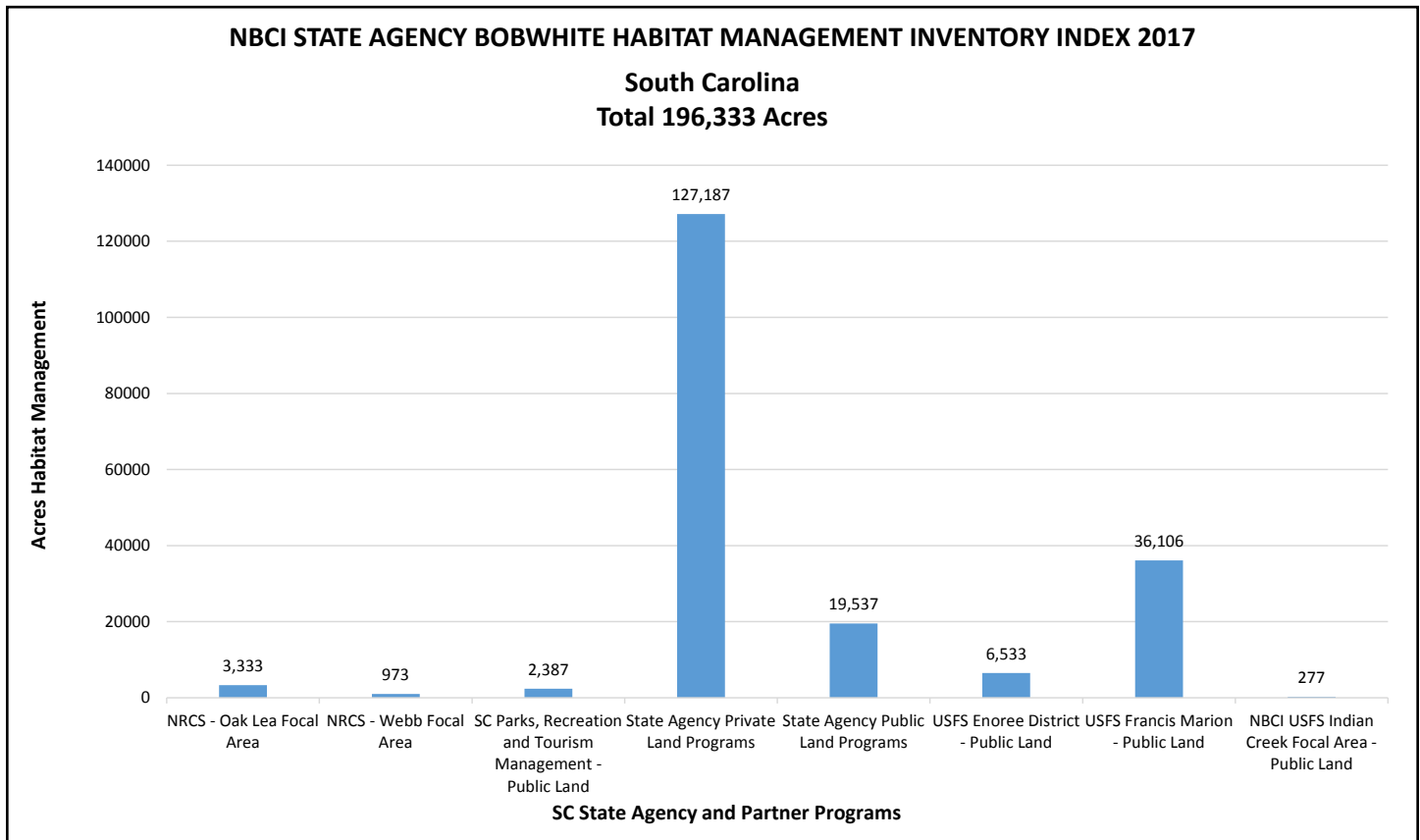
**South Carolina — South Carolina Department of Natural Resources**

*Population:* The South Carolina Department of Natural Resources (SCDNR) 2017 statewide bobwhite whistling cock census was 8.92% above the 2016 index and 69% below the long-term average. The 2017 summer bobwhite quail brood survey indicated that the average brood size increased from 2016 while the age ratio stayed the same as the previous year. The total number of adults and total number of chicks observed increased substantially. The 2017 survey indicated higher nesting success over the prior year, and it should be noted that the total adults counted was the highest in 6 years and was higher than the 10-year 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 2016-17 hunting season, was 0.20 coveys per hour of hunting.

*Management:* Quail management highlights for 2017 include:

- The South Carolina Bobwhite Initiative (SCBI) partnered with the Clemson Extension Service in order to facilitate several landowner workshops across the state. The first of the series was held at the Webb Wildlife Center in November 2017. There will be one held in each of the four focal areas, with the potential to expand to other areas of the state.
- Monitoring and habitat manipulation continued in 2017 with many projects being completed and habitat being reformed on all four focal areas in the state. Spring bird counts, fall covey counts, and habitat surveys were also completed on all four focal areas.
- US Forest Service, SCDNR, and the NBCI partnered to create the Collaborative Landowner Assistance Program,



designed to create more high quality quail habitat near national forests. This program will assist landowners by paying a portion of the costs to implement quail-friendly management practices on their land.

- One NRCS and SCDNR Farm Bill Biologist position vacancy was filled. Mr. Andy Krieg is working in Chesterfield, Darlington, and Lee counties, assisting landowners with federal assistance programs, as well as monitoring the quail focal area in his territory.
- The Bobwhite Quail Whistling Cock Census was conducted for the 39th year, the Annual Summer Bobwhite Quail Brood Survey was conducted for the 24th year, and the Annual Fall Covey Count Survey was conducted for the 17th year.
- Maintained the [quail page](#) on the SCDNR web site. Visitors can also find out more about the South Carolina Bobwhite Initiative on our [SCBI webpage](#), or at [www.facebook.com/scbobwhites](http://www.facebook.com/scbobwhites).
- Reported 196,333 acres of quail management for the NBCI Habitat Management Inventory.

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

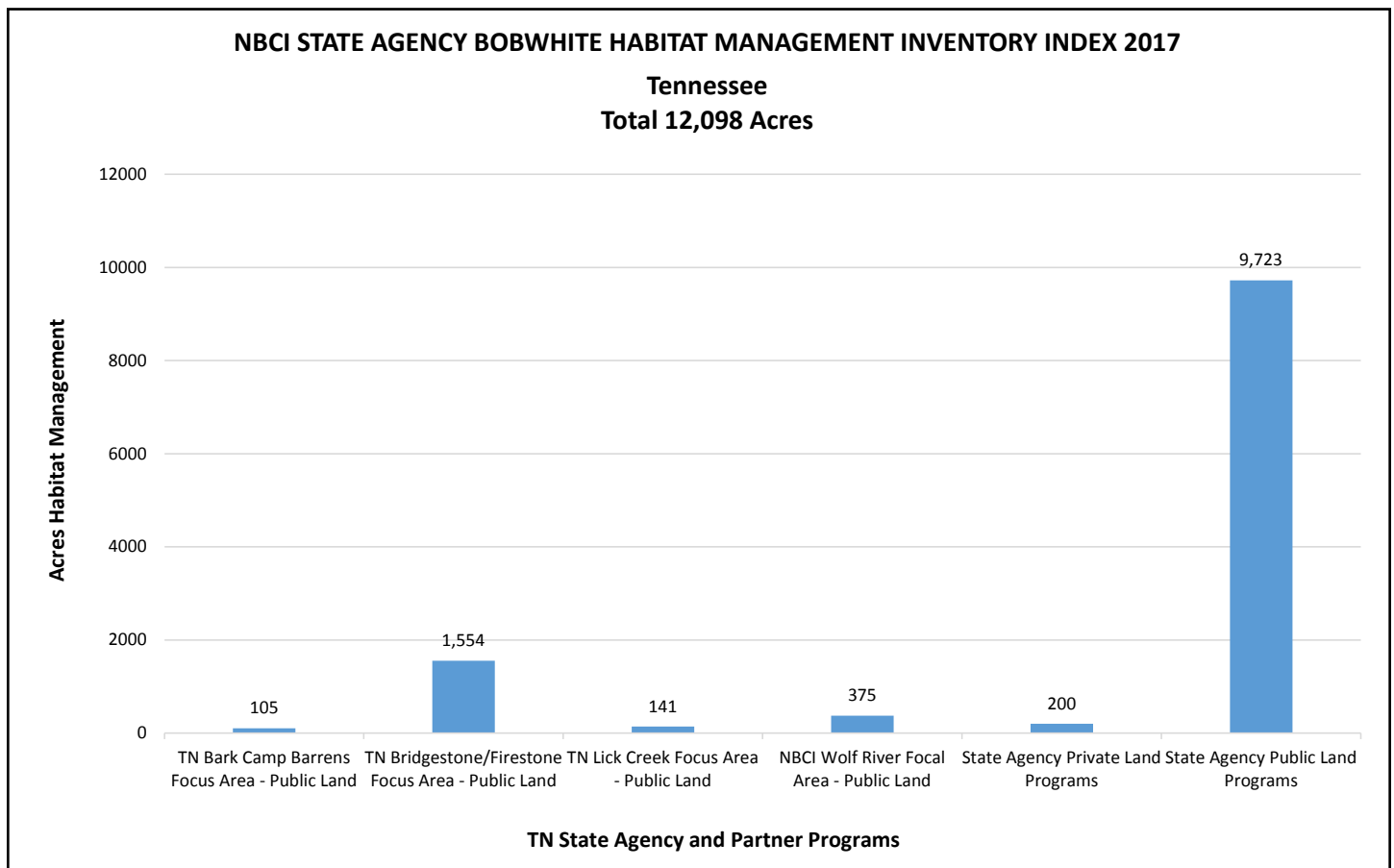
***Tennessee — Tennessee Wildlife Resources Agency***

*Population:* Tennessee’s quail population continues to decline or remains locally stable. We have collected spring counts on anchor Wildlife Management Areas (WMAs) for 2014-17. We are entering data into the Eastern Avian Knowledge Network database. Spring counts will be continued in 2018.

*Hunting:* Tennessee Wildlife Resources Agency (TWRA) has no harvest estimate but is developing a survey for focus areas and a statewide small game and furbearer harvest and effort survey.

*Management:*

- Tennessee has [four anchor WMAs](#) and implemented four focus areas in 2015. In 2017, a statewide Quail Restoration Team was organized, and the Team conducted a review of the four anchor WMAs. The report on this work has been published on ResearchGate ([www.researchgate.net/publication/324276779\\_evaluation\\_of\\_tennessee\\_bobwhite](http://www.researchgate.net/publication/324276779_evaluation_of_tennessee_bobwhite)





focus areas). As a result of that review, Wolf River WMA has been selected as Tennessee’s first NBCI Coordinated Implementation Program Focal Area. The TWRA forestry program is developing usable space on anchor areas as well as on other agency properties, and 621 acres were created in anchor areas during 2015-16.

- Tennessee co-hosted the 8th National Quail Symposium and joint 23rd National Bobwhite Technical Committee. The 23rd NBTC Proceedings can also be found on ResearchGate ([www.researchgate.net/publication/320241175\\_Proceedings\\_of\\_the\\_23rd\\_Annual\\_Meeting\\_of\\_the\\_National\\_Bobwhite\\_Technical\\_Committee](http://www.researchgate.net/publication/320241175_Proceedings_of_the_23rd_Annual_Meeting_of_the_National_Bobwhite_Technical_Committee)).
- Reported 12,098 acres of quail management for the NBCI Habitat Management Inventory.

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

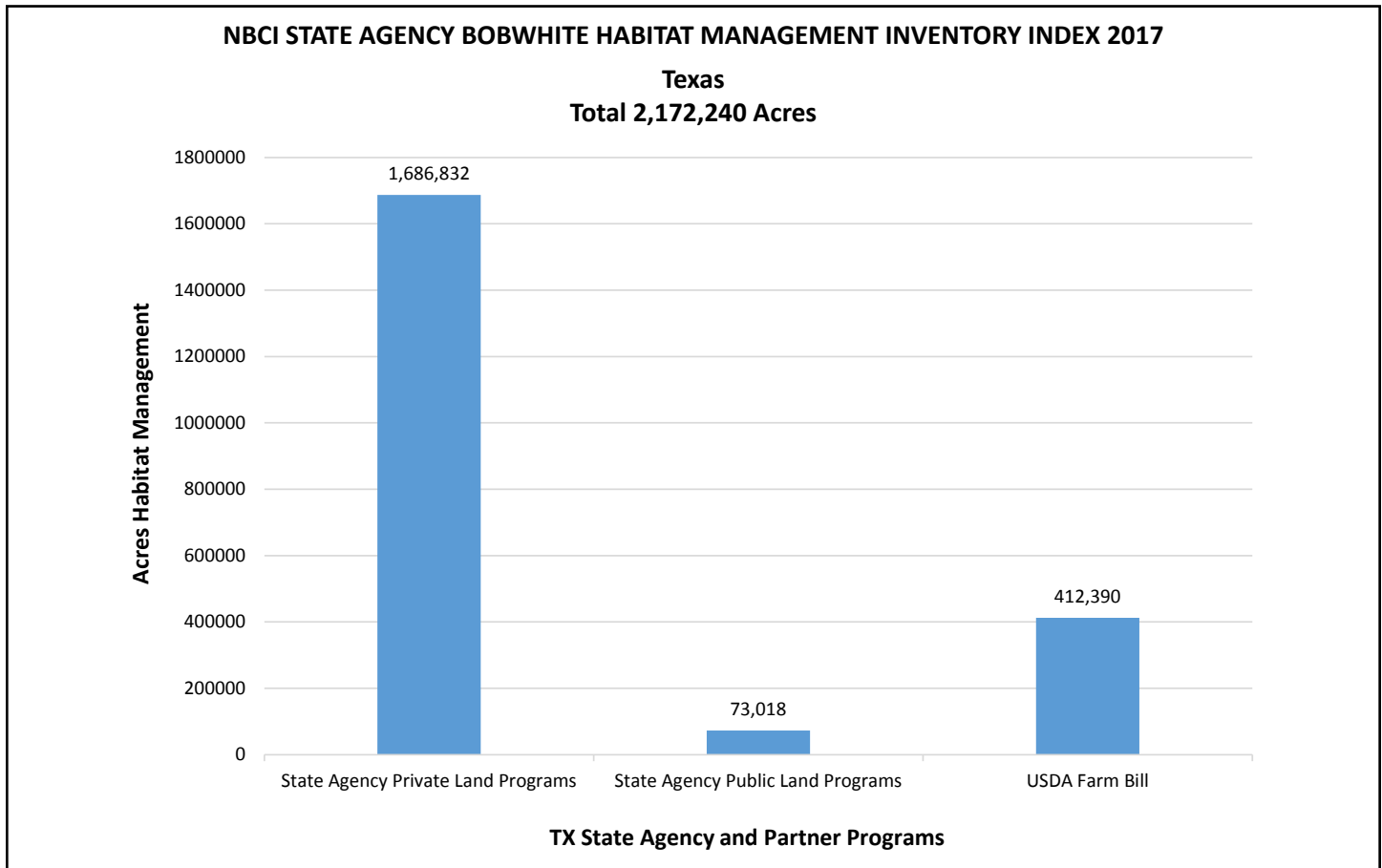
***Texas — Texas Parks and Wildlife Department***

*Population:* According to Texas Parks and Wildlife Department (TPWD) surveys, bobwhite populations in key hunting regions decreased prior to the 2016-17 hunting season, primarily due to less-than-average rainfall and below-average winter temperatures, with some period of ice on the ground. The Rolling Plains ecoregion, however, remained above average. Bobwhite overwinter survival appears adequate, and early summer rains have triggered reproductive efforts going into the 2018 breeding season.

*Hunting:* The TPWD bobwhite hunter numbers for 2016-17 increased for the fourth year in a row from 59,882 in the previous year to 83,384; estimated bobwhite quail harvest increased 57% from previous year (1,480,253). The small game hunter survey questionnaire has excluded pen-reared birds in the harvest estimate as of 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:

- The Oaks and Prairie Joint Venture (OPJV) partners, with the National Wild Turkey Federation serving as the lead partner, received a Regional Conservation Partnership Program (RCPP) grant. The \$2.9 million grant addresses



significant declines in grassland wildlife populations through the improvement and restoration of native grassland habitats in the Southern Great Plains through the Environmental Quality Incentives Program on qualifying projects in Texas and Oklahoma.

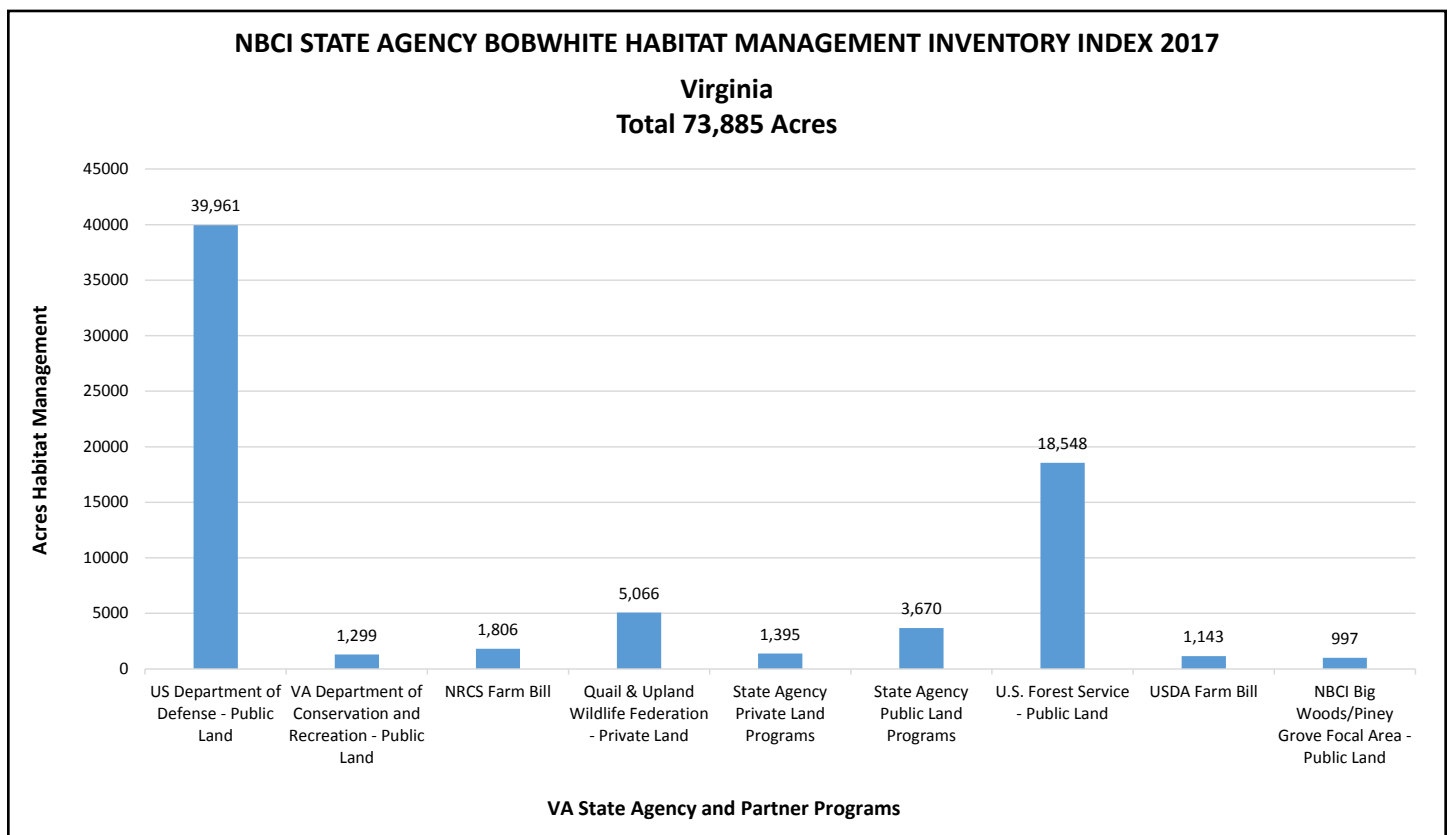
- The new RCPP builds upon OPJV’s successful Grassland Restoration Incentive Program and includes the addition of two new coordinating biologists in Texas held by Quail Forever (QF) to facilitate program delivery, co-funded by QF and TPWD.
- About 1,686,832 acres of quail habitat were developed on private lands and another 73,018 acres on public lands under the direction of state wildlife personnel.
- USDA Farm Bill habitat programs specific to quail were implemented on 412,390 acres in fiscal year 2017.
- Current bobwhite research across several conservation entities and institutions includes the following: human dimensions; evaluation of wild quail translocation; potential parasite (field trials with medicated feed) and toxin impacts; and quail genetics, dispersal, productivity, and supplemental feeding.
- Reported 12,098 acres of quail management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Robert Perez, Upland Game Bird Program Leader, [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 modest increases are underway. One hunter reported finding 97 unique coveys of quail this season. Several others reported finding in excess of 80 coveys.

*Hunting:* For the 2017-18 hunting season, 27 avid quail hunters reported on 290 hunts, a substantial decline from the previous season. This may be due to severe winter weather experienced this season. They found 325 coveys and averaged finding 1.12 coveys per hunt, with a statewide average of 2.9 hours per covey find (all down from last season). Our hunter harvest and effort survey for the 2015-16 season indicated the number of quail hunters decreased slightly from 3.7% to 3.6% of all licensed hunters. The survey indicated a total of 115,703 quail were harvested, of which 12,261 were wild quail, comparable to the 2011-12 season.



*Management:* Virginia Department of Game and Inland Fisheries (VDGIF) [Quail Recovery Initiative](#) completed eight years of implementation on June 30, 2017. The agency prepared a comprehensive report compiling their actions on behalf of bobwhites since 1980, as well as the [2017 Quail Plan Revision](#), available on the NBCI website. Quail management highlights of the first eight years included:

- 4,039 site visits made to landowners owning over 466,182 acres of land. Also, 2,472 new contacts have been made, and over 1,901 management plans have been written.
- Quail DVD, *Answering the Call*, widely distributed.
- 444 tracts of land and 430 landowners in the [Quail Management Assistance Program](#) totaling 105,309 acres enrolled, with 14,793 (14%) under some form of quail management.
- 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 eight wildlife-friendly forestry BMPs, including prescribed fire. Total projects completed to date: 152; total acres: 5,525.
- Preparing for the fifth year of June call counts and point habitat assessments per [NBCI Coordinated Implementation Program](#) (NBCI CIP) monitoring protocol for focal areas.
- Reported 73,885 acres of quail management for the NBCI Habitat Management Inventory.

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

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

*Population:* The current extent and population size of bobwhite in West Virginia is unknown. Turkey and grouse broods are tracked statewide by West Virginia Division of Natural Resources (WVDNR) Wildlife Resources employees, who are also asked to record northern bobwhites seen or heard. Each of the last four years, only two birds have made this report, with none occurring on state or federal lands. Given the location and marginal habitat at each of these sightings, it is highly likely that they were pen-reared and/or escaped/released birds, as it is legal in West Virginia to utilize bobwhite quail for dog training or shoot-to-retrieve field trials. Given the rapid decline, distribution, and type of observations between the current West Virginia Breeding Bird Atlas (unpublished) and the prior atlas ([West Virginia Breeding Bird Atlas, 1984-89](#)), it is believed that populations are extremely low and have been extirpated in the vast majority of the state. Furthermore, it is highly unlikely that wild populations exist in self-sustaining, biologically viable numbers. In the unlikely case that wild bobwhite do persist, they do so in very small, unsustainable numbers, likely in eastern counties such as Berkeley, Hampshire, or Pocahontas Counties.

*Habitat:* West Virginia is only a marginal state for bobwhite, being mostly forested and lacking the large-scale vegetation disturbances that are needed to create the brush and grasslands required to support bobwhite. According to the West Virginia Division of Forestry, West Virginia was 57% forested in the 1950s. Today, it is 78% forested, and the age composition of that forest is almost 70% saw timber, 22% pole stage, and only 8% seedling/sapling (young forest). Compounding the problem of too little young forest is that the 8% is not evenly distributed across the landscape. Where the national forests and even some state forests used to contain a diversity of age classes, purposeful reductions, if not outright elimination, of active timber management have resulted in entire regions of the state exceeding 90% forested.

*Hunting:* While northern bobwhites are considered a huntable species with a daily bag limit of three, their harvest is directly related to shoot-to-retrieve hunts, field trials, and dog training opportunities.

*Management:* West Virginia has a statewide bobwhite operational plan and state management guidelines, but they are opportunistic in nature (i.e., in conjunction with creating early successional habitat for grouse and turkey). The Tomblin Wildlife Management Area in the southern coal fields of the state has been administratively selected for a habitat enhancement and translocation project.

NBCI State Quail Coordinator: Michael Peters, Migratory Game Bird and Small Game Project Leader, [michael.l.peters@wv.gov](mailto:michael.l.peters@wv.gov)

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# NBCI State Agency Bobwhite Habitat Inventory Index

Tom Dailey | NBCI Science Coordinator

The 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 2017, 23 state agency coordinators reported 3,962,611 acres of bobwhite habitat management for 91 programs, a substantial increase in acreage over the previous 6 years of the inventory. Acronyms can be found on page 67.

## Introduction

This is the seventh annual National Bobwhite Conservation Initiative (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 2017 reporting year, but actual dates vary across states and among years.

The Inventory is divided into three 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 **Partner Private Land** (Figure 4) and **Public Land** (Figure 5) categories include programs administered by partner agencies, organizations and institutions, and are generally not featured in Figures 1-3. For the third year, most participating state agencies reported acres of habitat management on **NBCI Coordinated Implementation Program (CIP) Focal Areas** (see article on page 30).

Multiple management treatments on any one acre can be counted >1 time per year (e.g., burning, chemical treatment and planting one acre in same year equals three 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 more than

one partner. Importantly, contributions by most 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 affected by weather and other non-habitat factors, and by movement into an area, which is affected by distance from existing populations to the area (e.g., habitat fragmentation). Further, as described in detail in 2012 and 2013 *State of the Bobwhite* reports, because of variability among NBCI states and partners in ability to measure habitat, and because of recent frequent turnover in state agency quail coordinator positions, 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 seven 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. 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. In addition to the differences in states' capacity to collect data and reporting strategies (e.g., conservative or liberal inclusion of habitat management), some states were constrained in 2017 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 for most habitat categories. Per NBCI Inventory protocol, presence or potential presence (immigration or translocation) of wild bobwhite are minimum criteria for claiming habitat management for an area. Pennsylvania reported habitat management under the focal area category, based on a plan to translocate wild bobwhite to the site.

## Results

Twenty-three state agency coordinators reported 3,962,611 acres of bobwhite habitat management, 24% more than the 3.2 million acres reported last year. Management in 2017 included:

- 707,583 acres on state wildlife agency publicly owned lands (State Agency Public Land Management, Figure 1),
- 2,077,142 acres on private lands through state wildlife agency efforts (State Agency-Based Private Land Management, Figure 2),
- 765,972 acres on private lands through the USDA Farm Bill (Private Land US Department of Agriculture Farm Bill, Figure 3),
- 272,084 acres on Partner Private Lands (Figure 4),
- 107,424 acres on Partner Public Lands (Figure 5), and
- 32,406 acres on NBCI CIP Focal Areas (see article on page 30).

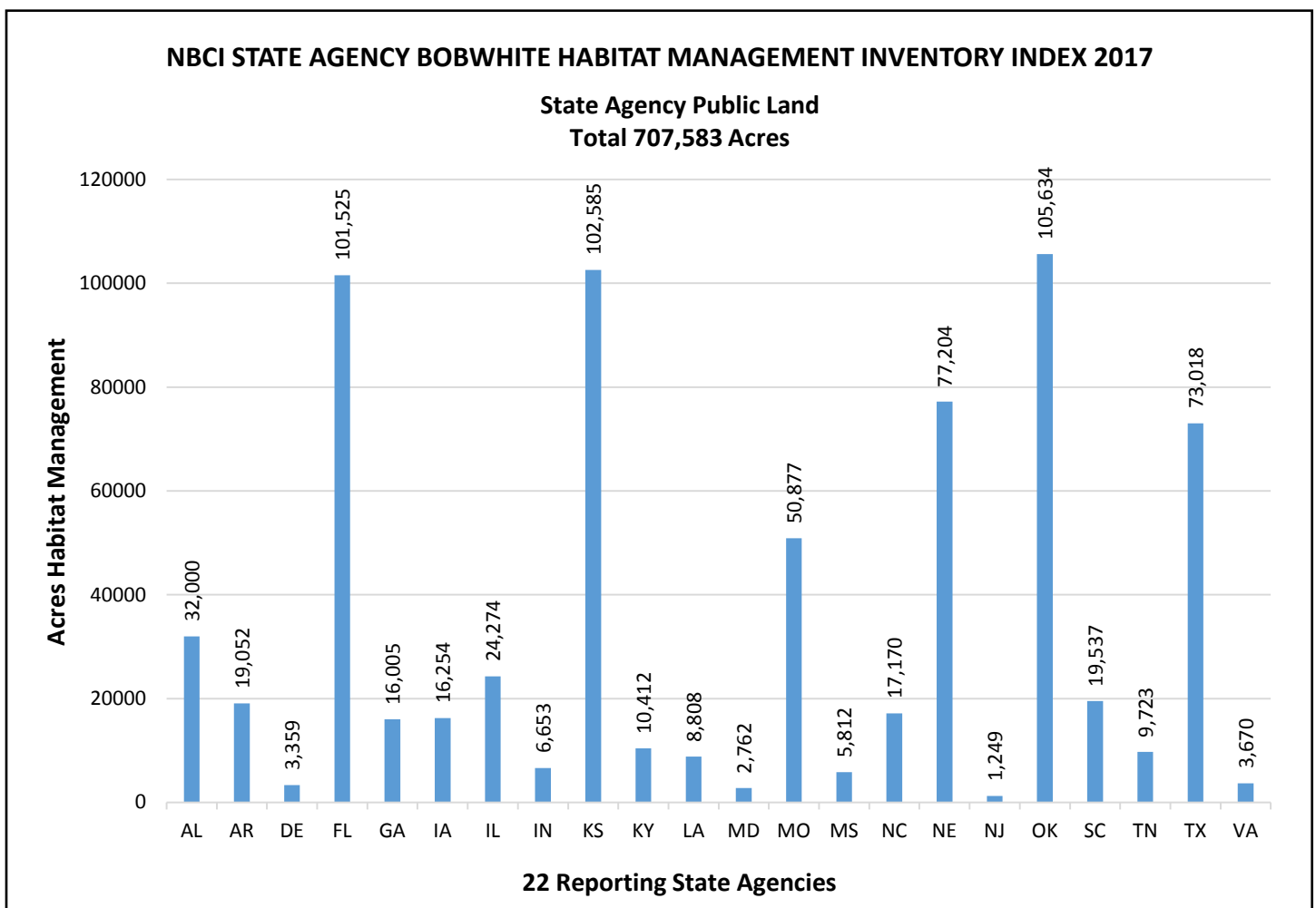


Figure 1. 2017 NBCI State Agency Bobwhite Habitat Management Index for 22 state public land programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2016, to March 29, 2018).



The “reporting year,” 2017, included dates ranging from July 1, 2016, to March 29, 2018, varying with fiscal years, accounting systems, etc. Across all land categories, acreage for the 23 reporting states was as follows:

- 47,000 acres (AL),
- 46,101 (AR),
- 3,359 (DE),
- 274,702 (FL),
- 58,787 (GA),
- 64,666 (IA),
- 58,827 (IL),
- 13,189 (IN),
- 322,499 (KS),
- 17,856 (KY),
- 29,893 (LA),
- 3,574 (MD),
- 198,286 (MO),
- 11,442 (MS),
- 32,526 (NC),
- 140,844 (NE),
- 4,304 (NJ),
- 179,568 (OK),
- 632 (PA),
- 196,333 (SC),
- 12,098 (TN),
- 2,172,240 (TX), and
- 73,885 acres (VA).

### **State Agency Public Land Management**

For 2017 management of state wildlife agency public lands, 22 state agencies reported 707,583 acres of bobwhite habitat management (Figure 1). State coordinator acreage reports (state, coordinator confidence) included the following:

- 32,000 (AL, Somewhat Confident),
- 19,052 (AR, Moderately Confident),
- 3,359 acres (DE, Moderately Confident),
- 101,525 (FL, Very Confident),
- 16,005 acres (GA, Moderately Confident),
- 16,254 acres (IA, Moderately Confident),
- 24,274 acres (IL, Moderately Uncertain),
- 6,653 acres (IN, Somewhat Confident),
- 102,585 acres (KS, Moderately Confident),
- 10,412 acres (KY, Moderately Confident),
- 8,808 acres (LA, Very Confident),
- 2,762 acres (MD, Somewhat Confident),
- 50,877 acres (MO, Moderately Confident),
- 5,812 acres (MS, Very Confident),
- 17,170 acres (NC, Somewhat Confident),
- 77,204 acres (NE, Very Confident),
- 1,249 acres (NJ, Very Confident),
- 105,634 acres (OK, Somewhat Confident),
- 19,537 acres (SC, Moderately Confident),
- 9,723 acres (TN, Moderately Confident),
- 73,018 acres (TX, Moderately Confident), and
- 3,670 acres (VA, Moderately Confident).

### **State Agency-Based Private Land Management**

For 2017 on private lands where management was based on state agency work, and not a part of the USDA Farm Bill, 20 state agencies reported 2,077,142 acres, (Figure

2). State coordinator acreage reports (state, coordinator confidence) included the following:

- 15,000 acres (AL, Neutral),
- 1,552 acres (AR, Very Confident),
- 1,444 acres (FL, Moderately Confident),
- 23,779 acres (GA, Moderately Confident),
- 18,273 acres (IA, Moderately Confident),
- 6,536 acres (IN, Moderately Confident),
- 6,451 acres (KS, Moderately Confident),
- 7,444 acres (KY, Moderately Confident),
- 7,287 acres (LA, Moderately Confident),
- 520 acres (MD, Somewhat Confident),
- 32,060 acres (MO, Moderately Confident),
- 4,000 acres (MS, Moderately Confident),
- 11,481 acres (NC, Somewhat Confident),
- 63,082 acres (NE, Very Confident),
- 585 acres (NJ, Moderately Confident),
- 62,034 acres (OK, Somewhat Confident),
- 127,187 acres (SC, Moderately Uncertain),
- 200 acres (TN, Somewhat Confident),
- 1,686,832 acres (TX, Moderately Confident), and
- 1,395 acres (VA, Moderately Confident).

### **Private Land Enrolled in US Department of Agriculture Farm Bill**

For 2017, on private lands where management was based on USDA Farm Bill programs, eight state agencies reported on 12 programs, practices and management delivered by partners, for a total 765,972 acres of bobwhite habitat management (Figure 3). State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following:

- 1,032 acres (AR, CRP, Somewhat Uncertain),
- 13,519 acres (AR, EQIP, Moderately Uncertain),
- 18,213 acres (GA, Farm Bill - State Agency Delivered, Moderately Confident),
- 28,653 acres (IA, Pheasants Forever Farm Bill Biologists, Somewhat Confident),
- 28,922 acres (IL, CRP, Moderately Confident),
- 4,100 acres (KS, CRP/CCRP, Very Confident),
- 195,063 acres (KS, EQIP, Somewhat Uncertain),
- 44,096 acres (MO, Farm Bill - State Agency Delivered, Moderately Confident),
- 17,035 acres (MO, Farm Bill - QF Delivered, Moderately Confident),
- 412,390 acres (TX, Farm Bill programs, Moderately Confident),
- 1,143 acres (VA, Farm Service Agency, Somewhat Confident), and
- 1,806 acres (VA, NRCS, Moderately Confident).





Among states, Texas and Kansas reported by far the most quail-friendly management through USDA Farm Bill programs, followed by Missouri, Illinois, Iowa, Georgia, Arkansas, and Virginia. Although general CRP acreage has declined considerably, states have worked with the USDA to increase focus on bobwhites and other wildlife in remaining practices.

### Partner Private Land

For 2017, 11 state agencies reported on 15 partner private land programs that contribute to quail management, for a total of 272,084 acres (Figure 4). This category of habitat management continues to recognize the important contributions in Legacy Landscapes (e.g., Tall Timbers Research Station and Land Conservancy) and by quail non-government organizations, such as Quail Forever and Quail and Upland Wildlife Federation. State quail coordinators are increasingly recognizing partner management, resulting in a more diverse picture of quail conservation, including programs of the USDA Farm Bill that specifically

target quail restoration, such as in South Carolina’s focus areas (Figure 4).

State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following:

- 9,295 acres (AR, Quail and Upland Wildlife Federation, Somewhat Uncertain),
- 198 acres (AR, Quail Forever, Somewhat Confident),
- 171,733 acres (FL, Tall Timbers Research Station and Land Conservancy, Very Confident),
- 5,631 acres (IL, Illinois Department of Natural Resources, ILDNR, Recreational Access, Somewhat Uncertain),
- 14,300 acres (KS, Quail and Upland Wildlife Federation, Somewhat Confident),
- 292 acres (MD, Chester River Research Station, Very Confident),
- 45,655 acres (MO, Quail and Upland Wildlife Federation, Very Uncertain),

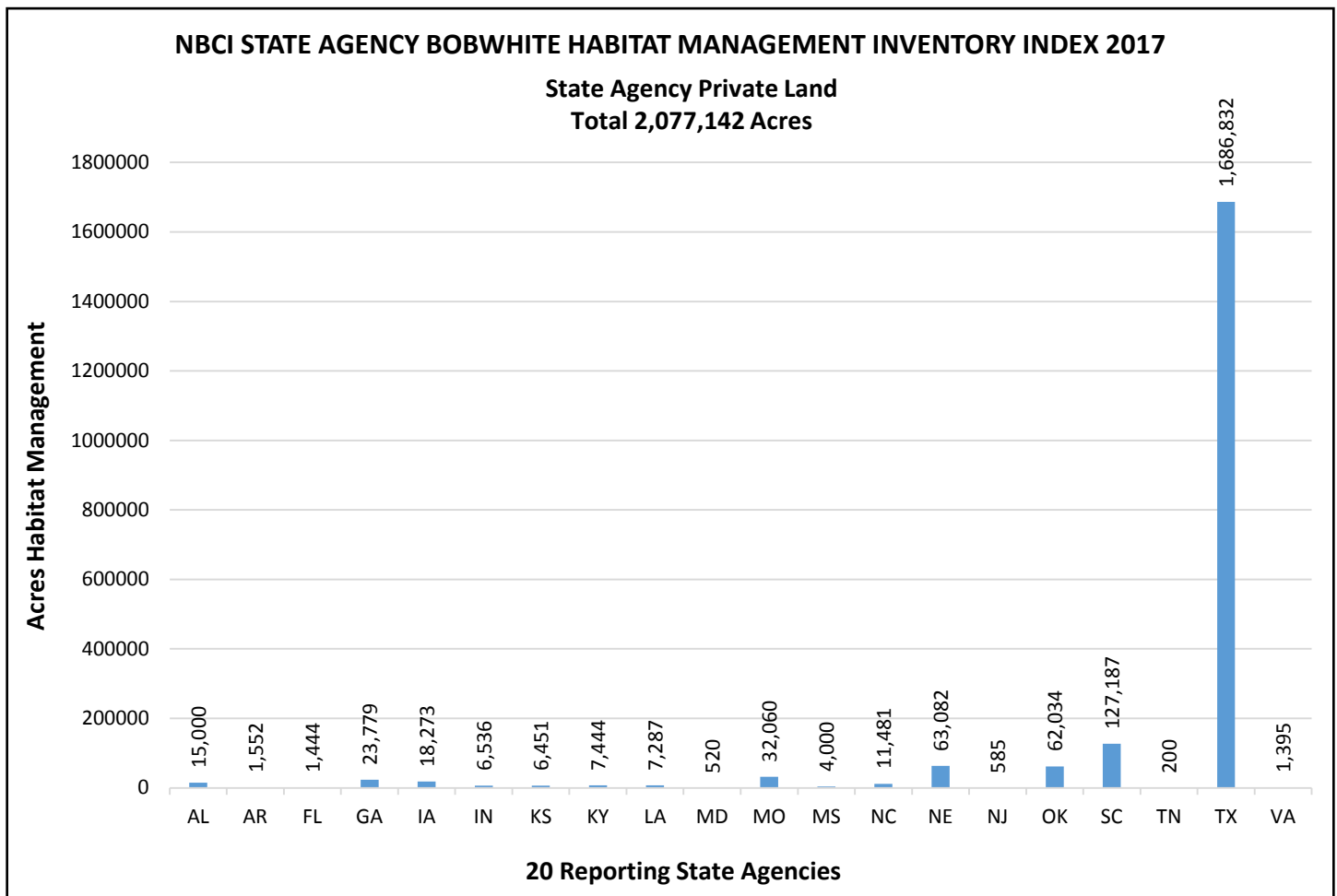


Figure 2. 2017 NBCI State Agency Bobwhite Habitat Management Index for 20 state-led private land programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2016, to March 29, 2018).



- 8,205 acres (MO, Quail Forever, Moderately Confident),
- 1,630 acres (MS, Quail and Upland Wildlife Federation, Moderately Confident),
- 3,875 acres (NC, Quail and Upland Wildlife Federation, Moderately Confident),
- 1,500 acres (NJ, New Jersey Audubon, Neutral),
- 398 acres (NJ, South Jersey Quail Project, Very Confident),
- 3,333 acres (SC, NRCS Oak Lea FA, Somewhat Confident),
- 973 acres (SC, NRCS Webb FA, Somewhat Confident), and
- 5,066 acres (VA, Quail and Upland Wildlife Federation, Somewhat Confident).

land programs that contribute to quail management, for a total of 107,424 acres (Figure 5). State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following:

- 790 acres (FL/GA, FL/GA Quail Coalition, Very Confident),
- 2,387 acres (SC, SC Parks, Recreation, and Tourism, Somewhat Confident),
- 6,533 acres (SC, USFS – Enoree District, Somewhat Confident),
- 36,106 acres (SC, USFS – Francis Marion, Somewhat Confident),
- 105 acres (TN, Bark Camp Barrens Focus Area, Very Confident),
- 1,554 acres (TN, Bridgestone/Firestone Focus Area, Very Confident),
- 141 acres (TN, Lick Creek Focus Area, Moderately

### Partner Public Land

For 2017, four state agencies reported on 10 partner public

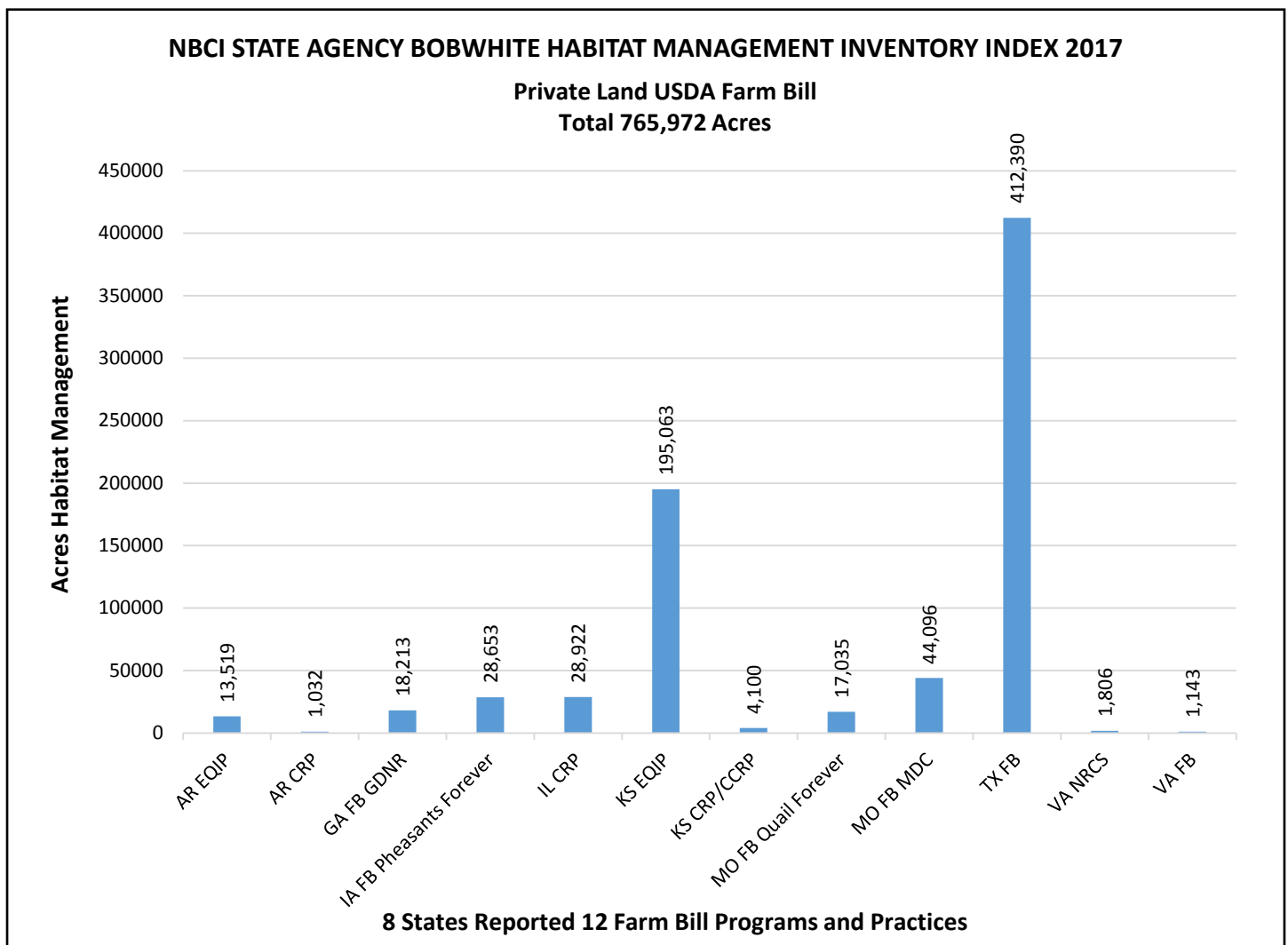


Figure 3. 2017 NBCI State Agency Bobwhite Habitat Management Index for 8 states and 12 US Department of Agriculture Farm Bill funded programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2016, to December 31, 2017).



Confident),

- 1,299 (VA, VA Department of Conservation and Recreation, Moderately Confident),
- 39,961 acres (VA, Department of Defense, Somewhat Confident), and
- 18,548 acres (VA, US Forest Service, Moderately Confident).

### Focal Areas

The Focal Area category identifies habitat management by state agencies and partners (e.g., National Park Service, USDA Farm Bill, etc.) on areas enrolled, or working toward enrollment, in the NBCI CIP. Twelve coordinators reported 32,406 acres of habitat management for 12 of the more than 20 NBCI CIP Focal Areas. NBCI CIP progress and a

habitat chart are described in feature article on page 30. For the first time, the Pennsylvania Game Commission (PGC) was eligible to report habitat management for the NBCI Inventory for Letterkenny Army Depot Bobwhite Quail Focus Area, based on the agency's plan to translocate wild bobwhites to the area in the near future. PGC and US Army staff are rapidly bringing the area up to CIP's nation-wide habitat management standards (e.g., at least 1,500 acres of habitat) to prepare for the translocation. Across all areas reported, acres of management include the following (CIP name—public or private land, acres of habitat management, coordinator confidence rating, state agency/partner):

- AR NPS Pea Ridge—public land, 1,453 acres, Moderately

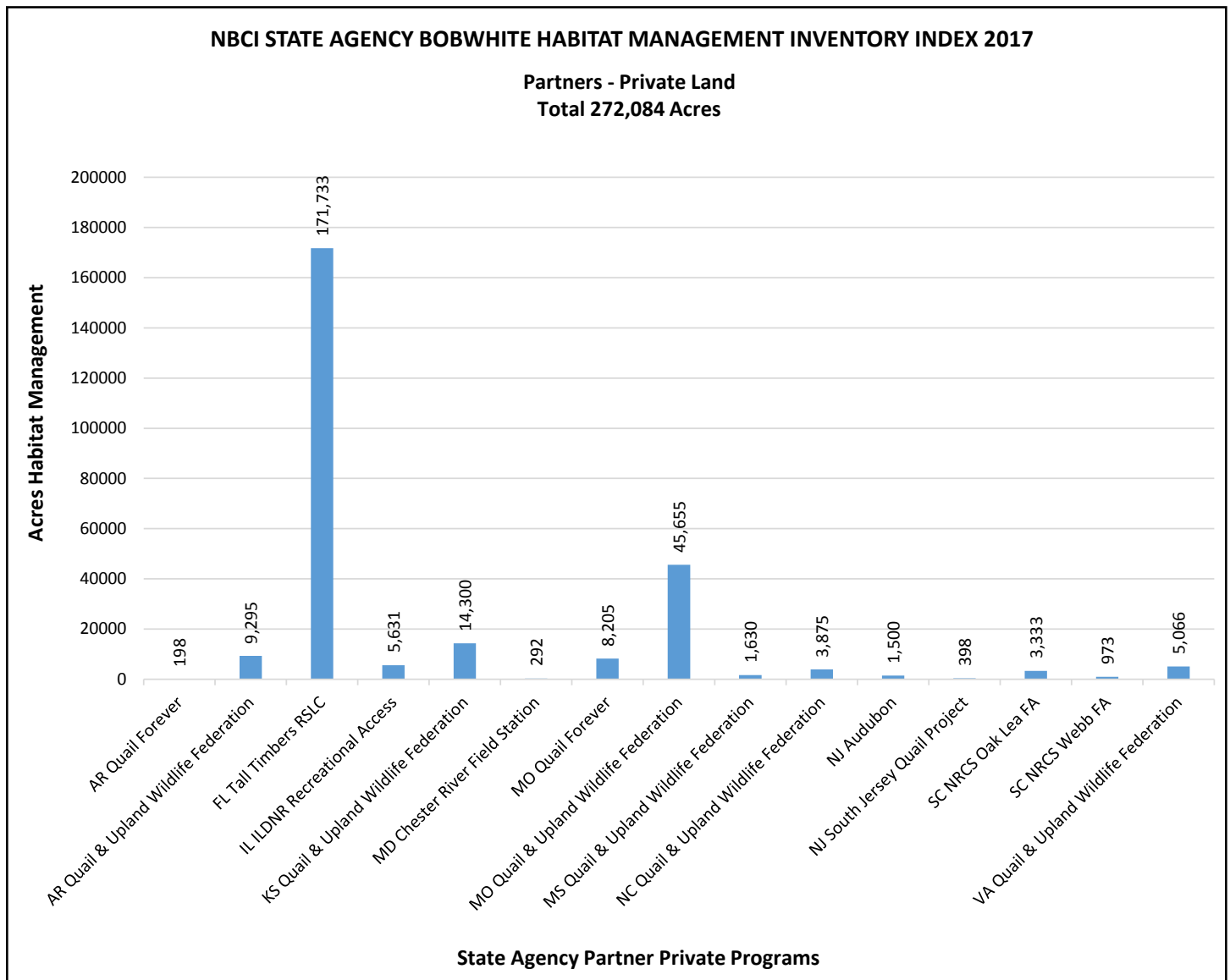


Figure 4. 2017 NBCI State Agency Bobwhite Habitat Management Index for 15 miscellaneous private land programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2016, to March 29, 2018).





- Confident, Arkansas Game and Fish Commission/Pea Ridge National Military Park—National Park Service;
- IA Ringgold—public/private lands, 1,113 acres, Very Confident, Iowa Department of Natural Resources;
- IA Shawtee—public land, 373 acres, Neutral, Iowa Department of Natural Resources;
- LA USFS Vernon, 13,798 acres, Somewhat Confident, Louisiana Department of Wildlife and Fisheries/Kisatchie National Forest, Vernon Unit—US Forest Service;
- MO 2C—private land, 358 acres, Very Confident, Missouri Department of Conservation/Quail Forever;
- NE Meridian—private land, 558 acres, Very Confident, Nebraska Game and Parks Commission;
- NJ Dix WMA—public land, 572 acres, Very Confident, New Jersey Division of Fish and Wildlife;
- OK Cross Timbers—public land, 11,900 acres, Very Confident, Oklahoma Department of Wildlife Conservation/Oaks and Prairies Joint Venture;
- PA Letterkenny Army Depot Bobwhite Quail Focus

- Area—public land, 632 acres, Somewhat Confident, Pennsylvania Game Commission;
- SC USFS Indian Creek—public land, 277 acres, Very Confident, South Carolina Department of Natural Resources/Sumter National Forest/US Forest Service;
- TN Wolf River—public land, 375 acres, Very Confident, Tennessee Wildlife Resources Agency; and
- VA Big Woods/Piney Grove—public land, 997 acres, Very Confident, Virginia Department of Game and Inland Fisheries.

**Summary**

In this seventh year of the NBCI State Agency Habitat Management Inventory, state agency participation increased, with a record number of states (23) and acreage reported. During 2011-16 reporting years, 19-22 states participated. For the 2017 reporting year, the 23 state agency coordinators reported 3,962,611 acres of bobwhite habitat management for 91 programs, a substantial

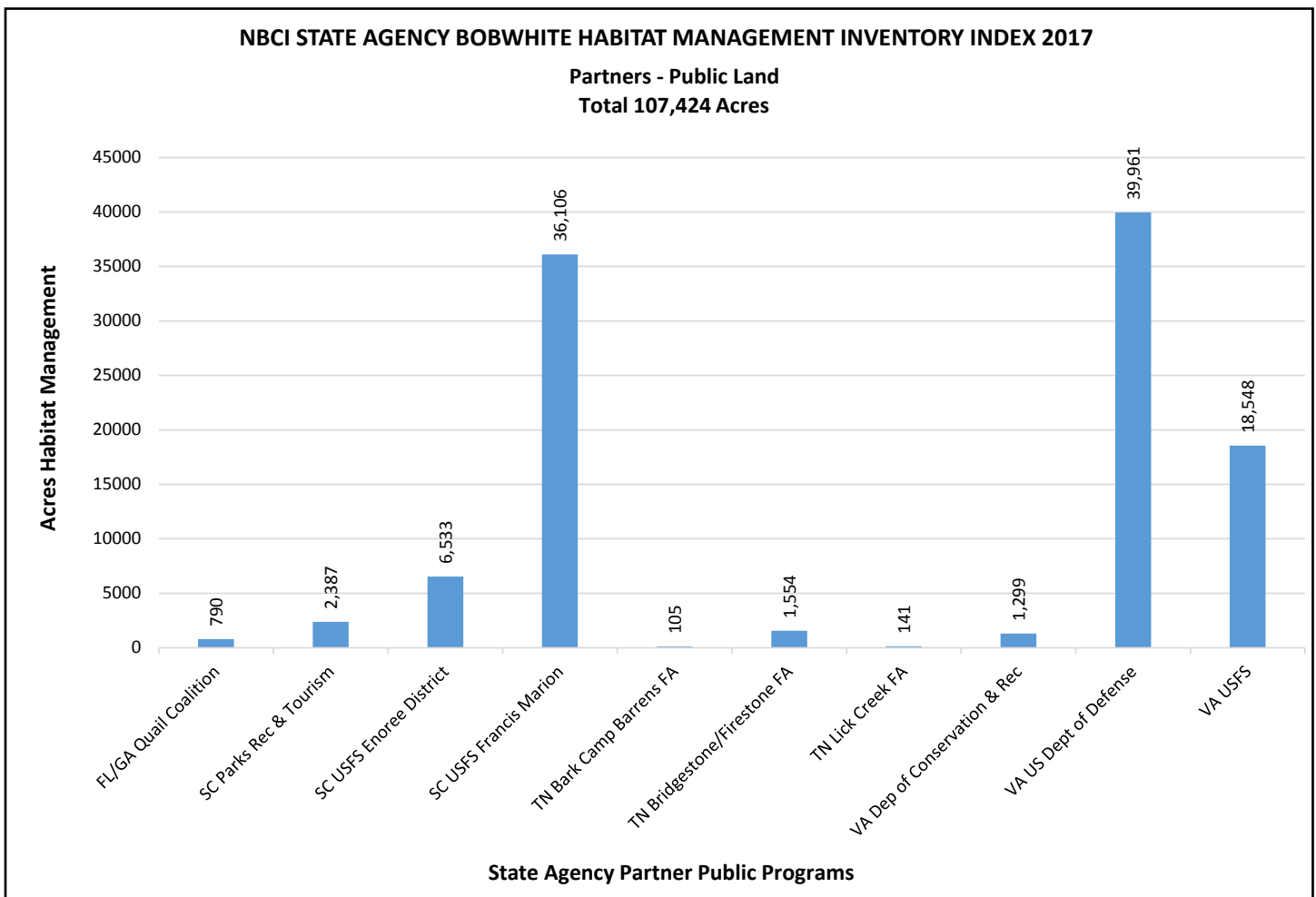


Figure 5. 2017 NBCI State Agency Bobwhite Habitat Management Index for 10 miscellaneous public and private land programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2016, to December 31, 2017).



increase in acreage over previous years (3,191,266 acres for 2016, 2,695,645 acres for 2015, etc.). Coordinators continue to recognize the many efforts by partners to put habitat on the ground, and the addition of data from Pennsylvania marks the beginning of renewed interest by state agencies in translocation of wild bobwhites.

Across the past seven 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 6. Trends in these categories have been described in previous SOTB reports, and include downward, but stabilizing, management via USDA Farm Bill programs, stability in management of Agency Public Lands, and a near doubling of management reported for the Agency Private Land category. For the State Agency-Based Private Land category, 2,077,142 acres were reported for 2017, 1,072,635 acres for 2016, 0.48 million acres for 2015, etc. This increase is attributed largely to increased capacity to report bobwhite-friendly management, deferred grazing,

in Texas.

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.

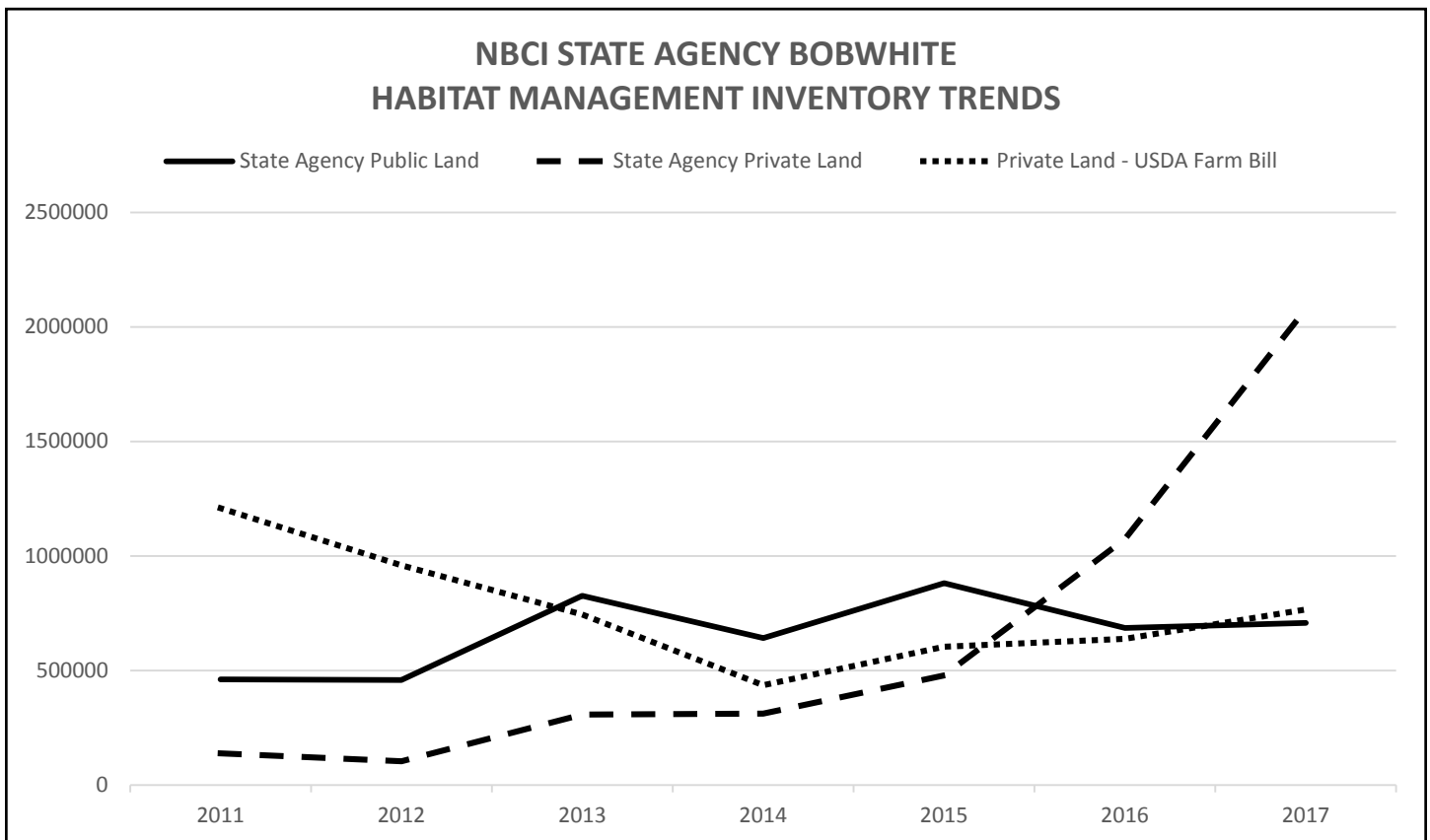


Figure 6. Trends in NBCI State Agency Bobwhite Habitat Inventory Index, 2011-17. Includes data from standardized categories identified in Figures 1-3.



# Bobwhite Hunting Report: If You Build It, They Will Come | Part II

**Tom Dailey** | *NBCI Science Coordinator*

The 2018 NBCI Hunting Inventory is redefining expectations for recovery of wild bobwhite hunting. In a departure from the traditional 5-year hunting trend summaries (2011/2012, 2016, etc.), recent annual Inventories (2017 and 2018) are intended to identify the upward trend in quail hunting resulting from increased bird populations following a few years of mild weather in the Great Plains and Midwest.

The NBCI Inventory continues to report the gross number of quail hunters, disregarding distinctions between wild and pen-raised quail that a few agencies report, thus providing an index of current potential interest in wild quail hunting. Data for the Hunting Inventory are reported by state agency quail coordinators in March based on post-season statewide surveys, usually from the previous hunting season, rarely the current year, and sometimes several years prior to the current reporting period. Most of these surveys do not collect data from classes of hunters who are not required to have a permit, for example land owners, those <16 years-of-age, and seniors.

The 2018 report (Figure 1) uses new data from the 2016-17 hunting season for 12 states (Alabama, Illinois, Iowa, Kansas, Louisiana, Maryland, Mississippi, Missouri, Nebraska, North Carolina, Oklahoma, and Texas) and data from the 2017-18 season for one state (Delaware). Some states in Figure 1 collect statewide data less frequently than annually, and Arkansas, Indiana, Pennsylvania, Tennessee, and West Virginia seldom collect statewide wild quail hunting data.

## **Results**

The number of quail hunters reported in 2018 was 259,873, and they spent 1,366,365 days in the field. Quail hunters ranged from 196 estimated in Delaware to 83,384 in Texas, with the latter representing a record high for the NBCI Inventory. Quail hunters in the four states on the western boundary of NBTC represented 76% of total NBCI-reported number of quail hunters (Nebraska: 21,789; Kansas: 62,653; Oklahoma: 29,072; and Texas: 83,384), and 78% of total NBCI-reported hunting trips (Nebraska: 144,026; Kansas: 300,441; Oklahoma: 184,316; and Texas: 430,606). As noted in previous reports, most of the hunting in these top-performing states is of wild bobwhites. Outstanding hunts also occur in states to the

east, albeit increasingly of released pen-raised bobwhites (reviewed in the 2011 report).

As previously reported in the 2011, 2012, and 2016 Bobwhite Hunting Reports, quail hunting was on a long-term downward trend associated with dwindling habitat and declining wild bobwhite populations. Following several years of regional drought, rain, and snow up to 2012, both the 2016 State Conservation Reports and Bobwhite Hunting Report recorded the worst cases, low quail populations, and subsequently record low numbers of hunters in several states.

The initial recovery of bobwhite populations and hunting as a result of mild weather was reported in 2017 (Figure 1), and the recovery continued markedly in the 2016-17 hunting seasons in the Midwest and Great Plains states of Iowa, Kansas, Missouri, Nebraska, Oklahoma, and Texas. Compared to the low numbers of quail hunters reported in 2016, number of hunters reported in 2018 is up 106% for Texas, 87% for Nebraska, 53% for Iowa, 40% for Oklahoma, and 21% for Missouri.

A common question is *How many quail hunters are there in the 25 NBCI states?* This was estimated as 357,542, 249,846, and 255,927, in 2011, 2016, and 2017, respectively. Using data reported sporadically for the past five years (i.e., assuming steady state in hunter numbers for Florida, Georgia, New Jersey, Ohio, and South Carolina), and continuing to use zero for the past five years for hunting activity for the NBCI Inventory for Arkansas, Indiana, Kentucky, Pennsylvania, and West Virginia, NBCI conservatively estimates there are 302,364 bobwhite hunters, and that they spend about 1.5 million days in the field each hunting season. The estimate is conservative because of lack of data for several states and classes of hunters (land owners, youth, seniors, etc.).

## **Discussion**

The NBCI Hunting Inventory has set a new standard for what we can expect for the recovery of wild bobwhite hunting, and the 2018 reported hunting levels might be the peak. Final annual state hunting survey results are just being published, but reports and news during 2017-18 have been less optimistic for both quail populations and hunting success (e.g. Texas Parks and Wildlife 2017 hunting





season forecast, Oklahoma 2018 news release on poor hunting season weather, Quail Forever blog on summer bobwhite prospects).

The 2016-2018 hunting recovery occurred across a wide variety of private and public lands, on a foundation of habitat and subsequent quail response, and was aided by hunting access programs (e.g., in Iowa, Kansas, Missouri, Nebraska, and Oklahoma) and special opportunities for youth and women (e.g., Kansas and Missouri youth seasons, women-focused bird-hunting programs by many state agencies, Quail Forever youth programs, etc.). Similarly, NBCI has been working with the Resident Game Bird Working Group of the Association of Fish and Wildlife Agencies on specific steps to protect and enhance the future of bobwhite hunting. A key step is understanding quail hunting as a recreational activity. The latest published data on desires of quail hunters, economics, etc., were covered in the 2012 *State of the Bobwhite*, with a few good pieces of data for Florida, Georgia, and Texas, vague federal data (lumps pheasants, grouse, and quail), and decades-old data for the southeast region. The *Eighth National Quail Symposium Proceedings* included five studies published on hunting efficiency with recommendations for attracting hunters (see [www.quailcount.org](http://www.quailcount.org)). Developing plans for maintaining or increasing bobwhite hunting as a recreational activity will require more comprehensive study of former, current, and potential quail hunters.

Although programs and research about hunting per se are beneficial, continuation of quail hunting as a robust recreational activity is dependent on habitat, and the states identified with the current hunting recovery have much potential, as indicated by their NBCI 2.0 Biologist Ranking Index, an estimate of the potential for bobwhite recovery. The potential number of coveys that could be added to the population based on habitat management are about 800,000 coveys each for Kansas and Texas (34% of all estimates for NBTC states), about 400,000 coveys each for Missouri and Oklahoma, and about 160,000 coveys each for Iowa and Nebraska. All NBTC states show considerable potential for recovery per NBCI 2.0, a total of 4.6 million coveys added to the landscape. Maintenance of habitat and quail at levels that support *any* wild quail hunting is important in the eastern US. In the short-term, across the NBTC range, quail habitat, populations, and hunting prescriptions are being demonstrated on NBCI Coordinated Implementation Program areas (page 30).

Regardless of uncertainty about future participation in quail hunting, with an estimated 1.5 million days afield, the sport continues to be extremely valuable to our culture and economy, and the remaining hunters and their bird dogs are enjoying success in the field.

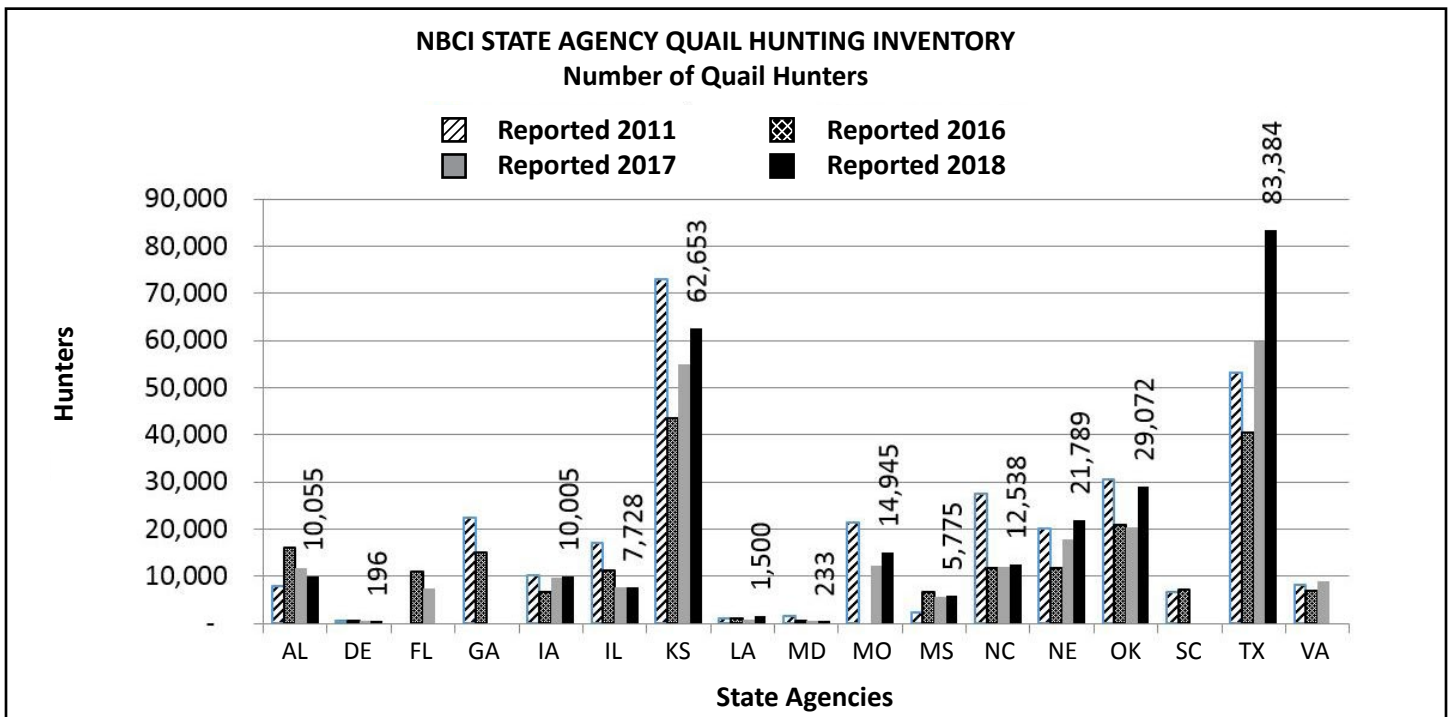


Figure 1. Estimated number of quail hunters reported by state agency quail coordinators for NBCI Inventory in 2011, 2016-18.



## NBCI State Agencies

- Alabama Department of Conservation and Natural Resources (ADCNR)
- Arkansas Game and Fish Commission (AGFC)
- Delaware Division of Fish and Wildlife (DFW)
- Florida Fish and Wildlife Conservation Commission (FWC)
- Georgia Department of Natural Resources (GADNR)
- Illinois Department of Natural Resources (IDNR)
- Indiana Division of Fish and Wildlife (IDWF)
- Iowa Department of Natural Resources (IDNR)
- Kansas Department of Wildlife, Parks, and Tourism (KDWPT)
- Kentucky Department of Fish and Wildlife Resources (KDWFR)
- Louisiana Department of Wildlife and Fisheries (LDWF)
- Maryland Department of Natural Resources (MDNR)
- Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)
- Missouri Department of Conservation (MDC)
- Nebraska Game and Parks Commission (NGPC)
- New Jersey Division of Fish and Wildlife (NJDFW)
- North Carolina Wildlife Resources Commission (NCWRC)
- Ohio Department of Natural Resources (ODNR)
- Oklahoma Department of Wildlife Conservation (ODWC)
- Pennsylvania Game Commission (PGC)
- South Carolina Department of Natural Resources (SCDNR)
- Tennessee Wildlife Resources Agency (TWRA)
- Texas Parks and Wildlife Department (TPWD)
- Virginia Department of Game and Inland Fisheries (VDGIF)
- West Virginia Division of Natural Resources (WVDNR)

## Acronyms

- ALPFC – Alabama Prescribed Fire Council
- BBS – USGS North American Breeding Bird Survey
- BMP – Best Management Practices
- BQFA – Bobwhite Quail Focus Areas
- BQI – Bobwhite Quail Initiative
- CIP – Coordinated Implementation Plan (NBCI CIP)
- CNF – Conecuh National Forest
- CP – Conservation Practice (as used in the Conservation Reserve Program)
- CP-33 – Habitat Buffers for Upland Birds
- CP-38 – State Acres for Wildlife Enhancement, SAFE
- CP-42 – Pollinator Habitat
- CCRP – Continuous Conservation Reserve Program
- CLAP – Collaborative Landowner Assistance Program
- CNGM – Center for Native Grasslands Management
- CRP – Conservation Reserve Program
- CS – Cost share
- DNR – Department of Natural Resources
- ESH – Early Successional Habitat
- FB – Farm Bill (CCRP, CRP, EQIP, GRP, etc.)
- FFA – Future Farmers of America
- FSA – Farm Service Agency
- FWA – Fish and Wildlife Area
- EQIP – Environmental Quality Incentives Program
- FSA – Farm Service Agency
- GRIP – Grassland Restoration Incentive Program
- JQC – Joint Quail Conference
- KNF – Kisatchie National Forest
- LEAD – Letterkenny Army Depot
- MOU – Memorandum of Understanding
- NBCI – National Bobwhite Conservation Initiative
- NBTC – National Bobwhite Technical Committee
- NFWF – National Fish and Wildlife Foundation
- NGO – Non-Governmental Organization
- NPS – National Park Service
- NRCS – Natural Resources Conservation Service
- OPJV – Oaks and Prairie Joint Venture
- OSU – Oklahoma State University
- P-R – Pittman-Robertson
- PCQ – Park Cities Quail
- PF – Pheasants Forever
- PLP – Private Lands Program
- PSU – Pennsylvania State University
- QF – Quail Forever
- QRL – Quail Restoration Landscape
- RCPP – Regional Conservation Partnership Program
- RS – Research Station
- SAFE – State Acres for Wildlife Enhancement, CP-38
- SCBI – South Carolina Bobwhite Initiative
- SCBFP – South Carolina Bobwhite Funding Partnership
- SE – Standard Error
- SWAP – State Wildlife Action Planning
- TTRS – Tall Timbers Research Station and Land Conservancy
- UDEL – University of Delaware
- UERP – Upland Ecosystem Restoration Project
- USFS – United States Forest Service
- USFWS – United States Fish and Wildlife Service
- USDA – United States Department of Agriculture
- USGS – United States Geological Survey
- UT – University of Tennessee
- UTIA – University of Tennessee Institute of Agriculture
- VWL – Virginia Working Landscapes
- WA – Wildlife Area
- WLFW – Working Lands For Wildlife
- WMA – Wildlife Management Area
- WRD – Wildlife Resources Division
- WSWF – Wildlife and Sport Fish Restoration





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