

NBCI's

Bobwhite Almanac

State of the Bobwhite 2021





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Roundstone Native Seed is proud to be a part of NBCI's 2021 Bobwhite Almanac. It is our passion, our drive, and our mission to make a positive difference in the natural landscape by working alongside wildlife habitat conservationists. We are grateful that seeds we gather and produce grow into beneficial habitat for the northern bobwhite.

John L. Seymour

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www.bringbackbobwhites.org



NBCI'S BOBWHITE ALMANAC/STATE OF THE BOBWHITE REPORT is an annual publication of the National Bobwhite Conservation Initiative (NBCI) to provide a range-wide snapshot of population, hunting, and conservation status of the northern bobwhite (*Colinus virginianus*) as well as a sampling of 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, Clemson University, Park Cities Quail, Roundstone Native Seed, and the Joe Crafton Family Endowment for Quail Restoration.

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Introduction

A Historic Year



John Morgan

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The year 2020 will forever live in infamy. A global pandemic changed the world as we knew it. Phrases like “social distancing” and “virtual meeting” became commonplace. Kids schooled remotely, masks on every face, professional sports played in empty arenas, and homes turned into workplaces became the “new normal.” In many ways, a preferably forgettable year, but we all recognize assuredly, it will not be the case.

The NBCI’s venture through this minefield of social and financial struggle was no less daunting and similarly memorable. Still reeling from the simultaneous loss of three veteran leaders in Don McKenzie, Tom Daily, and Tom Franklin, findings from an Office of the Inspector General audit of the US Fish and Wildlife Service’s (USFWS) programmatic investment in the NBCI generated new challenges. Those findings created expanded strife with the NBCI’s home at the University of Tennessee. Immediate administrative changes were required, and the temporary administrative solution was divisive. The outcome resulted in a complete administrative change mid-fiscal year. The difficult decision to search for a new home was made and acted upon. A critical assessment of the NBCI from the Management Board was well underway, and a new business model crafted for consideration. Through it all, the NBCI continued to work in close concert with the USFWS for nationally significant changes in Pittman-Robertson (PR) Fund administration to help support multi-state conservation collaboratives of all kinds.

Any one of those major activities would be considered “a handful” in a given year. The NBCI partnership dealt with them all in the middle of a global pandemic. As the world emerges from grips of COVID-19, so does the NBCI. Beat and battered? Yes. Stronger for it? Absolutely! The NBCI Management Board and Steering Committee rose to the occasion. Challenges confronted, discussed, and paths forward set in motion. Our first-ever, special-called NBCI Management Board Meeting was represented by 23 states in mid-February. It signified the most inclusive meeting in our history, and it began the transition to our new home at Clemson University.

We emerged from the dark days of this past year like our iconic firebird. Exploding from our protective cover, boldly moving in a new direction... together. Our venture from the comfort of our “home” into the unknown was fraught with peril, yet ripe with opportunity. We have embraced new prospects. NBCI formalized an overdue partnership with the Monarch Joint Venture (MJV). Bobwhite and monarchs are simply a perfect pair. Each are iconic species requiring native grassland habitats with diverse forb communities. They share a range-wide monitoring and coordination vision laser-focused on habitat, especially within the agricultural arena. We’ve kicked off our partnership by overlapping monitoring efforts on Pea Ridge National Bobwhite Focus Area. Promptly thereafter, a team of five states (Missouri, Delaware, Iowa, Pennsylvania, and Tennessee) coalesced with the NBCI, University of Georgia, and MJV to construct our first-ever Competitive State Wildlife Grant proposal. The \$1.33 million project was focused on habitat develop on NBCI Coordinated Implementation Program (CIP) lands collecting bird, habitat, and monarch data. The foray includes our inaugural effort to truly be adaptive in our management and assess multi-species benefits of habitat management.

NBCI continued its quest to land grants to support the mission. We submitted two Multi-state PR grants with partners. First, we proposed a national grassland initiative effort in partnership with the Quail Coalition. Our aim was to use a new NBCI policy coordinator, with support of NBCI staff, to host a national grassland consortium of initiatives. This would build on the grassland gap analysis recently completed under a prior grant team. Through this effort, we believe we can collectively elevate grassland conservation, develop immediate synergy, create a seamless grassland prioritization map, and provide stronger coalitions to advance our policy needs such as expanded use of native plants in the Farm Bill. Our second grant builds on our work with DJ Case submitted in partnership with the Quail and Upland Game Alliance. The



project seeks funding to further the marketing efforts toward using native grasses as forage. Finally, a Park Cities Quail grant was submitted to re-fill our vitally important policy coordinator position.

Our technical committee efforts are alive and well. Two new ad hoc committees were established. The Working Lands for Wildlife (WLFW) ad hoc was formed to help enable states to capitalize on the expanded implementation of bobwhite conservation through the Natural Resources Conservation Service (NRCS). Quail Forever and NBCI staff are working together to generate meaningful guidance for the state wildlife agencies as they work with NRCS state offices—exactly what our team is designed to do! A new Translocation ad hoc, led by Pennsylvania’s Ken Duren with strong support from Tall Timbers Research Station, continues the partnership’s work to improve and ultimately perfect bobwhite translocation. One of the key goals of this team is to help manage and guarantee the success of the imminent 2023 translocation effort to Letterkenny Army Depot Bobwhite Quail Focus Area.

The ad hoc’s parent subcommittees have continued their hard work within a virtual framework. An exciting new grazing publication outlining best grazing practices for grassland birds in eastern pastures was completed via the Grasslands subcommittee. It is a perfect companion product to shepherd the roll out of WLFW. New leadership in the communications arena has already produced a NBCI story-board, and they are beginning an emphasis on improving our internal communications. Our science crew is well into preparations for the Quail IX National Symposium. Just like habitat management, the work never stops!

As we reflect on this historic year, there is much to be thankful. We have endured and persevered. We have sheltered in place but creatively carried on. The challenges have tested our resolve, our bonds and values, and our strength. Progress was made and bold new directions embraced. We absolutely have much more to do, because our covey remains a bit scattered. The comeback calls are starting; the conversations continue while individual reunions reestablish shared purpose. A new home and decision on a business model await. The covey will pull together, once more, choose the path, and continue our fight!

THE TIME IS NOW FOR A BOLD NEW

NATIONAL POLICY ON GRASSLANDS

A new North American Grasslands Conservation Act would kickstart the voluntary protection and restoration of America’s grasslands – and the livelihoods and wildlife that depend on them.

Visit www.ActForGrasslands.org to learn more or to get involved.

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Quail Tracks

Brief but Important Snapshots of Quail Activity in NBCI's Partner States

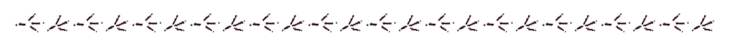
ALABAMA | The Alabama Division of Wildlife and Freshwater Fisheries (ADWFF) continues efforts to increase suitable habitat for bobwhites across the state. Quail-focused habitat enhancements have been implemented on several wildlife management areas (WMAs) with plans to expand these efforts to most state WMAs. ADWFF and the US Forest Service (USFS) continue to monitor the Boggy Hollow WMA, an NBCI Coordinated Implementation Program focal area. Management during the past year included timber thinning and prescribed burning with efforts to reduce burn block size. ADWFF and USFS also continue to implement quail habitat enhancements on Choccolocco WMA in the Talladega National Forest. Additionally, as part of a longstanding partnership with cooperating agencies, ADWFF continues to provide technical assistance to private landowners for creation and improvement of quail habitat throughout the state.



ARKANSAS | Sales of Arkansas' quail conservation stamp have generated \$65,574 over the last two years. Revenue from these stamp sales was used to fund 580 acres of habitat restoration projects on two quail emphasis areas: Fort Chaffee and Harold Alexander Wildlife Management Areas (WMA). The North Arkansas Quail Focal Landscape Regional Conservation Partnership Program Project funded \$161,589 of additional contracts that will improve 642 acres of habitat on private lands within two miles of Harold Alexander WMA and Pea Ridge National Military Park, two of seven focal areas in the state. A partnership with Quail Forever was expanded to hire a five-member habitat specialist crew to conduct prescribed burning, spraying, and forest stand improvement in the Ozarks, Ouachitas, and Arkansas River Valley. This crew will have all the equipment needed to function as a self-sufficient, full-time burn crew, with the priority of restoring habitat on private lands. A native grazing demonstration program was initiated this year in which producers will be incentivized to convert existing introduced forages to native vegetation and allowed to graze once established. So far, one producer has signed up and has begun to site prep his 75 acres.



DELAWARE | Cedar Swamp Wildlife Area (WA) in New Castle County was officially designated as Delaware's first NBCI Coordinated Implementation Program focal area in 2016, and Ted Harvey Conservation Area in Kent County has been designated as the accompanying reference area. Since the designations, the Delaware Division of Fish and Wildlife (DFW) has conducted spring breeding bird and fall covey count surveys. Additionally, DFW staff conducted habitat surveys at both areas in 2016 and 2020. The 2021 spring whistle call counts mark the beginning of the sixth year of data collection for Delaware. Habitat restoration efforts at Cedar Swamp WA began in fall 2016 and have continued through 2021. Management practices included: prescribed burns, edge feathering, and the removal of hundreds of acres of agricultural lands and conversion to native forb/grass mixes. DFW staff continues to reduce the amount of agricultural lands on its public areas and restore them to early successional habitat. They have concluded collecting data for the spring survey period and plan to conduct fall surveys beginning in October.



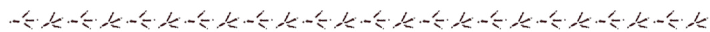
FLORIDA | Despite all the uncertainty of the past year, Florida Fish and Wildlife Conservation Commission (FWC) private lands biologists and USDA Natural Resources Conservation Service provided technical and cost share opportunities to create or enhance approximately 38,271 acres of bobwhite habitat on private lands throughout the state. Moreover, against steady headwinds (numerous tropical systems and Covid-19), FWC and its partners (Florida Forest Service, Florida Park Service, National Forests in Florida, and Tall Timbers Research Station) continued to implement on-the-ground management beneficial to bobwhites and other fire-dependent species on public lands. The final year of field work on our cooperative research project between FWC, University of Georgia, Tall Timbers Research Station, and the National Forests in Florida was completed, which evaluated bobwhite movement, habitat use, and site fidelity in relation to food availability and cover on the Apalachicola National Forest. Information gained will help identify potential limitations of certain management practices on



public lands, which, in turn, will more quickly inform and refine future management decisions.



GEORGIA | Georgia continues to see good reproduction and overwinter survival. If the summer weather cooperates, we are in good position for another great year for bobwhites in 2021. Bobwhite numbers continue to increase across the state. The Georgia Department of Natural Resources continues to work with Quail Forever (QF) chapters to improve quail habitat on public land through QF Chapter donations. QF has three partner biologists that have been a great asset to our private lands program. These biologists managed to continue assisting private landowners through the COVID crisis and impacted more acres in 2020 than in 2019. 2020 also saw an increase in the number of areas across the state that were monitored for bobwhites and other upland birds (totaling 29, up from 9 in 2019). We were also able to add two additional properties to our fall covey surveys. The Red Hills Chapter of QF sponsored Biscuits and Bobs to help encourage volunteers for some of our fall covey counts. State quail coordinator Dallas Ingram provided training for volunteers, and the chapter provided biscuits and t-shirts on the day of the count.



ILLINOIS | Southern Illinois University-Carbondale finished the second year of a project assessing habitat and population dynamics and their effect on bobwhite populations in Illinois. This Pittman-Robertson-funded project is intended to help facilitate the monitoring and vegetation surveys for an Illinois bobwhite focus area. Illinois designated their first NBCI Coordinated Implementation Program focal area at the state-owned Burning Star Mines outside of DeSoto, and an Illinois Department of Natural Resources habitat team is being established to conduct management on the area in the near future. In the meantime, habitat management for invasive species and native grass/forbs conversions have begun through the Habitat Stamp Fund.



INDIANA | Indiana continues to monitor the Goose Pond Focal Area and associated reference area as part of the NBCI Coordinated Implementation Program. However, the Small Game Biologist is currently coordinating with Private Lands Biologists, planning landowner surveys, and performing spatial analyses to determine a new location for the Indiana Focal Area. Last year, Indiana Division of

Fish and Wildlife and the University of Georgia began a four-year study on the effects of bobwhite harvest and effort on population growth and abundance. During the 2020-21 hunting season at Goose Pond Fish and Wildlife Area, survival researchers monitored radio-marked bobwhites and detected a declining negative trend in bobwhite survival, as predicted. Additionally, a significant increase in mortality rate occurred during a period of heavy snow accumulation. During that time, field researchers found radio-collared bobwhites that presumably succumbed to hypothermia, demonstrating the importance of thermal cover to bobwhite winter survival. Also of note, crippling loss during the 2020-21 hunting season resulted in an additional 9% of the total estimated quail population being harvested. Another project using song-meters to monitor eight target species of grassland birds across Indiana private land conservation enrollments just completed its first field season, and data are currently being processed.



IOWA | Autonomous Recording Units (ARUs) are battery-operated sound capture devices that can be placed on habitat management areas to monitor bird calls. They are very similar to a trail camera but record sound rather than a picture. IDNR and Iowa State University have been placing ARUs on focal areas to compare what they detect with what human observers hear. The good news is that human observers and ARUs detected most calling coveys at survey points. However, human observers can determine the direction of a call and whether it is the same covey or a different one, and ARUs cannot. This is important for calculating density (birds per acre). So ARUs can readily tell researchers if quail are present on an area, but they cannot provide density.



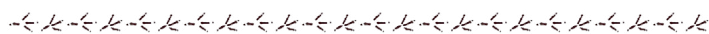
KANSAS | This is the first year in the newly formed Great Plains Grassland Initiative under the NRCS Working Lands for Wildlife program that spans all states of the great plains. This initiative moves away from the traditional single species focus model towards conserving the grassland ecosystem and all species that rely on it. This effort in Kansas is targeting the removal of invasive woody species within the native grasslands of the state. To qualify, participants are required to remove all invasive trees within the grassland unit, conduct a follow-up prescribed burn, and monitor for invasives for a three-year period (the goal of which is to remove the source of reinvasion). The program identified portions of the Flint Hills, Smoky Hills,



and Red Hills as priority areas. NRCS was able to utilize a new continuous sign up for this project. Projects that fall within a priority area and agree to employ removal, fire, and monitoring will receive automatic approval until funds are expended. Initially, 3 million dollars were set aside for this project, which was expended within weeks of program initiation. Kansas is looking to expand this funding utilizing the existing EQIP wildlife funds.



KENTUCKY | The Kentucky Department of Fish and Wildlife Resources (KDFWR) continues to collect monitoring data on three NBCI Quail Focus Areas in the western part of the state. In the central and southern parts of the state, efforts are on-going on two division focus areas on production lands. NBCI/DJ Case advertising in the form of billboards, farm signs, and other media continue to be utilized in both focal areas. The University of Tennessee research project on Bluegrass Army Depot is also ongoing. Goals of the research are to determine quail use in a matrix of cool-season and native warm-season grass grazing systems. The division has also hired a new Program Coordinator for private lands, investing more in Kentucky’s private lands efforts for wildlife.



LOUISIANA | With the help of NBCI, Louisiana Department of Wildlife and Fisheries (LDWF) and the United States Forest Service have agreed to develop and monitor a quail focal area in the Kisatchie National Forest (KNF) in western Louisiana. Although this area has been an emphasis area for quail since 2010, the area has been expanded and established as an official NBCI 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 continued 2018-20 and is currently ongoing for 2021, as well as several prescribed habitat treatments. Nearly the entire KNF-Vernon Quail Emphasis Area was impacted by Hurricane Laura in 2020, and much of the area suffered intense storm damage. Timber salvage and habitat restoration efforts are still ongoing throughout the area.

Extensive habitat work for bobwhites also continues on Sandy Hollow Wildlife Management Area (WMA), a 4,000-acre WMA in southeast Louisiana. Many management activities have been implemented in the past five years to improve habitat, including prescribed burns, timber harvests, and herbicide treatments. This year, approximately 2,500 acres were enhanced with prescribed fire. There are also plans in place to enhance habitat by

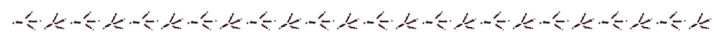
treating approximately 1,000 acres with different methods of timber harvest over the next five years. With the help of the Atchafalaya Region Chapter of Quail Forever, there has also been initiation of a project to enhance the fallow field habitat found on Sandy Hollow. Collectively, these efforts should continue to improve the bobwhite populations on the WMA as indicated by the surveys conducted each year.



MARYLAND | Bobwhite populations continue to thrive in the area surrounding Nanticoke River WMA in Wicomico County. Monitoring data show that few, if any, quail were present on the WMA from 2005-10, but populations have increased significantly in the last decade following targeted habitat work that included native grass establishment, hedgerow restoration, shrub plantings, and prescribed burning. The recent thinning and burning of previously closed-canopy forest has resulted in a sizable addition of high-quality habitat and further bolstered quail numbers. Nearby private landowners, encouraged by recent sightings, have enrolled a significant number of acres in EQIP and CRP, securing even more vital bobwhite habitat for the future.



MISSISSIPPI | Although the COVID-19 pandemic presented many obstacles last year, the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) was nonetheless able to implement many quail-friendly habitat management activities on Wildlife Management Areas (WMAs). Private lands technical guidance continued to be provided as requested with health precautions observed. MDWFP cooperated with DeSoto National Forest (DeSoto Ranger District), The Longleaf Alliance, University of West Florida, and Camp Shelby Environmental to implement the new Leaf River Focal Area located within Leaf River WMA. The Leaf River Focal Area is enrolled in NBCI’s Coordinated Implementation Program. MDWFP is also supporting multiple cooperative research projects with Mississippi State University that have quail habitat and population management implications.

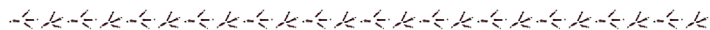


MISSOURI | The Missouri Department of Conservation (MDC) and collaborating partners received two new Regional Conservation Partnership Program (RCPP) awards totaling over \$2.3 million. The first project, Precision Farm Data and Strategic Buffer Placement, will utilize agriculture precision software to target unprofitable cropland acres for the establishment of high-diversity herbaceous



buffers. MDC will monitor quail populations via October covey counts and will utilize the NBCI Coordinated Implementation Program monitoring criteria. Additional monitoring will also assess pollinator populations and nectar stems within the established buffers. The goal of the second project, the Sand Prairie Restoration Program (SPRP), is to restore, manage, and permanently protect 500 acres of sand prairie habitats in southeast Missouri through USDA-held easements. Acquisition of USDA-held perpetual easements will protect a Critically Endangered native community, providing essential habitat for bobwhite and multiple threatened and endangered species.

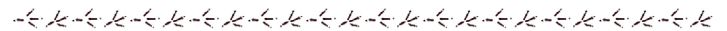
To reach ag producers who would not normally reach out to a fish and wildlife agency for support, the Department has teamed up with several agriculture organizations to advance the use of precision agriculture to identify unprofitable acres in a field. MFA, the largest farmer cooperative in Missouri, and the Missouri Corn and Soybean Associations are working with MDC to promote pollinator buffers on these unprofitable acres and are exploring the concept of ecosystem credit trading to reward producers for creating habitat. MDC is also working with University of Missouri Extension Livestock Specialists to conduct native warm-season grass grazing workshops and demonstrations, which have received very positive feedback so far.



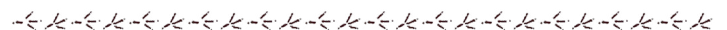
NEBRASKA | The capacity to implement prescribed fire in Nebraska has grown substantially over the past decade, which is good news for bobwhites. Prescribed fire helps control a number of woody plant species (most notably eastern redcedar) that are rapidly invading many of our remaining grasslands. Nebraska Game and Parks Commission (NGPC) and its partners helped initiate the formation of the Nebraska Prescribed Fire Council in 2015, which serves as liaison to the multiple prescribed fire interests across the state, by addressing policy issues, education and outreach, prescribed burn association (PBA) formation, equipment needs, etc. Nebraska is currently home to approximately 13 formal PBAs along with many informal landowner groups who use fire to improve their grasslands for livestock grazing, wildlife habitat, and other uses. With Nebraska being 97% privately-owned, these groups are vital to our success in maintaining and improving our grassland, wetland, and woodland habitats throughout the state.

Researchers at the University of Nebraska-Lincoln (UNL) are also involved in many collaborative efforts, making science-based information about prescribed burning

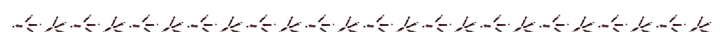
and eastern redcedar control readily available to land managers, private landowners, and the general public. Dr. Dirac Twidwell (UNL) and his lab have developed a number of useful online resources including the [Eastern RedCedar Science Literacy Project](#), to provide more “fuel” to the fire in the fight to conserve Nebraska’s grasslands.



NEW JERSEY | During 2019-20, the New Jersey Division of Fish and Wildlife continued habitat management on Dix Wildlife Management Area in Cumberland County, an NBCI Coordinated Implementation Program Focal Area. With a great partnership with the National Fish and Wildlife Foundation, USDA Natural Resources Conservation Service, and Quail Forever, a Farm Bill Biologist was hired to coordinate and implement habitat-related conservation programs throughout southern New Jersey, and he has already reached out to 114 landowners! Continued efforts are being committed to determine the probability of success of Mid-Atlantic translocations through new efforts in neighboring states and the National Bobwhite Technical Committee Translocation ad-hoc committee.

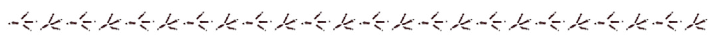


NORTH CAROLINA | The North Carolina Wildlife Resources Commission has created a new private land program called Wild Quail Management Areas (WQMA). This program will allow dedicated property managers to implement specific management action for the benefit of wild bobwhites. Properties eligible for this program must meet specific requirements, including a minimum of 500 acres of contiguous land, intensive habitat management, no pen-reared birds, and record keeping. On WQMA, landowners and managers will be able to trap the most important nest predators (opossum, raccoon, and striped skunk) during the early nesting season and can also provide supplemental feed without impacting the ability to hunt quail on the property.

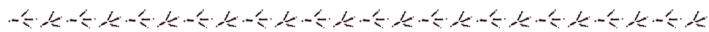


OKLAHOMA | Annual roadside surveys indicated that Oklahoma’s bobwhite population was slightly lower than the 2019-20 season and below the 10-year average for the state. 2020 brought either drought or extreme rainfall over a large portion of the bobwhite range, leading to lower recruitment. The 2020 October roadside surveys showed increases in the northeast, north-central, and south-central averages. However, northwest Oklahoma remained the best region for hunting in the state. 2021 is setting up to be a good year for bobwhites: winter had



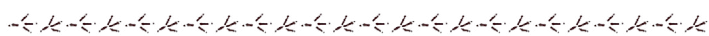


very few days of extreme cold weather, and spring has brought regular rains boding well for the fall. Management on wildlife management areas (WMAs) during the past year has consisted of techniques such as seasonal grazing, prescribed burning, disking, mowing, shrub planting, and grassland restoration. The Oklahoma Department of Wildlife Conservation continues its research partnerships with Oklahoma State University monitoring quail movement and habitat use.



PENNSYLVANIA | This year marks the fourth year of intense habitat management efforts to help bring back bobwhite quail to Pennsylvania. Extirpated sometime near the turn of the 21st century, managers are working hard to first restore habitat and then follow with wild quail translocations. From the beginning, this effort has been a partnership with the Pennsylvania Game Commission, Letterkenny Army Depot, Quail Forever, and a host of other universities, NGOs, and private individuals. This group is called the Keystone Quail Restoration Initiative and serves as the true driving force behind this monumental effort. The first Bobwhite Quail Focus Area (BQFA) in Pennsylvania is located at Letterkenny Army Depot and is 3,680 acres. Historically, the surrounding area and the depot itself have had some of the highest quail densities recorded. However, through agricultural practices, development, and succession, quail habitat was lost statewide.

Since 2017, over 1,900 acres of prescribed fire and 1,609 acres of overstory removal have been implemented within the BQFA. Additional management (including 58 acres of disking, 663 acres of herbicide application, over 4,000 shrubs planted, and 61 acres of forb plantings) continues to bring this area closer to quality quail habitat. Over the next year alone, another 1,800 acres of habitat improvement is planned, including 236 acres of forb planting in previous agricultural fields. Managers have begun working with partner states for future translocations once habitat restoration has been completed. Through nationwide collaboration, there is great anticipation to restore this native species, not only to the Keystone State, but to their historic northern range.



SOUTH CAROLINA | South Carolina's four quail focal areas are going strong and progressing both in terms of habitat restoration and the response of bobwhites and monitored non-game birds, despite the challenges that 2020 brought.

This is in part because of the assistance of focal area biologists who routinely guide habitat management decisions on the ground and assist landowners in surrounding areas with their properties. These critical positions are a mix of various partnerships with the US Forest Service, Quail Forever, and the Natural Resource Conservation Service.

One of the projects that was facilitated by the partnership with the Enoree Ranger District of the Sumter National Forest was the King's Creek Good Neighbor Authority project. The project was developed in 2019, and the bulk of the planning and document signing has taken place in 2020. A few projects were planned and should be underway shortly. Hopefully, timber will be hitting the ground in the near future, and more grassland and shrub-scrub bird habitat will be in place.

Finally, the South Carolina Bobwhite Funding Partnership (SCBFP) continued their outreach opportunities by providing a virtual tour of McBee Wildlife Management Area and the work being done there to ramp up quail production. The goal is to go from good to great, and South Carolina Department of Natural Resources staff is well on their way—thanks in part to supplies funded by the partnership and through a recent timber thinning.



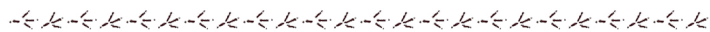
TENNESSEE | The Tennessee Wildlife Resources Agency (TWRA) completed an extensive, updated [bobwhite restoration plan](#), which outlines a path toward restoration of bobwhites in Tennessee for the period 2021-26. The strategies in this plan include increasing stakeholder engagement, holding a statewide quail summit, and extensive habitat modeling. The goal is to locate landscapes that are favorable for further bobwhite restoration, help guide habitat management, and develop a more detailed strategy to conduct future trap-and-transplant operations.



TEXAS | In establishing a framework for bobwhite conservation in Texas, it has become clear that partnerships serve as the underpinning. These partnerships represent a collection of individual agencies and organizations, and at their core are a collection of individuals on the ground working to keep the fires burning (both figuratively and literally). One of those frameworks for conservation action is the Natural Resources Conservation Service (NRCS) Working Lands for Wildlife (WLFW) program, outlining shared values and a common purpose to address resource concerns



on the lands that supply our nation's food and fiber. Accordingly, WLFW, "uses win-win solutions to target voluntary, incentive-based conservation that improves agricultural productivity and wildlife habitat on working lands." To support these efforts, Texas Parks and Wildlife Department, in partnership with Quail Forever and the NRCS, has teamed up to bring on three new WLFW partner biologists in key regions across Texas to help deliver on our shared mission of reclaiming, restoring, and improving bobwhite habitat. These biologists build on an already growing partner biologist model in the state through our Joint Ventures and represent a tangible investment in growing our conservation community.



VIRGINIA | The Virginia private lands team continued to work short-handed, down two biologists through much of 2020-21. We are pleased to announce that in May 2021, two Quail Forever Private Lands Biologists were hired through a partnership between Quail Forever, Virginia NRCS, and the NRCS Working Lands for Wildlife program. We are in the process of bringing them onto the team. We had another one of our long-term private lands biologists take a new job, leaving our team down one private lands biologist from the five we were accustomed to working with. We look forward to being able to rebuild our team in the upcoming fiscal year. Regardless of being down two

staff, our team visited 337 landowners who owned over 31,000 acres of land and wrote over 178 management plans. We continued our work on the Big Woods NBCI CIP focal area and completed eight years of data collection. Work on the CIP included over 2,500 acres of prescribed fire in conjunction with The Nature Conservancy, Department of Forestry, Department of Conservation and Recreation, and U.S. Fish and Wildlife Service staff. We are planning for our ninth year of CIP monitoring this June. Our department also underwent a name change during this time period; we are now the Virginia Department of Wildlife Resources. The 2021-22 time frame will be a year of rebuilding our team and looking forward to life beyond the COVID-19 pandemic.



WEST VIRGINIA | The Tomblin Wildlife Management Area (WMA) in the southern coal fields of West Virginia continues to be the focal area for bobwhite restoration. Habitat improvements and enhancements have continued following the release of 47 birds in March of 2020. To date, there have been reports of two separate males calling and an unconfirmed report of possibly a single brood in 2021. The West Virginia Division of Natural Resources continues to reassess the habitat efforts in coordination with the West Virginia elk reintroduction project.



Photo by Jef Hodges



2020 NBCI Fire Bird Conservation Awards

NBCI's 2020 National Fire Bird Conservation Awards continued to illustrate the various ways entities, groups, and individuals can contribute on many levels to the landscape-scale revival of wild bobwhite quail. The term "fire bird" was first coined by naturalist Herbert Stoddard, who researched the species in the early 20th century. The award's title is a reminder of the importance of fire required on much of the landscape to create and maintain the habitat that bobwhites, other grassland/shrub land birds, pollinators, and many other organisms require.

Recipients are chosen by the respective state's quail coordinator and are announced at the annual meeting of the National Bobwhite Technical Committee, this year conducted virtually because of limitations imposed by the coronavirus pandemic.

Arkansas

The new Quail Forever Habitat Crew in Arkansas is making waves with **Maia Larson** as their crew leader and over 7,000 acres of burned acres under their belt. The crew has completed 295 acres of forest stand improvement, 781 acres of herbicide application to invasives, 93,928 feet of fireline prep, and 46 acres of pollinator plantings within their working range. As crew leader, Maia is responsible for organizing and scheduling burns and other habitat practices across the state.

Maia first started her prescribed fire career in 2018 when she worked for The Nature Conservancy. She earned her Prescribed Fire Boss certification in 2019 and began conducting prescribed burns and writing burn plans as well as collaborating on burns with federal and local agencies. This year, Maia will serve as Cadre for the Prescribed Fire as a Management Tool class in Central Arkansas.

I have never seen someone as dedicated and passionate about prescribed fire as Maia. Not only does she understand how fire behaves at all times of the year, but she does a wonderful job of training new biologists about prescribed fire as well as herbicide application. She is not afraid of hard work and keeps pushing the biologists to add more projects so she and her crew can put more acres of great habitat on the ground. Maia encompasses all qualities of a true "fire bird."

Kansas

Corey Alderson has worked tirelessly over his approximately 20-year career as an Area Wildlife Biologist to promote the proper use of fire to benefit upland bird habitat. As an Area Biologist, Corey splits his weekly duties between the Kansas Department of Wildlife and Parks (KDWP) and Natural Resources Conservation Service (NRCS). Corey's area of responsibility includes over 20 counties in northeast Kansas and has allowed him to work with multiple state and federal personnel in addition to countless private landowners to promote the proper use and timing of fire to enhance bobwhite quail habitat on native rangelands, Conservation Reserve Program lands, and woodlands. Coupling fire with practices such as brush management, native warm season grass and forb plantings, and forest stand improvement using KDWP's Habitat First program and multiple Federal Farm Bill Programs has allowed him to improve habitat on countless acres of private property.

Corey is always searching for new methods which show promise in improving upland bird habitat. He was one of the first



Corey Alderson (left) with his son



within KDWP to promote the use of growing season burns to fight succession in the mid-2000's by working with KDWP public land managers to implement these fires on a few public wildlife areas. This has resulted in the adoption of growing season burns not only on KDWP Wildlife Areas throughout NE Kansas, but also on multiple private lands. Corey was also instrumental in working with KDWP Public Land managers and NRCS personnel in his district to implement a Patch Burn Grazing system on Bolton Wildlife Area and has continued to assist with the burning and monitoring since its inception in 2011. Corey is one of our go-to biologists in northeast Kansas not only for private landowners, but also for his peers in KDWP and NRCS. Corey has taken his firsthand knowledge of prescribed fire's absolute necessity in upland bird management and uses it to make recommendations for NRCS Federal Farm Bill Programs. The reality in Corey's vast area of responsibility is that in some areas there is not enough fire, while in other areas, properties are burnt annually. Corey has sought to educate state and federal personnel, along with private landowners, on the need for properly timed fires and fire return intervals to benefit upland birds while also maintaining the economic viability of private lands.

Missouri

Wildlife Management Biologist **Brian Gilbert** has worked for the Missouri Department of Conservation since 2005 and currently leads the Pony Express work team in northwest Missouri. Brian manages seven conservation areas spread across four counties. The 8,400 acres his team manages is comprised of a mixture of grassland, mixed woodland, and cropland habitats. Two of the conservation areas, Pony Express and Bonanza, are managed specifically to improve habitat for bobwhite quail and associated grassland/shrubland species. Brian deploys an aggressive management approach which involves converting cool-season grasslands to diverse native prairie, renovating tall mature fencerows, and aggressive basal area reduction in overstocked forested areas. He combines this with a vigorous prescribed fire program, which is vital to any habitat restoration and maintenance plan. In fiscal year 2021, Brian and his work team completed 2,733 acres of prescribed burning, approximately 32% of his district's acres. Getting over 30% of a district's acres burned in one year is an accomplishment, but the fact that Brian did this without any full-time staff due to vacancies makes this a greater accomplishment. Brian's can-do attitude prevented him, and his two hourly staff from letting a staffing shortage get in the way of necessary habitat work. He worked with neighboring districts to share staff to get the important work accomplished.



Brian Gilbert

"Brian's knowledge and use of prescribed fire combined with his overall proactive approach to habitat management has transformed the Pony Express District into a shining example of what can be accomplished for bobwhite quail with purposeful management and a never-give-up attitude," said David Hoover, Resource Management Supervisor for Missouri's northwest region. "I am proud to have him on our team fighting for native grasslands and bobwhite quail."

Nebraska



Brad Seitz

Mike Remund

Brad Seitz and Mike Remund, Nebraska Game and Parks Commission (NGPC) public land managers, each have an impressive 40+ years of field experience managing habitat for bobwhites in southeastern Nebraska. As quail management philosophies evolved over the years, many "new" and innovative techniques were first showcased on their Wildlife Management Areas (WMAs) prior to wider adoption within our agency. This includes high-diversity seedings, food plot rotations, edge-feathering, and various forms of early successional habitat management among others. Remund played an integral role in developing the Johnson County and Hickory Ridge WMA Focus on Pheasants Initiatives in 2008, which enhanced existing grassland habitats for upland gamebirds on both public and private lands. Likewise, Seitz helped initiate the Meridian Quail Initiative (an NBCI Coordinated

Implementation Program focal area) in 2015, assisting with both landowner outreach and habitat tours, and continues to intensively manage Meridian and Alexandria WMAs specifically for bobwhites. Both land managers have extensive



experience with prescribed fire and collectively burn thousands of acres annually across a wide variety of habitat types found on their WMAs, including tallgrass prairies, playa wetlands, riparian drainages, and oak savannas.

“Well-known for their leadership qualities, Brad and Mike have mentored dozens of up-and-coming biologists over the years,” said John Laux, NGPC Upland Game Program Manager. “Their knowledge base and willingness to share it with others have really been invaluable to both our agency and the conservation community as a whole.” Looked up to by many fellow biologists, they lead by example and are always willing to assist other team members.

Their passion for upland birds and providing hunting opportunities for the next generation often extended beyond typical work hours. Both biologists are avid upland bird hunters, were actively involved with their local Pheasants Forever chapters, and have assisted with numerous youth outdoor educational events over the years, including 4-H camps, outdoor skills camps, and mentored hunts. Seitz and Remund also volunteered as Hunter Education instructors for 42 and 31 years, respectively.

“When you think about quail conservation in Nebraska, it’s hard to not think of Brad and Mike,” said Laux. “Their love of quail and their appreciation for the landscapes that support them is contagious, and both are well-deserving of this award.”

Oklahoma

According to their website, “the Oklahoma Prescribed Burn Association (OPBA), is an incorporated nonprofit, created to support local burn associations and develop new ones across the state. The OPBA’s goals are to increase landowners’ capacity to do neighbor-to-neighbor prescribed burns for reduction of fuel loads, wildlife habitat improvement, increasing grassland production, and enhancing public health and safety of all Oklahomans. [Their] goal is to provide Oklahoma landowners with access to support, training, and equipment to safely implement prescribed fire on their lands;” but to many landowners in Oklahoma, the OPBA is so much more.

This organization works hand in hand with state agencies, such as the Oklahoma Department of Wildlife Conservation, as well as NGOs like Pheasants Forever/Quail Forever towards a unified goal of reducing volatile fuel loads and improving wildlife habitat across the state. OPBA provides workshops and field days annually that invite the public to come and learn about what the burn associations do and how they can help landowners in ultimately achieving their management goals.

The leadership that OPBA President **John Weir** has provided the association since its start in 2011 has been critical to its success. What started as a single unit has grown to 22 local chapters covering 36 of Oklahoma’s 77 counties. These chapters provide not only education and training, but most importantly, actually putting fire back on the landscape. John not only works to improve Oklahoma by working with landowners, he also strives to educate future generations about the importance of prescribed fire as a Professor of Fire Ecology and Management and Associate Extension Specialist at Oklahoma State University.

Over the last 5 years (2015-20), OPBA has tracked, managed, and assisted with almost 600 prescribed fires totaling over 133,000 acres in 40 different counties! 79% of these burns involved eastern red cedars, a tree that has been a leader in quail habitat loss. These burn associations do things safely and correctly with only 14% of these fires having spotfires and only 3% having an escape; and each year, they see these numbers improve.

This award is designed to recognize individuals or organizations making a significant impact on the advancement of landscape-scale restoration of wild northern bobwhites, and no one is more deserving of the 2021 Firebird Award than John Weir and the Oklahoma Prescribed Burn Association.

South Carolina

Over the past two and a half years, Tim Askins has worked tirelessly to improve the future of wild quail populations in South Carolina on both public and private lands. Tim is the Chapter President of the SC Chapter of Quail Forever, which has played a critical role in fundraising for habitat conservation and improvement projects. To date, his efforts have raised over \$100,000 through Quail Forever banquets to help fund habitat work on the Price’s Landing quail area on



Francis Marion National Forest and other projects across the state. In early 2020, Tim assisted the Lowcountry Chapter of Quail Forever in hosting their first membership banquet with over 350 attendees. He followed that up in 2021 by starting a new Chapter, the SC Chapter of Quail Forever, and hosted their first annual membership banquet with 235 attendees. In total, he has recruited 225 new members, expanding the organization's reach and membership base in South Carolina by 35%. Tim's fundraising efforts are focused on funding landscape-level projects that impact quail throughout the state.

In addition to fundraising and chapter development, Tim has spent his time creating partnerships with landowners, businesses, and NGOs. He is developing an innovative partnership with Santee-Cooper and Quail Forever to promote and fund the establishment of pollinator habitat on powerline rights of way. Additionally, he has coordinated initial negotiations for Quail Forever to acquire and protect Bobwhite Hills, an 800-acre tract of private longleaf pine savanna that supports an abundant population of northern bobwhite. For Tim, the sky is the limit. He is a smart, dedicated, and passionate conservationist. He will undoubtedly continue to work hard and be innovative to boost bird numbers across the state.

Supporting youth shooting sports and the advancement of South Carolina's rich hunting heritage lie deep within him. His outreach efforts have not gone unnoticed. He recently partnered with the South Carolina Youth Shooting Foundation to support the 2021 State Championship at Back Woods Quail Club in Georgetown. The event hosted 668 youths from all parts of the state. Tim is currently working with the South Carolina Department of Natural Resources to recruit private landowners to provide youth hunting opportunities for the 2021-22 hunting season.

Tennessee

Chris Hunter has worked as a private lands Wildlife Habitat Biologist in west Tennessee since 2007, except for two years. Originally hired as a wetlands biologist, he has most recently been in a more general role, working most often on uplands. One of his work areas includes the Wolf River Wildlife Management Area, an NBCI Coordinated Implementation Program focal area.

Chris has written 26 Conservation Stewardship Program (CSP) plans encompassing 6,630 acres of habitat practices, as well as 26 Conservation Reserve Program (CRP) plans encompassing 730 acres of habitat, including many of Tennessee's State Acres for Wildlife Enhancement Bobwhite Habitat Restoration practice and CP42 pollinator habitat. In addition, he reviewed and provided recommendations on another 57 CSP plans, 39 CRP plans, 9 Environmental Quality Incentives Program plans, and 1 Wetland Reserve Easements plan. He wrote six prescribed burn plans and implemented two, while coordinating with the Tennessee Division of Forestry (TDF) to implement the others. He often teaches the Fire Weather segment of TDF's Certified Burn Manager course. He coordinates with other habitat biologists to submit articles for "The Habitat Corner" page in Tennessee Wildlife magazine, editing articles and writing some himself. He helped on-board and train two Quail Forever Farm Bill Biologists in west Tennessee and has had several people in those positions over the last several years. Last fall, he received the Tennessee Natural Resources Conservation Service (NRCS) Area 1 Ed Jones Partnership Award, acknowledging his efforts in working with NRCS to get a lot of habitat on the ground. Chris' duties also include performing a lot of habitat practice certifications. To streamline his workload, he came up with the idea of getting an electric bike which folds up and loads easily into the back of his pickup truck, allowing him to save quite a bit of time during the crunch periods, and get some exercise while doing so! In addition to habitat workshops, Chris also gives presentations to school and civic groups.

Along with these many accomplishments, Chris' work ethic, positive attitude, knowledge, and excellent people skills make him a worthy recipient of the 2021 Firebird Award.

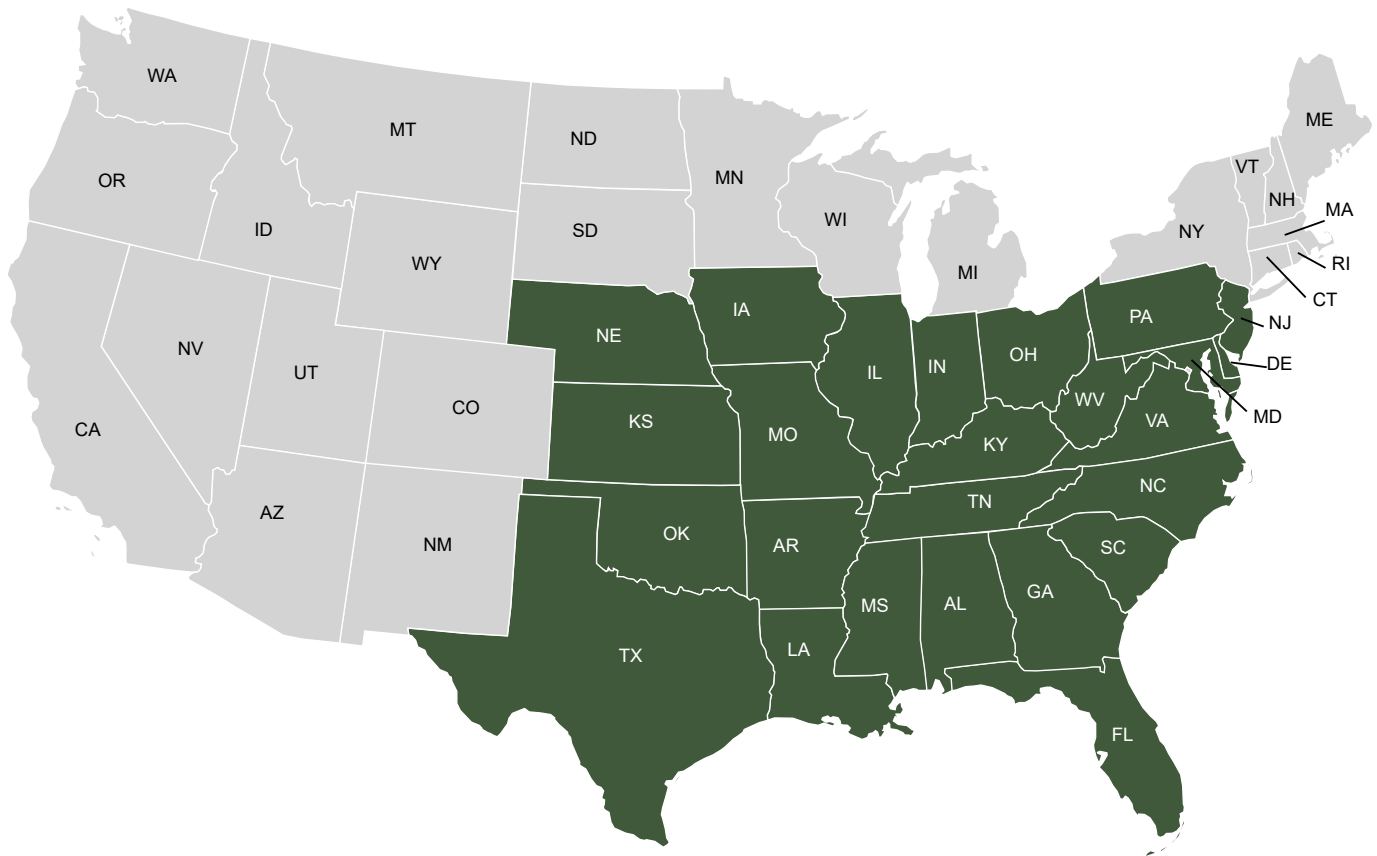


State Conservation Reports

This section contains highlights of bobwhite conservation during 2020 and early 2021, as reported by each state's quail coordinator. The most up-to-date information on 2021 bobwhite population and hunting information is available on state agency websites, which are embedded in the electronic version of this report. State quail coordinator contact information can be found at the end of each report.

State wildlife agencies continued operations despite remote working and closed offices. Since most bobwhite habitat restoration is largely an outdoor activity, progress continued to be made. Group activities remained a challenge, including controlled burns, which are completed by teams of people. Yet, state habitat reports demonstrate strong contributions to the cause. Where efforts are struggling the most are those that require close working relationships among partners. Virtual meetings just cannot replace the camaraderie and energy generated by in-person collaboration. We are hopeful that 2021 makes the tail-end of the COVID-19 pandemic.

Perseverance epitomizes what our partners and the world demonstrated over the last year. These summaries are reasons to celebrate accomplishment despite a time when everything worked against progress. Habitat management continued, motivations were tested, and new lessons learned. Virtual communication was used at unprecedented levels, and we proved what can be accomplished when "normal" has been completely redefined. Trials and tribulations over the last two years will help build the strength and resolve required to continue the charge to restore habitat at landscape scales. Let's acknowledge and thank all those who put in the work to make these conservation actions happen!



NBCI member states that make up the core historic bobwhite range



Alabama Wildlife and Freshwater Fisheries (AWFF)

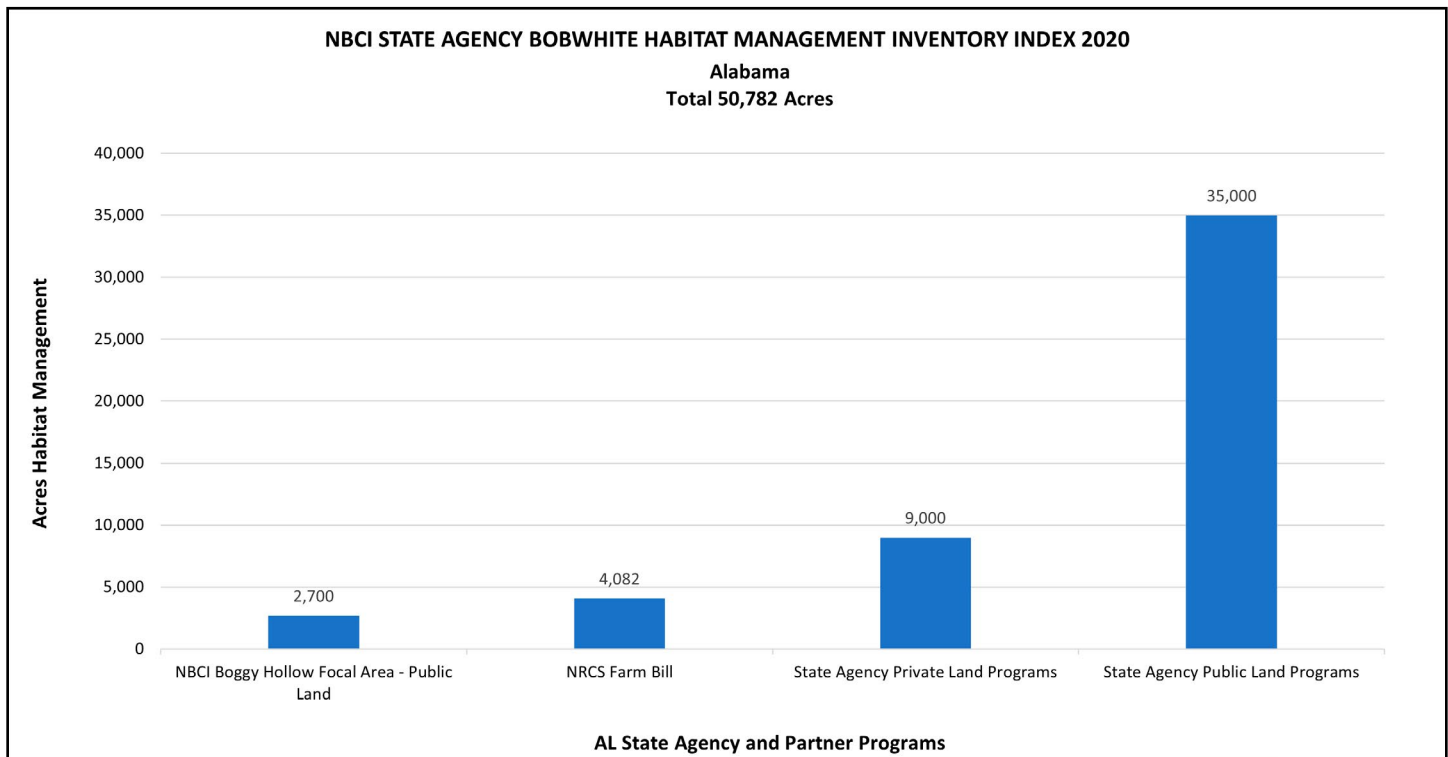
Population: Quail populations across the state have declined dramatically since the 1960's and remain near all-time lows. Huntible populations exist on properties where management efforts are focused on intensive quail habitat improvement and management.

Hunting: The 2019-20 Alabama Hunter Harvest Annual Report conducted by Responsive Management estimated approximately 7,800 hunters spent 39,541 days hunting quail and harvested 154,000. Wild quail hunting accounted for 37% of hunters, 29% of hunter days, and 14% of total harvest.

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

- AWFF identified emphasis areas ($\geq 1,500$ acre) within four Wildlife Management Areas (WMA) for implementation of intensive quail habitat management. The initial step of timber thinning has started on two WMAs.
- Quail population monitoring in spring and fall on 20 WMAs and 4 Special Opportunity Areas across the state.
- Maintained quail habitat enhancement practices of rotational disking, edge buffers, and unharvested crop strips on approximately 4,000 acres of farm contracted agricultural fields in the WMA system.
- Restoration of longleaf and shortleaf pine on WMAs where feasible, timber thinning, and prescribed burning programs to restore grassland communities. 28,990 acres of state and federally controlled land within the WMA system received prescribed fire.
- Management efforts continued on Boggy Hollow WMA in Conecuh National Forest through timber thinning, prescribed fire, and field management. NBCI Coordinated Implementation Program (CIP) population monitoring has been ongoing since 2018, and a second season of habitat monitoring was conducted in 2020.
- AWFF, USFS, and Quail Forever continue efforts to improve habitat on the quail emphasis area of Choccolocco WMA in the Talladega National Forest through timber management, prescribed fire, and field management.
- AWFF continues to partner with the USDA Natural Resources Conservation to provide technical assistance for cost share opportunities to private landowners through the Working Lands for Wildlife: Bobwhite in Pine Savannas project.

NBCI State Quail Coordinator: Steven Mitchell, Upland Game Bird Coordinator, steven.mitchell@dcnr.alabama.gov



Arkansas Game and Fish Commission (AGFC)

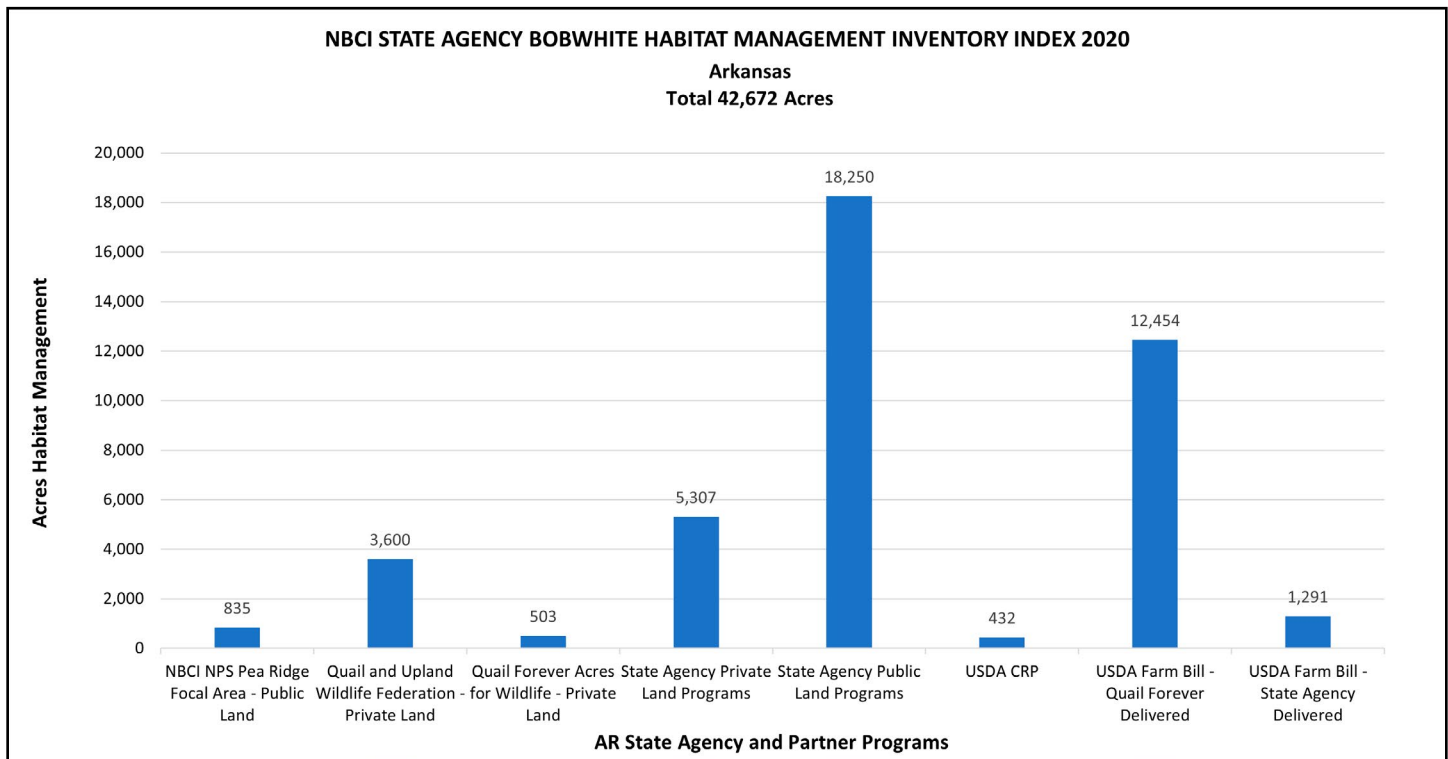
Population: AGFC 2020 call count route data showed a 18% increase statewide from 2019. The Gulf Coastal Plains, Ozarks, and Arkansas River Valley all experienced fairly substantial increases, while the Mississippi Alluvial Valley and Ouachitas decreased 24 and 36% respectively. Brood survey data during 2020 found that chicks/observer was 28% less than the 10-year average, while numbers of adult quail observed during brood surveys was up 42%. Spring bird count results from focal areas showed increases in the numbers of quail heard and the number of points where quail were heard on three of the seven focal areas.

Hunting: No formal surveys are taken, but overall the quail hunting season was an average year for harvest.

Management: Quail management highlights include:

- A total of 3,548 acres of habitat was improved on six focal areas during 2020.
- Habitat restoration on non-focal areas was conducted on 14,702 acres.
- AGFC private lands biologists and Quail Forever Farm Bill biologists contracted 18,802 acres of habitat through state and federal financial assistance programs in Arkansas during 2020.
- Reported 38,640 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Marcus Asher, Quail Program Coordinator, marcus.asher@agfc.ar.gov



Delaware Division of Fish and Wildlife (DFW)

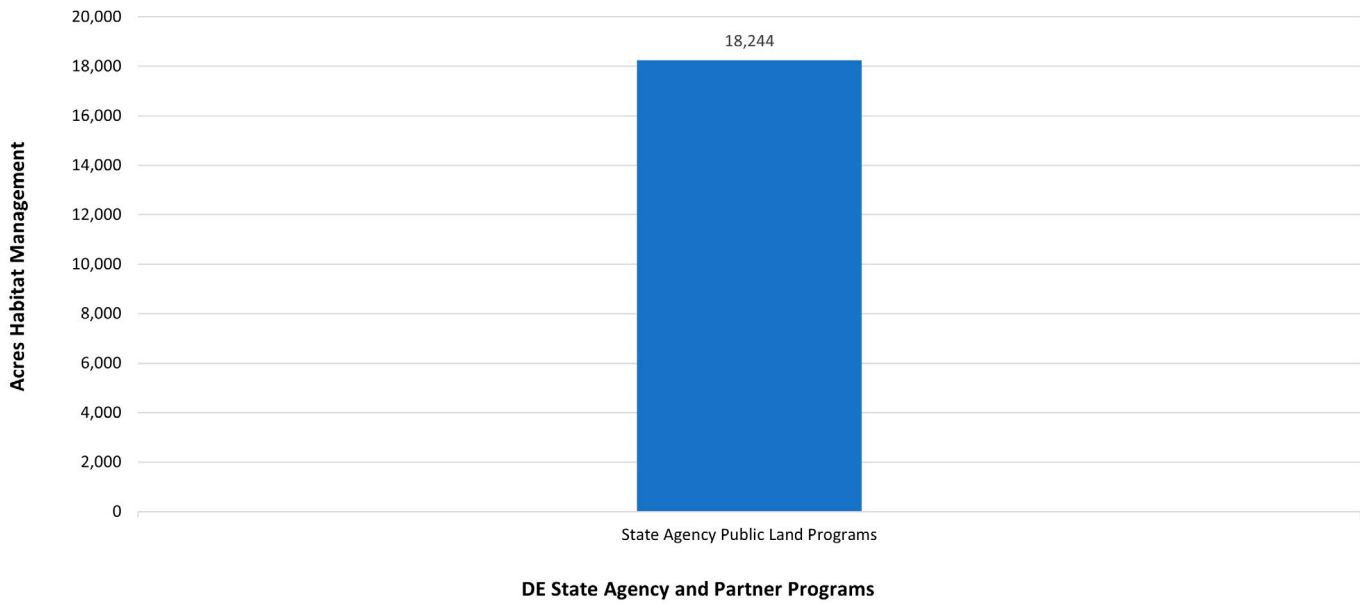
Population: Spring breeding bird surveys were initiated on May 27, 2020, and were repeated twice monthly through July 21, 2020 (n = 5 rounds). We surveyed 140 points (i.e., 2 sites * 14 points per sites * 5 rounds) over the two-month survey period. Mean calling birds ranged from 0.64 (Standard Error [SE] = 0.169) to 1.43 (SE = 0.440) across rounds at Cedar Swamp Focus Area and 0.0 across rounds at Ted Harvey Conservation Area. Fall covey counts were initiated on October 20, 2020, and were repeated every two weeks until December 18, 2020, for a total of five rounds. Fifty points were surveyed over the nine-week survey period (i.e., 2 sites * 5 points per sites * 5 rounds). Mean calling coveys ranged from 0.0 (SE = 0.0) to 3.6 (SE = 0.927) across rounds at Cedar Swamp Focus Area, and 0.0 across rounds at Ted Harvey Conservation Area.

Management: DFW continues to partner with NBCI. Through this partnership, DFW biologists and habitat managers are identifying wildlife management areas within Delaware that would benefit from future habitat management and support



NBCI STATE AGENCY BOBWHITE HABITAT MANAGEMENT INVENTORY INDEX 2020

Delaware
Total 18,244 Acres



a natural or reintroduced bobwhite population. To date in Delaware, accomplishments include:

- Cedar Swamp Wildlife Area, in New Castle County, was designated as the state’s first NBCI Coordinated Implementation Program (NBCI CIP) bobwhite focal area. Approximately 27.27% (1,500 acres) of the area was identified as habitat that could support bobwhite quail.
- Division biologists completed breeding season (whistle call) surveys from May 27 – July 21, 2020. At both the focal and reference areas, 14 plots were surveyed for presence and distribution of bobwhite.
- From October 20 – December 18, 2020, 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: prescribed burning, fallow discing, edge feathering, and 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.
- In 2020, DFW enhanced and restored 236 acres of upland habitat on state wildlife areas, which will likely benefit bobwhites. These management activities included: planting annual food plots, planting native grass and wildflowers, mechanical and chemical management of vegetation, burning, and timber management.
- Reported 3,456 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator (Acting): Joseph Rogerson, Environmental Program Manager, joseph.rogerson@delaware.gov

Florida Fish and Wildlife Conservation Commission (FWC)

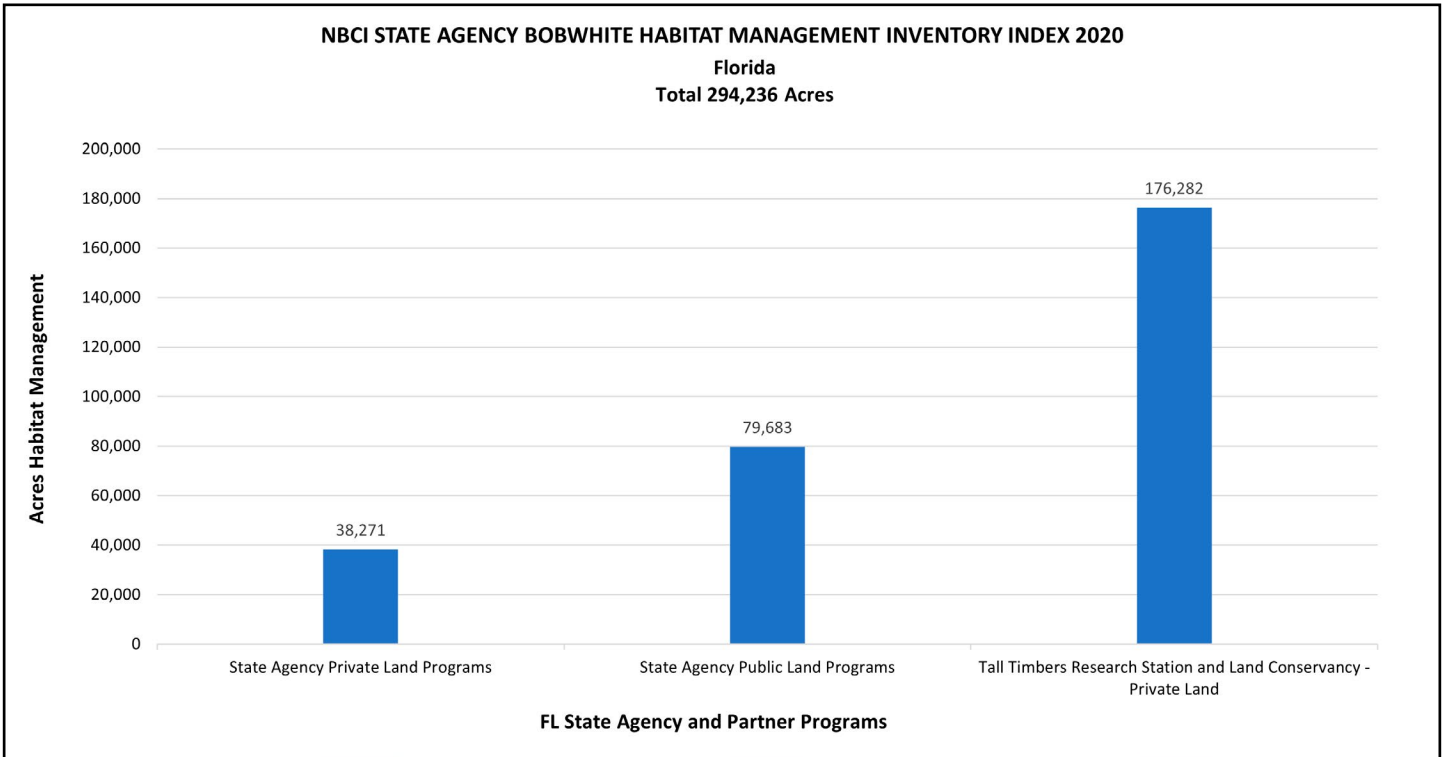
Population: Florida’s bobwhite population has declined by approximately 82% since 1966.

Hunting: Hunter and harvest estimates are based on results from a 2019 telephone survey which indicate 5,274 hunters harvested roughly 109,139 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 Statewide 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 (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 220,000 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.
- Working with numerous landowners and producers, FWC private lands biologists and NRCS provided technical assistance and cost share opportunities to create or enhance approximately 38,271 acres of bobwhite habitat throughout the state.
- Completed all field work on our cooperative research project between FWC, TTRS, University of Georgia, and the US Forest Service within the UERP focal area on the Apalachicola National Forest. Primary objective is to evaluate movement, habitat use, and site fidelity in relation to food availability and cover.
- Reported 294,236 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Greg Hagan, Northern Bobwhite Program Coordinator, greg.hagan@myfwc.com

Georgia Department of Natural Resources, Wildlife Resources Division (GADNR)

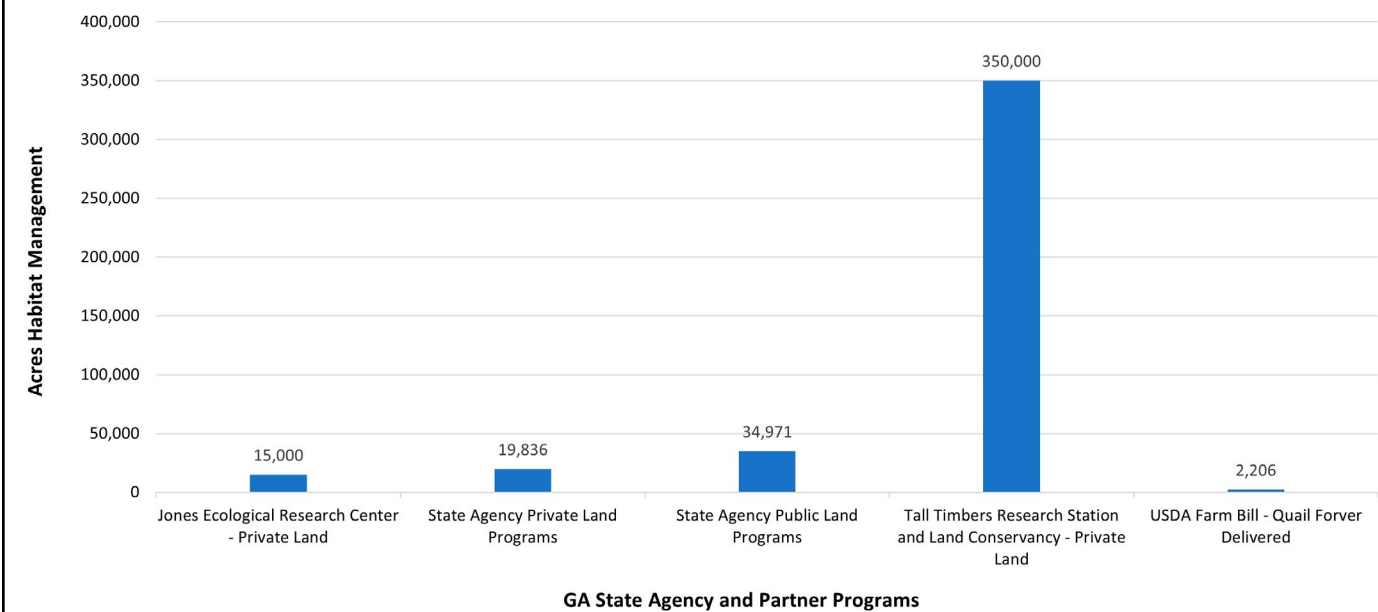
Population: GADNR statewide bobwhite population index had declined by more than 75% since 1966. However, from 2007-18, USGS Breeding Bird Survey data shows that bobwhite numbers have doubled and are now similar to numbers seen in the early 1990s.

Hunting: Hunter and harvest estimates are from a 2019 telephone survey. From 2015-18, estimated bobwhite hunter numbers declined by 15% (15,060 hunters for 2015 season; ±910, 12,742 hunters for 2018 season; ±791), and estimated bobwhite harvest decreased by 44% (504,683 harvest for 2015 season; ± 12,203, 279,291 for 2018 season; ±4,965). Only 14.7% of quail hunters harvested only wild quail, and 19.6% harvested a combination of pen-reared and wild quail.



NBCI STATE AGENCY BOBWHITE HABITAT MANAGEMENT INVENTORY INDEX 2020

Georgia
Total 422,013 Acres



Average hunting effort was 3.65 days in the 2018 season for all quail hunters.

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: Gopher Tortoise and BQI Programs enrolled over 18,000 new acres on 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.
- BQI and (Quail Forever) QF biologists provided technical assistance to landowners throughout Georgia's Upper Coastal Plain that impacted almost 145,000 acres of habitat and over 400 different landowners.
- 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. Several other WMAs are also conducting habitat management to benefit bobwhite. In 2020, habitat management was conducted on over 34,000 acres on WMAs across the state.
- Monitoring efforts include fall covey counts on 11 WMAs, two private focal areas, and Oconee National Forest, covering over 52,000 acres. Spring monitoring for several pine savanna species was conducted on 27 WMAs and two private land properties.
- The Florida/Georgia Quail Coalition (a partnership between WRD, QF, Florida Fish and Wildlife Commission, and Tall Timbers Research Station and Land Conservancy directed at supporting bobwhite management on public lands) contributed funds to improve 427 acres of habitat on Georgia BQI Focal Areas including prescribed burning, herbicide application, and brood field maintenance. The funds are donated by QF chapters in Georgia that have an interest in wild quail hunting opportunities on public lands. Chapters also donated equipment for use in habitat improvement.
- Reported 416,427 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Dallas Ingram, State Quail Biologist, dallas.ingram@dnr.ga.gov

Illinois Department of Natural Resources (IDNR)

Population: The IDNR roadside counts for bobwhite are very similar to the USGS North American Breeding Bird Survey



protocol. In 2020, as reported in the 2020 Quail Annual Status Report, observers across Illinois recorded an average of 0.75 quail per stop during the surveys (a 25% increase from 2019). Quail were recorded at 34.8% of stops (percent occurrence), up 57%. The number of quail counted and the number of stops where quail were seen or heard in 2020 were both up from 2019 surveys.

Hunting: Harvest estimates are based on results from the 2019-20 Illinois Hunter Harvest Survey. The 2019-20 quail survey estimated that 6,749 hunters shot 45,270 wild quail (28% increase), compared to 6,995 hunters and 35,490 quail in the 2018-19 survey. The number of quail per hunter/day was up in 2019.

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. Bobwhite management highlights include:

- The USDA Conservation Reserve Program (CRP) is by far the greatest source of potential wildlife habitat in Illinois. In February 2021, Illinois has 833,858 acres of CRP, including:
 - USDA General Sign Up 54 – Illinois offered 121,000 acres in the sign-up, and 109,000 were accepted for a 90% acceptance rate. For State Acres for Wildlife Enhancement, 14,000 acres were offered and 11,700 acres accepted.
 - USDA CP-33 Habitat Buffers for Upland Birds – 48520 acres enrolled, a 9,258-acre decrease from 2020.
 - USDA CP-38 SAFE – 32,323 acres enrolled, a 5,657-acre increase from 2020.
 - USDA CP-42 Pollinator Habitat Initiative – 115,557 acres enrolled, a 11,909-acre increase from 2020.
- Dr. Mike Eichholz and Dr. Eric Schaubert (Southern Illinois University) finished their third year on a research project to assess habitat and population dynamics and their effect on bobwhite populations in Illinois. This Pittman-Robertson funded 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.
- Illinois designated their first NBCI Coordinated Implementation Program focal area at the state-owned Burning Star Mines outside of DeSoto. A habitat team is being established to conduct management on the area in the near future.

NBCI State Quail Coordinator (Acting): Wade Louis, Habitat Team Program Manager, wade.louis@illinois.gov

Indiana Division of Fish and Wildlife (IDFW)

Population: Results of the IDFW 2021 statewide bobwhite whistle count index suggested no change in relative bobwhite abundance over 2020. Weather conditions last year and much of this year during the spring/summer breeding season have been favorable across much of the state.

Hunting: Bobwhite hunting season dates in Indiana are divided by Interstate 74. North Region dates are November 1 – December 15 (daily bag limit: four on private land, two on IDFW Fish and Wildlife Areas); South Region dates are November 1 – January 10 (daily bag limit: eight on private land, four on IDFW Fish and Wildlife Areas).

Management: The Private Lands, Public Lands, and Wildlife Science programs are working to improve quail habitat and management. Management highlights include:

- IDFW staff have completed the second year bobwhite population and habitat monitoring for the state's first NBCI Coordinated Implementation Program (NBCI CIP), incorporating both public and private lands.
- IDFW continues collaborating with the University of Georgia on a study of effects of hunter harvest rates and effort on bobwhite survival, movement, and reproduction at Goose Pond Fish and Wildlife Area.
- IDFW has also funded a project to monitor bobwhite and grassland bird abundance on private land conservation contracts that has just collected the first field season of data.
- The Grassland for Gamebirds and Songbird Initiative includes 32 partner conservation organizations continues in four focal regions of the state.

NBCI State Quail Coordinator: Matthew Broadway, Small Game Biologist, mbroadway@dnr.in.gov

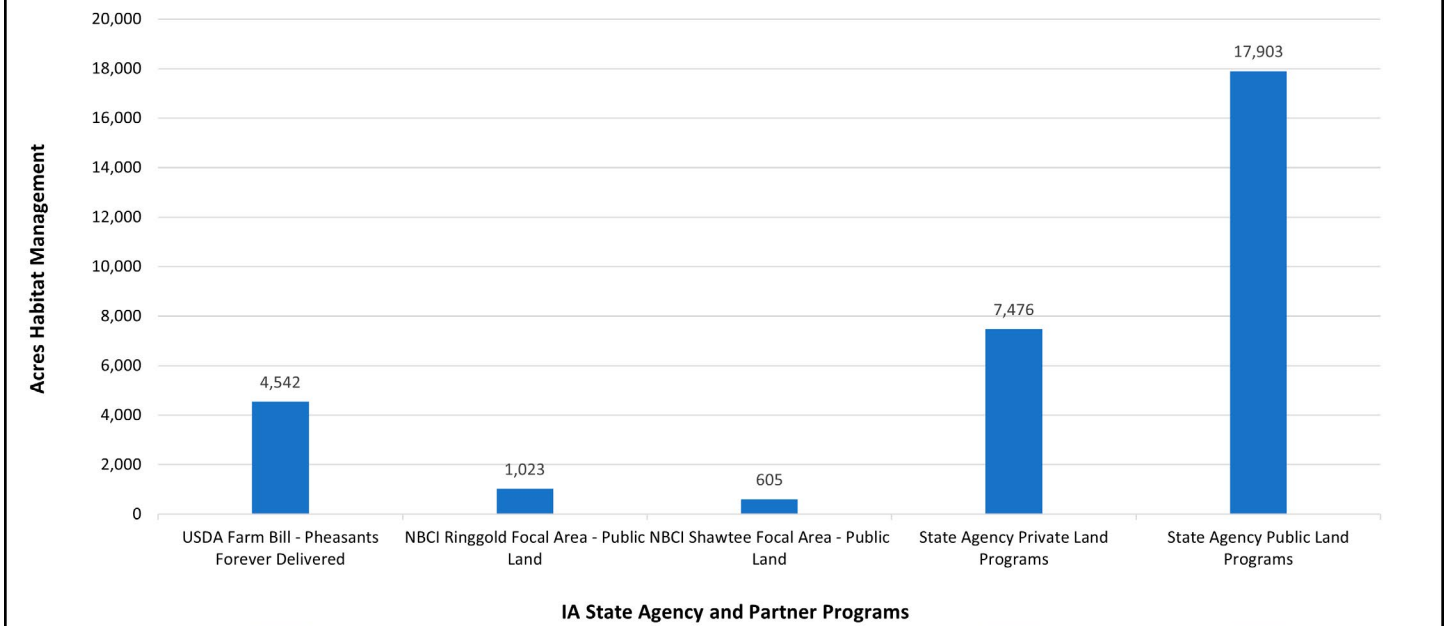
Iowa Department of Natural Resources (IDNR)

Population: The IDNR 2020 statewide bobwhite August roadside index of 0.74 quail per 30-mile route represents a non-



NBCI STATE AGENCY BOBWHITE HABITAT MANAGEMENT INVENTORY INDEX 2020

Iowa
Total 31,549 Acres



significant decrease (-11%) in the quail index over 2019 counts. This year's index is just below the 10-year average of 0.9 quail per route and is -45% below the long-term average of 1.3 quail per route. Quail numbers from 2015-18 were the highest Iowa has seen in the last 23 years. Iowa's decline this past year was not unexpected, given two weeks of snow cover and subzero temperatures during the winter of 2019-20, which likely reduced overwinter adult survival. The winter of 2020-21 was the worst seen in years across most of Iowa's quail range, and counts in 2021 are expected to be much lower than past years.

Hunting: Iowa's most recent hunter and harvest numbers, 2020-21 hunting season, were not available at press time. The 2019-20 hunting season survey showed approximately 8,131 quail hunters harvested 20,710 quail during the season. Hunter numbers decreased -18%, while harvest decreased -56% compared to 2018 estimates. Quail hunters averaged 5.9 days afield and harvested three birds for the season. The 2019-20 quail harvest was 2% above the 10-year average and -94% below the long term average. Hunting and harvest numbers for the most recent hunting season (2020-21) are expected to be similar to 2019-20 numbers, given the small change seen in roadside population counts (0.74 birds/route in 2020 vs 0.83 birds/route in 2019).

Management: IDNR manages bobwhite by partnering with multiple agencies, NGOs, and private citizens, as well as the NBCI. Quail management highlights include:

- Iowa is an active participant in the NBCI Coordinated Implementation Program (NBCI CIP), with two officially identified focal areas, plus many other public lands receiving quail management focus.
- In early 2020, Iowa received another \$1.5 million USDA Voluntary Public Access grant to expand the Iowa Habitat and Access Program. This program cost shares the creation of habitat on private CRP acres statewide. In Iowa's southern quail range, habitat improvements to benefit quail are a priority. Statewide enrollment is over 30,000 acres, and this new grant will allow the DNR to increase the program. Each area has a habitat management plan and is open to public hunting.
- Iowa has a 46,500-acre allocation of USDA CP-33 Habitat Buffers for Upland Birds, with 22,858 acres enrolled, the third-highest enrollment in the nation, with only Illinois and Texas having more enrolled acres.
- Reported 31,549 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Todd Bogenschutz, Upland Wildlife Research Biologist, todd.bogenschutz@dnr.iowa.gov



Kansas Department of Wildlife, Parks and Tourism (KDWPT)

Population: 2020 statewide bobwhite breeding abundance index was 19% above the 2019 index, which was 12% below the 5-year average and 6% above the 10-year averages.

Hunting: According to the 2019-20 hunting season statistics, 64,710 quail hunters harvested 427,892 bobwhites.

Management: 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:

- Bobwhites are a species of conservation importance for both State Wildlife Grant and USDA program funding ranking processes.
- Quail Forever and KDWPT are working collaboratively to establish four priority areas for the Northern Bobwhite Working Lands for Wildlife Program.
- In 2021, KDWPT will be adding a fourth habitat specialist through a partnership agreement with Habitat Forever to perform habitat work on private lands in the southern Flint Hills targeting invasive trees. All habitat work is prioritized for walk-in hunting properties for these positions.
- In 2021, KDWPT is increasing the age for participation in the youth quail weekend to >18 years and increasing the daily bag limit from four to eight a day for this two-day season.

NBCI State Quail Coordinator: Jeff Prendergast, Small Game Specialist, jeff.prendergast@ks.gov

Kentucky Department of Fish and Wildlife Resources (KDFWR)

Population: According to the KDFWR statewide mail carrier survey, the bobwhite population has declined by 67% since 1960. The 2020 index is 67% below our 1981 restoration target. Statewide, there was a 9% increase from 2019 to 2020, however the western and central portion of the state experienced a decline.

Hunting: On average, hunters bagged 0.50 birds/hour in the 2020-21 hunting season and observed 0.33 coveys per hour. The harvest rate is 32% above the 5-year average, and covey detections were 10% above the 5-year average.

Management: The agency continues to utilize the findings of the 10-Year Quail Plans (ending in 2020):

- The Bluegrass Army Depot “Beyond the Fence” Project moves into the third growing season after planting for roughly 200 acres of production native grasses in a 10,000-acre focus area. Field staff will work closely with producers to ensure establishment. NBCI marketing products have been released in the area.
- KDFWR coordinated a multi-partner conservation team aimed at conserving the legacy of Kentucky’s highly successful Green River Conservation Reserve Enhancement Program (CREP) initiative. The partners identified a 10,000-acre focus area and recruited native grass production plantings totaling 150 acres. Planting and bird monitoring will take place this spring.
- KDFWR and The University of Tennessee continue to collect data on the Bluegrass Army Depot quail study, in which researchers are determining the use of cool- and native warm-season grass forage by cows and bobwhite.
- KDFWR recently developed and hired its first-ever Private Lands Coordinator, who is working closely with the quail coordinator on the NRCS Working Lands for Wildlife directives to get bobwhite habitat on the millions of acres of private production land in the state.
- Membership of the Kentucky [Bobwhite Battalion Facebook page](#) increased to nearly 3,900 members.
- Reported 21,280 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Cody Rhoden, Small Game Biologist, cody.rhoden@ky.gov

Louisiana Department of Wildlife and Fisheries (LDWF)

Population: The LDWF annual 2020 Bobwhite Whistle Survey combined results were not significantly different from 2019. 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 2019-20 estimated that 800 hunters harvested 1,800 wild quail.

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

- LDWF East and West Gulf Coastal Plain Prescribed Burn Initiatives, NFWF Grant LDWF Natural Heritage Program:



1,500 acres were burned in 2019/2020.

- USDA Natural Resource Conservation Service (NRCS) programs in 2020: 946 acres of longleaf pine were planted and 1,994 acres burned.
- An additional 3,117 acres were burned by private and NGO funding on private lands in 2019-20.
- LDWF worked with the NRCS, National Wild Turkey Federation, and other agencies to hold longleaf pine workshops for private landowners and land managers.
- Bird and Habitat monitoring on the Kisatchie National Forest - Vernon Quail Emphasis Area = 5,992 acres, and accompanying Reference Area on Peason Ridge Wildlife Management Area (WMA) = 7,806 acres.
- Continued quail habitat improvements at Sandy Hollow WMA conducting approximately 2,568 Acres of prescribed burning in 2019-20.
- Reported 26,599 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

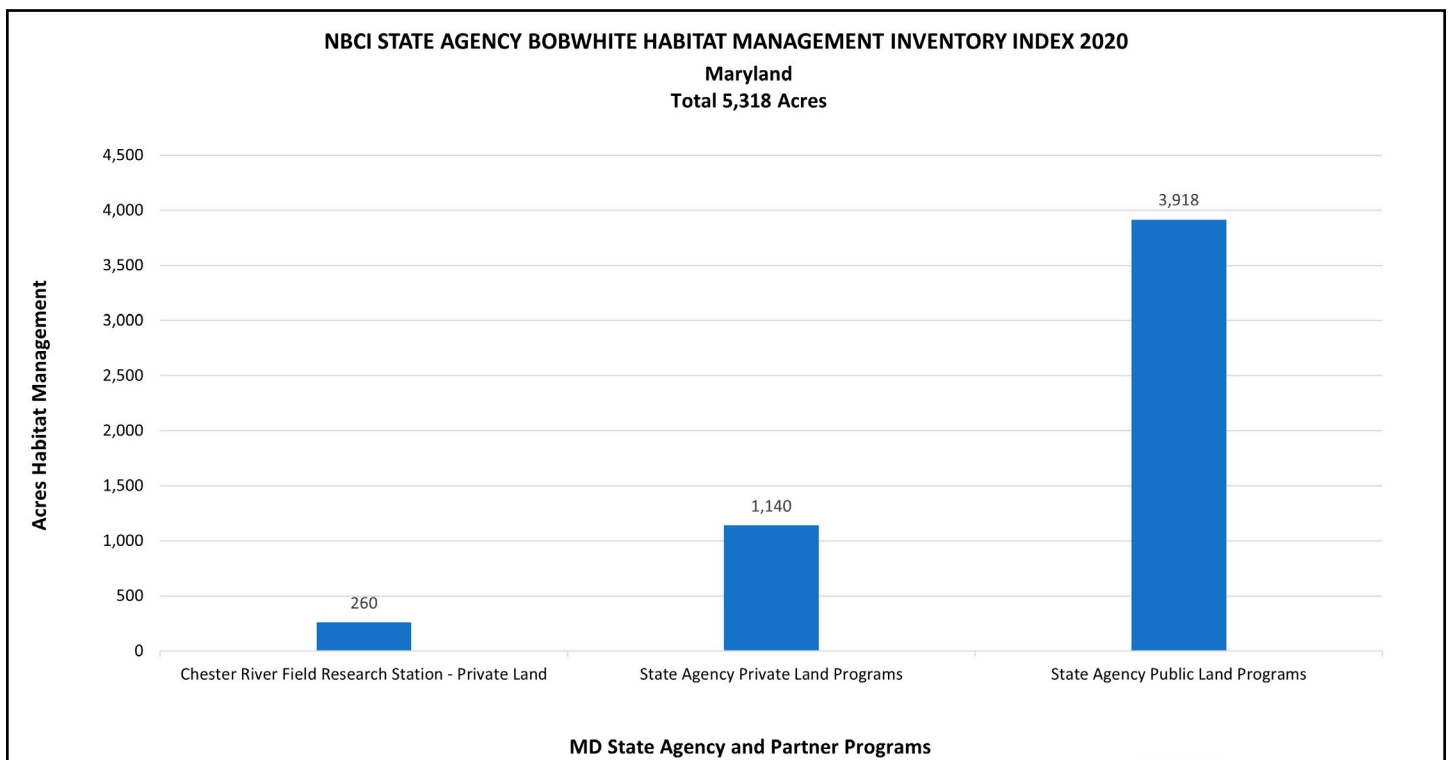
Maryland Department of Natural Resources (MDNR)

Population: Maryland’s statewide bobwhite population has declined by more than 90% over the past 50 years. Isolated pockets of wild quail still exist in the southern region, but the highest densities occur in the eastern part of the state. Some local populations have increased significantly in recent years where habitat management efforts have occurred.

Hunting: The MDNR 2019-20 Annual Hunter Mail Survey estimated 400 bobwhite hunters harvested 1,600 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. Management highlights include:

- Four MDNR Wildlife Management Areas (WMAs) 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.
- USDA Natural Resources Conservation Service and MDNR have partnered to hire a farm bill biologist to provide technical assistance within the Working Lands for Wildlife bobwhite focus area.



- Approximately 20,000 acres are currently enrolled in quail-friendly practices under the USDA Conservation Reserve Program.
- MDNR staff continues to provide technical assistance, outreach, and monitoring efforts on public and private lands in regions of the state where significant potential for population restoration exists.
- Washington College, with funding from MDNR and other partners, continued a regional habitat initiative to restore bobwhite habitat and protect water quality in the upper Chesapeake Bay watershed.
- Reported 5,318 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Bob Long, Upland Game Bird Project Manager, bob.long@maryland.gov

Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP)

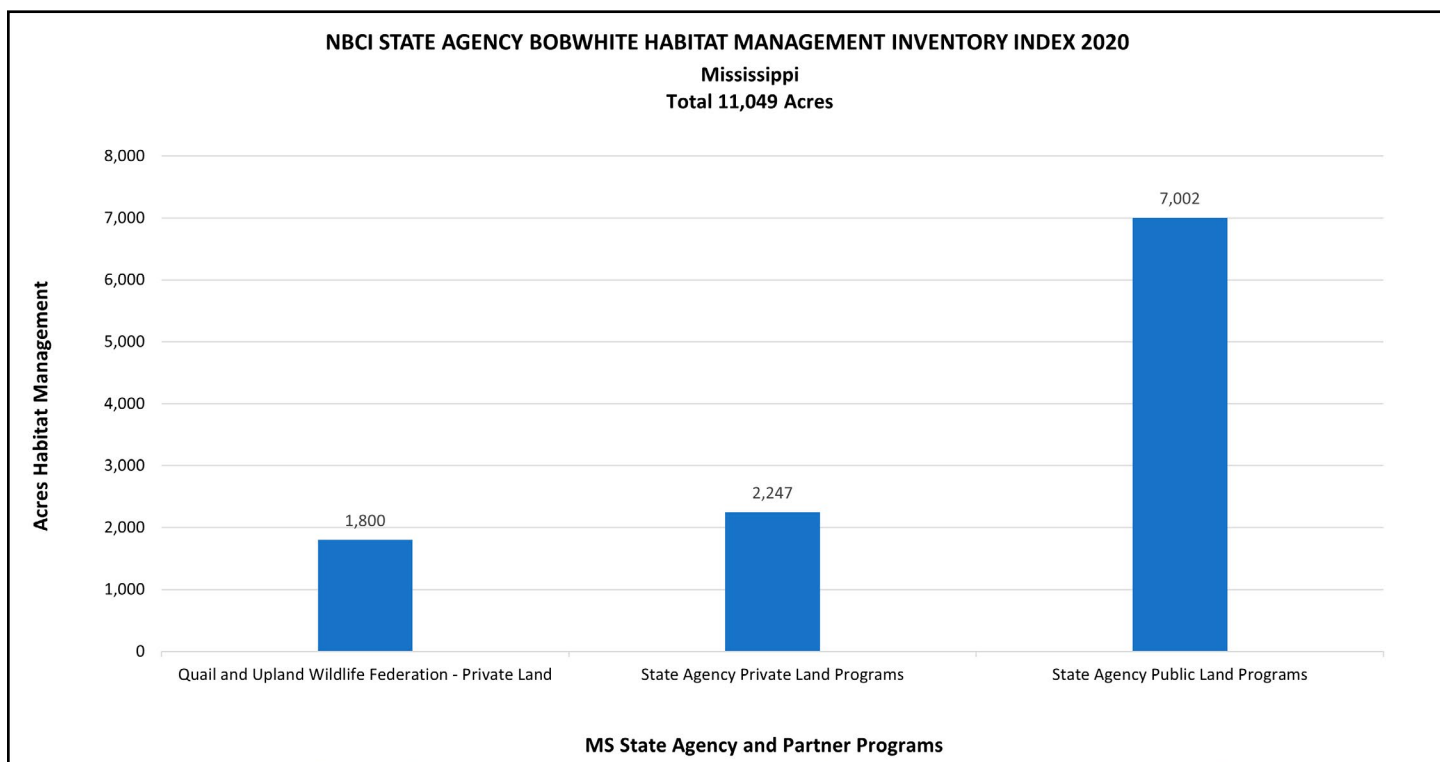
Population: The MDWFP 2020 Wildlife Management Area bobwhite abundance index was 7% below the 2019 index.

Hunting: 2019-20 hunting season statistics were lower than the previous year, and above the previous 5- and 10-year averages.

Management: Quail management highlights include:

- Cooperated with conservation partners to promote prescribed burning through Fire on the Forty Initiative.
- Provided early successional habitat management technical guidance to private landowners statewide.
- Continued education and outreach via public contacts and website.
- Cooperated with DeSoto National Forest (DeSoto Ranger District) on implementation of Leaf River Focal Area.
- Conducted quail-friendly forest and field management (prescribed burning, disking, selective herbicide, and other practices) on 11 Wildlife Management Areas.
- Reported 11,049 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Rick Hamrick, Small Game Program Leader, rick.hamrick@wfp.ms.gov



Missouri Department of Conservation (MDC)

Population: The 2021 state bobwhite abundance index of 1.19 quail per 30-mile route was down about 50% from the 2020 index of 2.35 quail per route.

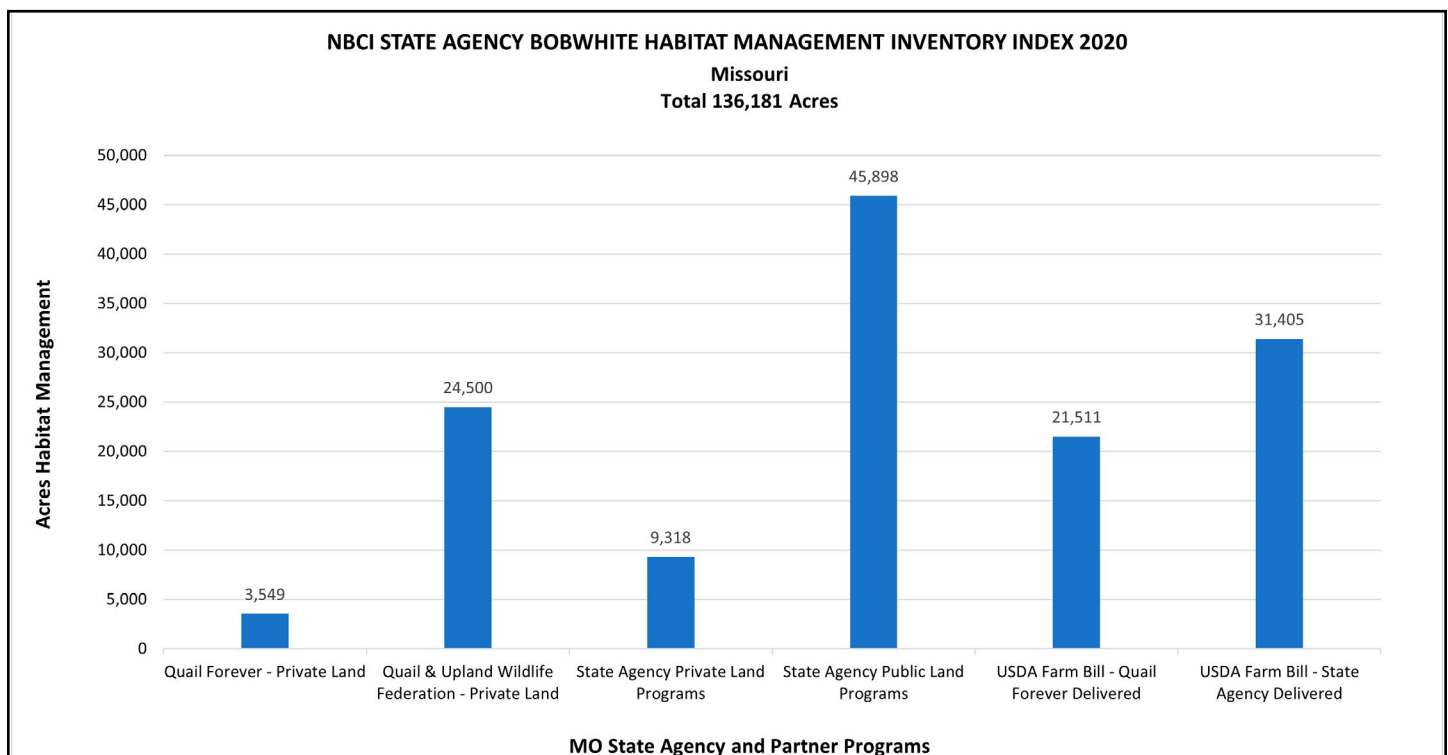


Hunting: Missouri’s Small Game Post-Season Harvest Survey is conducted every other year; the most current data is from the 2018-19 season. The total number of hunters pursuing quail in 2018 was 12,405, a 17% decrease from the 2016-17 season, which was up 21% from the 2014-15 season. Total harvest was 97,604, down 3% from the 2016-17 season. Data from the 2020 Small Game Post-Season Harvest Survey should be available soon.

Management: :

- MDC and collaborating partners received two new Regional Conservation Partnership Program (RCPP) awards totaling over \$2.3 million. The first project, Precision Farm Data and Strategic Buffer Placement, will utilize agriculture precision software to target unprofitable cropland acres for the establishment of high-diversity herbaceous buffers. MDC will monitor quail populations via October covey counts and will utilize the NBCI Coordinated Implementation Program monitoring criteria to evaluate grassland bird and quail response within the project area. Additional monitoring will also assess pollinator populations and nectar stems within the established buffers. The goal of the second project, the Sand Prairie Restoration Program (SPRP), is to restore, manage, and permanently protect 500 acres of sand prairie habitats in southeast Missouri through USDA-held easements. Acquisition of USDA-held perpetual easements will protect a Critically Endangered native community, providing essential habitat for bobwhite and multiple threatened and endangered species. Fall bobwhite quail whistling counts and spring breeding bird surveys will be conducted annually on enrolled easements to track and monitor bird population and species trends on restored and protected acres.
- To reach ag producers who would not normally reach out to a fish and wildlife agency for support, the Department has teamed up with several agriculture organizations to advance the use of precision agriculture to identify unprofitable acres in a field. MFA, the largest farmer cooperative in Missouri, and the Missouri Corn and Soybean Associations are working with MDC to promote pollinator buffers on these unprofitable acres and are exploring the concept of ecosystem credit trading to reward producers for creating habitat.
- For the first time, MDC is working with University of Missouri Extension Livestock Specialists to conduct native warm-season grass grazing workshops and demonstrations. Workshop evaluations indicate over 90% of attendees intend to utilize native grasses, and several livestock producers are cooperating with Extension to measure stocker gains and forage yields on natives as a result of this effort.
- Reported 136,181 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Beth Emmerich, Research Scientist, beth.emmerich@mdc.mo.gov



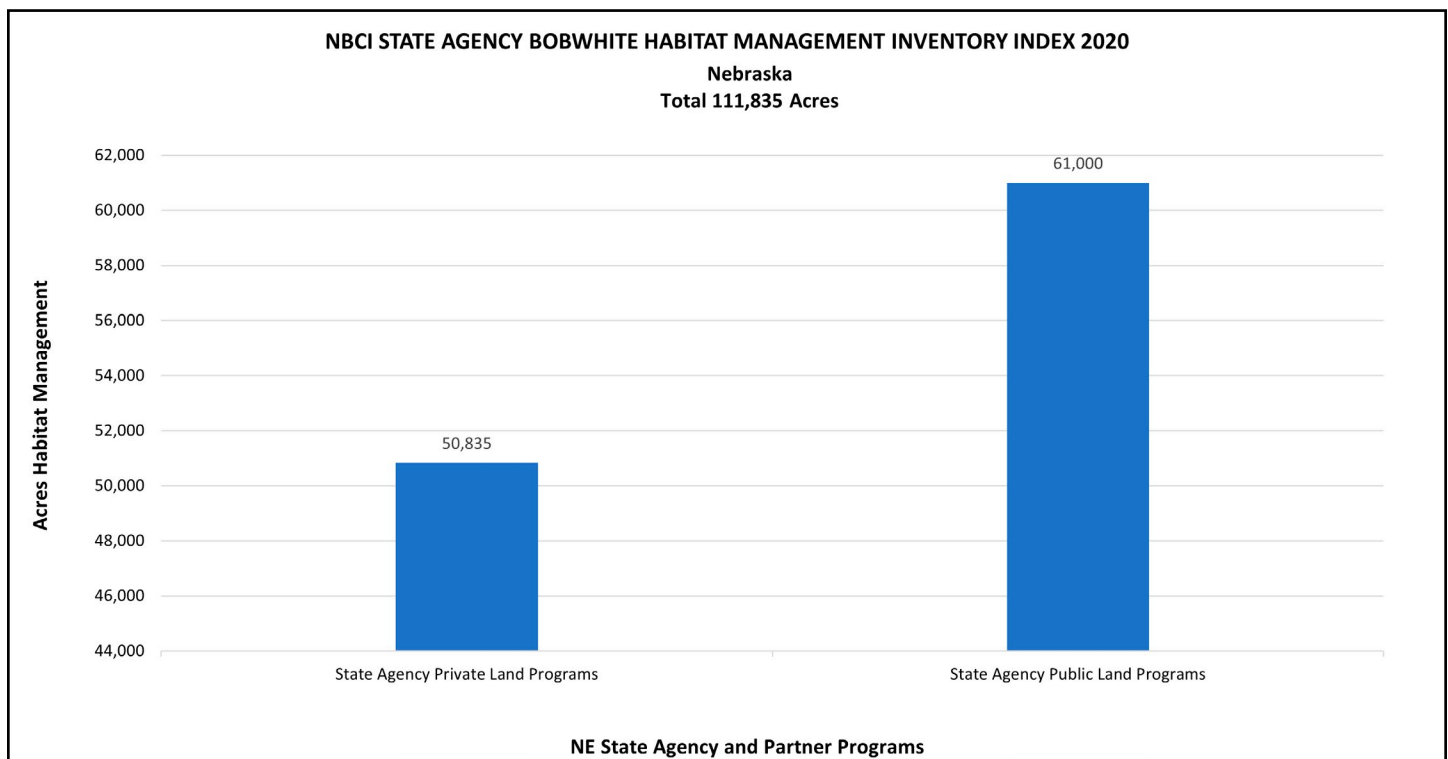
Nebraska Game and Parks Commission (NGPC)

Population: The NGPC statewide abundance index from the 2020 Bobwhite Whistle Count Survey was down 14% compared to 2019 and was also lower than the 5-year average (-34%). Regional indices of relative abundance were lower in all management regions, except the East Central (+7%), Northeast (+8%), and Republican (+1%) regions. Likewise, statewide indices from the 2020 July Rural Mail Carrier Survey (RMCS) were 16% lower than in 2019 and 39% below the 5-year average. Regional RMCS indices were also lower in four of six management regions. Severe winter weather events (and continued habitat loss) have negatively impacted Nebraska’s bobwhite populations in recent years. The core bobwhite range in south-central and southeastern Nebraska continues to support some of the highest densities in the state in recent years.

Hunting: During the 2020-21 bobwhite hunting season (31 October 2020 - 31 January 2021), an estimated 21,676 hunters harvested 67,936 bobwhites during 130,073 days afield. The COVID-19 pandemic appears to have provided a much-needed boost to small game hunting in Nebraska, as more hunters spent time afield this past season. In 2020, the number of hunters pursuing Nebraska’s bobwhites was 73.0% higher than in 2019 (12,528), and was also 40.6% above the 10-year average (15,421). With more hunters afield, quail harvest followed a similar trend and was 73.0% higher compared to 2019 (39,263), but was only 3.4% above the 10-year average (65,726).

Management: NGPC continues to implement early successional habitat management on both public and private lands for the benefit of bobwhites and other wildlife species. Although the implementation of prescribed fire and other “group-based” management activities were reduced substantially due to the Covid-19 pandemic in 2020, staff continued to find innovative ways to restore grassland habitat and enhance public hunting opportunities for bobwhites. A summary of these efforts includes:

- As part of the Early Successional Habitat Initiative, over 57,000 acres of state-owned lands were improved for the benefit of quail, pheasants, and other upland game.
- In partnership with Nebraska Pheasants/Quail Forever, an additional 3,500 acres of habitat on public lands were positively impacted through the “Habitat Share” initiative.
- NGPC Partners Section staff continue to work cooperatively with landowners and partner agencies/ organizations to enhance wildlife habitat on privately-owned lands. This year, private lands programs collectively impacted over 50,000 acres of upland habitat within the state’s quail range.



- Public hunting access opportunities on privately-owned lands have increased consecutively during each of the last five years. Since 2016, over 138,000 acres have been added to the agency's Open Fields and Waters (OFW) program, which provides financial incentives to landowners willing to allow walk-in access for hunting and fishing. Statewide enrollment during the 2020-21 season (>372,000 acres) was at an all-time high, and the vast majority of these acres fall within Nebraska's bobwhite range.
- Reported 111,835 acres of management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: John Laux, Upland Game Program Manager, john.laux@nebraska.gov

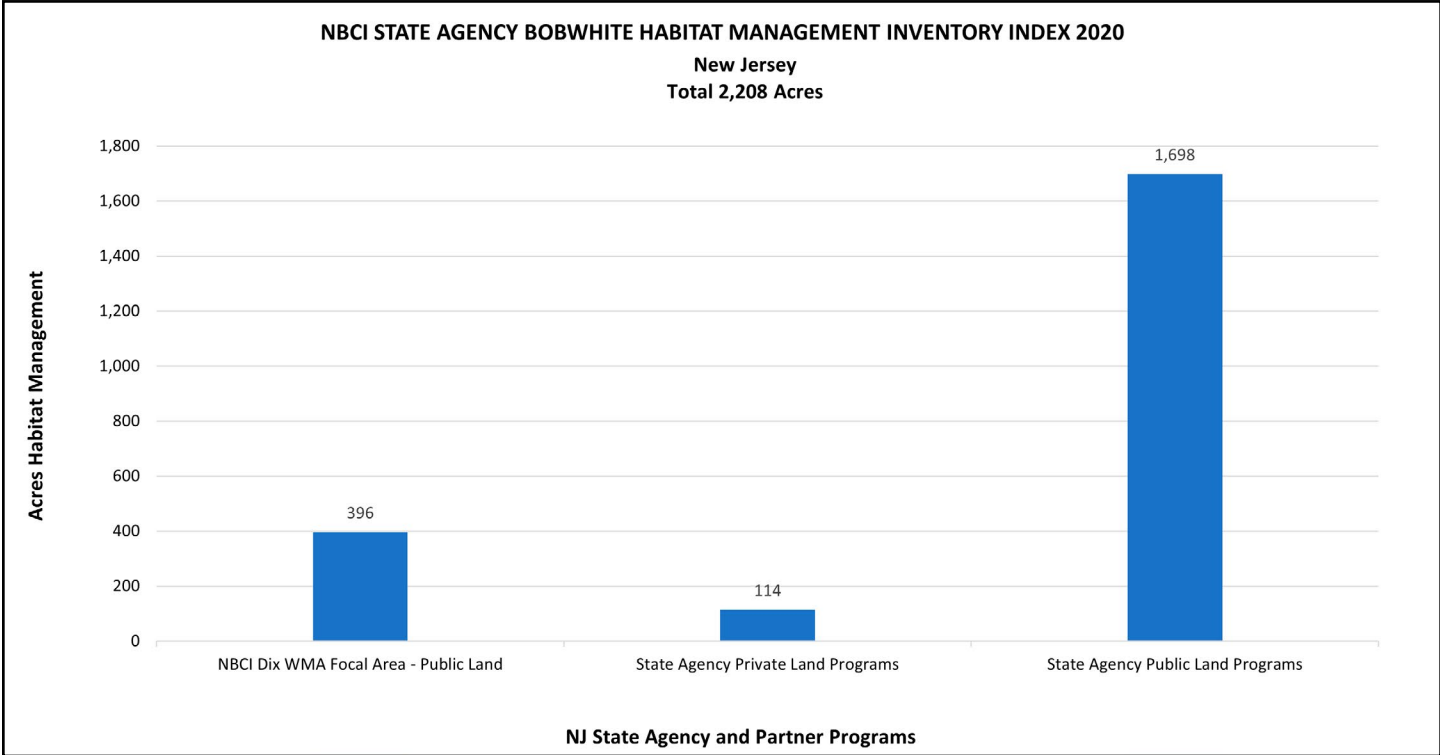
New Jersey Department of Environmental Protection, Division of Fish and Wildlife (NJDEP, NJDFW)

Population: Bobwhite populations remain very low, well below detection levels according to USGS North American Breeding Bird Survey data: 0.00/route in 2016-20.

Hunting: Wild quail hunting season has been closed statewide since September 2011. Hunting pen-raised birds is permitted at two NJDEP wildlife management areas (WMA) and on licensed shooting preserves.

Management: NJDFW continues to operate under the New Jersey Northern Bobwhite Action Plan (revised 2011) and partner with multiple agencies, non-government organizations (NGOs), and private citizens. A formal Recovery Plan was completed in 2018 that outlines specific criteria to initiate a translocation, including proper site selection. Quail management highlights include:

- Completion of the site ranking criteria for possible translocation. The site ranking criteria is a weighted collaboration of studies and data to ensure proper selection of possible translocation sites. Studies include: NBCI Coordinated Implementation Program (NBCI CIP) habitat monitoring, surrogate species monitoring, mammalian predator index, and arthropod diversity/abundance. Other indexes include: landscape connectivity, site connectivity, eligibility for funding, small game hunting, accessibility, state approved management plan, conspecifics, and proximity to pen-reared bird release sites. Dix WMA in Cumberland County scored highest in the site ranking criteria.
- Participating in the National Bobwhite Technical Committee's Translocation ad-hoc to further the potential of a future wild bobwhite translocation in the state.
- The National Fish and Wildlife Foundation (NFWF), USDA Natural Resources Conservation Service (NRCS), NJDFW, and Quail Forever continue to work with New Jersey's Farm Bill Biologist to coordinate and implement wildlife habitat-related conservation programs, with a primary focus on the Environmental Quality Incentive Program



(EQIP) Working Lands for Wildlife (WLFW) Northern Bobwhite in Pine Savannas Project. The Farm Bill Biologist has contacted 114 landowners in two years.

- NJDFW staff visited three interested landowners (2,161 acres owned) within NBCI CIP focal areas and provided management plans. About 184 acres of management occurred via ongoing cooperation between sportsmen, NGOs, and NJDFW on quail habitat projects at a local sewage authority through the WLFW project.
- Over 8,200 acres of state-owned WMAs are implementing forest stewardship plans in a comprehensive approach to management of young forests in a manner that draws upon the expertise of several conservation-tasked state agencies and other stakeholder groups.
- Reported 2,208 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Jimmy Sloan, Upland Game and Habitat Biologist, james.sloan@dep.nj.gov

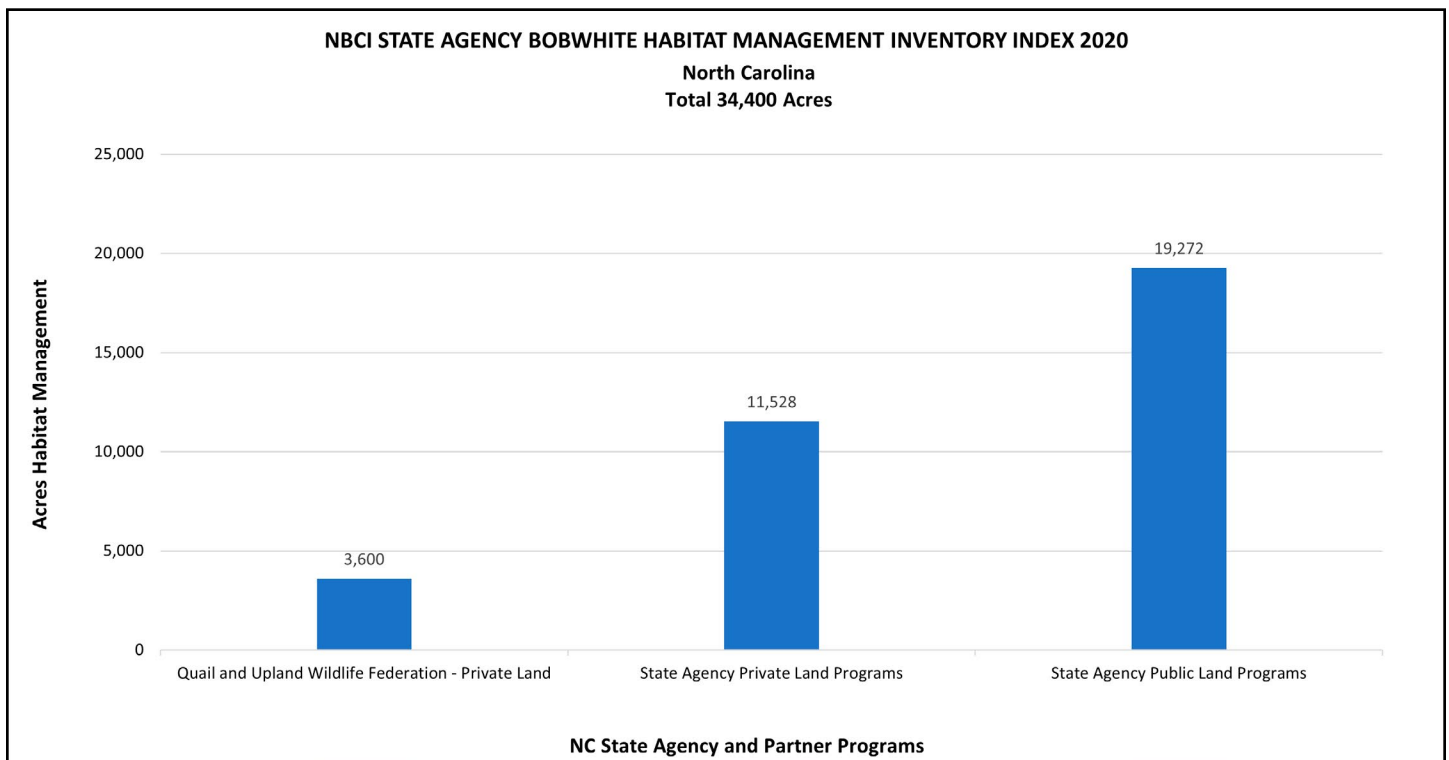
North Carolina Wildlife Resources Commission (NCWRC)

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 stable or increasing in a few areas where landowners are committed to intensive habitat restoration and management.

Hunting: Each year, the NCWRC uses a post-season survey to estimate the number of hunters, days hunted, and harvest of all game species in the state. During the 2019-20 season, approximately 6,000 hunters spent 35,000 days hunting quail and harvested 20,000 birds. The bulk of quail hunting and harvest occurs 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: :

- The NCWRC has created a new program called Wild Quail Management Areas that will allow dedicated property managers to implement specific management actions (nest predator trapping and supplemental feeding) for the benefit of wild bobwhites.
- Continued outreach via The Upland Gazette, covering early successional species and habitats. The Upland Gazette



is 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 34,400 acres of management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Christopher D. Kreh, Game and Furbearer Program Assistant Chief, chris.kreh@ncwildlife.org

Ohio Department of Natural Resources, Division of Wildlife (ODNR)

Population: Ohio's bobwhite population estimate, based on 2015-19 roadside surveys, is 7,500 to 12,500 quail. 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). Recent development of Integrated Population Models by The Ohio State University (OSU) suggests that some sub-populations are declining at a rate of 50% annually. Using integrated population models, researchers at OSU predicted that the probability of extinction was 40% annually for a southern Ohio bobwhite population.

Hunting: Results of 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. More recent hunter harvest surveys place the estimate at less than 1,000 hunters of wild quail. Average hunting effort remains at about 1 day out of Ohio's 24-day season, with a daily bag average of 1-2 birds. Ohio offers a 2-bird daily bag limit. Hunting on public lands is closed except for special hunts on two areas.

Management:

- Range-wide surveys in 2021 will be used to identify population distribution. Habitat models to estimate habitat improvement needs at landscape scales is planned for the upcoming year.

NBCI State Quail Coordinator: Nathan Stricker, Wildlife Biology Supervisor, nathan.stricker@dnr.state.oh.us

Oklahoma Department of Wildlife Conservation (ODWC)

Population: The statewide number of quail observed in 2020 per 20-mile route was down from the previous year—1.62 quail/route (q/r) to 1.0 q/r. This was below the 10-year average of 2.82 q/r. Half of the regions in Oklahoma displayed decreases in bobwhite populations. These decreases are due to lowered chick production and survival into the fall population, likely associated with weather variables like rainfall timing. The northwest region had a decrease in population of 6.05%—a drop from 3.06 q/r to 2.87 q/r—which is still below the 10-year average of 5.88 q/r and well below the 29-year average of 8.06 q/r. The largest decrease occurred in the southwest region, dropping from 2.58q/r in 2019 to 0.0 q/r in 2020. Statewide quail abundance has remained below the 10-year average since 2018.

Hunting: From 1986-2019, quail hunter numbers have declined by 78% (110,960 in 1986 to 24,389 in 2019). Long-term fluctuations in hunter participation and harvest have been due to decreases in quail numbers and habitat quality. Large annual fluctuations are primarily due to the localized weather conditions.

Management: The ODWC provided technical assistance on 19,596 acres through the Quail Enhancement Program during 2020 to assist private landowners with quail conservation as well as an additional 103,753 acres by regional private lands biologists. Highlights include:

- The ODWC continued its partnership with Oklahoma State University to conduct research on four ODWC Wildlife Management Areas (WMAs). The current research project began April 1, 2018, and is currently utilizing GPS units attached to northern bobwhites to monitor habitat usage and movement.
- ODWC continued its work with the University of Georgia's Southeastern Cooperative Wildlife Disease Study (SCWDS) to complete a health assessment of bobwhite quail which includes 10 WMAs. Ten quail will be taken from each site in August and October and sent to SCWDS to be tested for a wide array of diseases and conditions.
- Reported 241,305 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Tell Judkins, Upland Game Biologist, tell.judkins@odwc.ok.gov



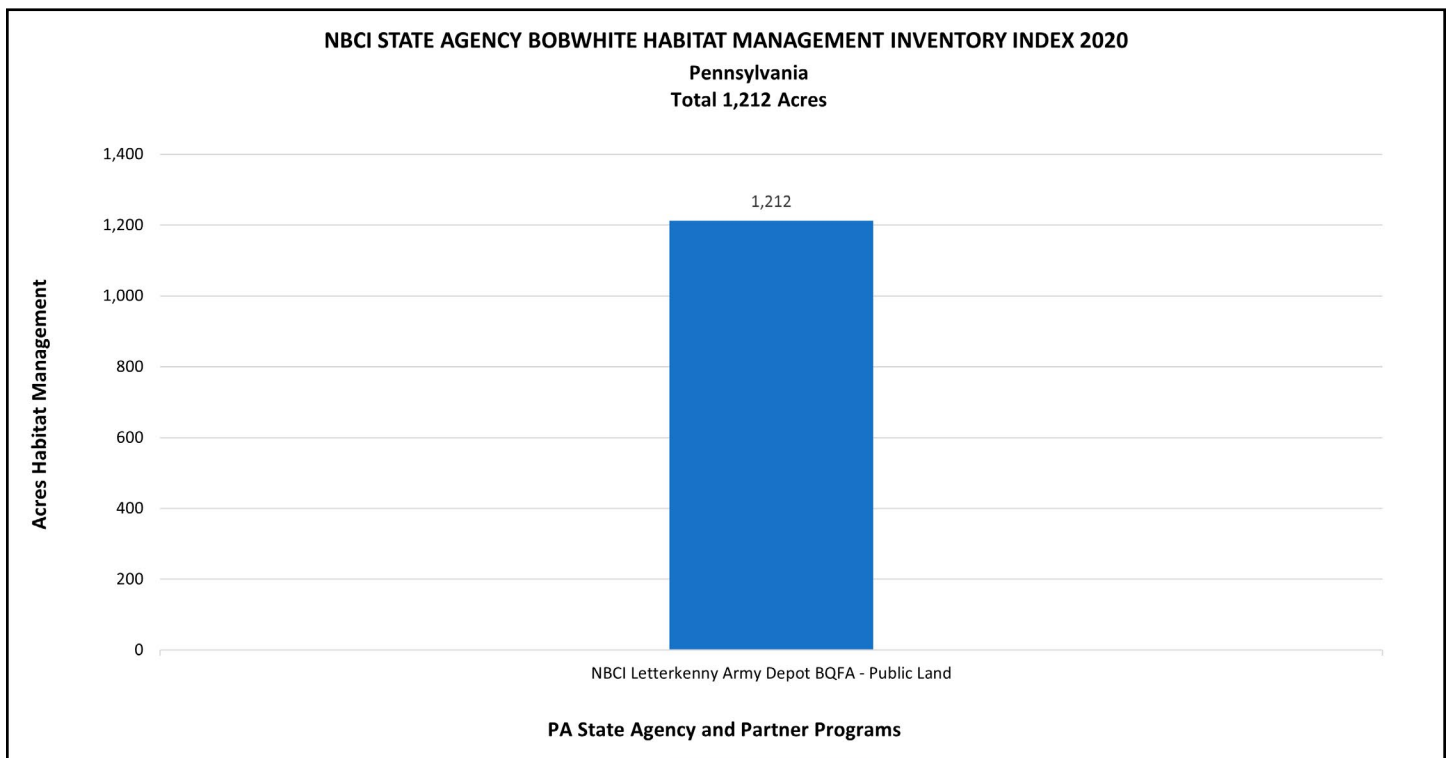
Pennsylvania Game Commission (PGC)

Population: Between 1966 and 2012, bobwhite populations declined by 9.1% annually. Between 2001-12, 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). 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. Management highlights include:

- Letterkenny Army Depot (LEAD) in Chambersburg continues to be the focus of restoration efforts in Pennsylvania. This project is supported by the Keystone Quail Restoration Initiative, a partnership between Letterkenny Army Depot, the Pennsylvania Game Commission, Pheasants Forever, Shippensburg University, Harrisburg University, Renfrew Institute, Big Covey Chapter of Quail Forever, Cumberland Valley Chapter of Pheasants Forever, the National Wild Turkey Federation, Mr. Kurt Oelmann, and NBCI.
- 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, NBCI Coordinated Implementation Program (NBCI CIP) habitat monitoring, and pollinator surveys. Habitat management to date has included approximately 1,900 acres of prescribed fire treatment, 1,609 acres of overstory



removal, 663 acres of herbicide treatment, 63 acres of disking, 61 acres of forb plantings, and planting over 4,000 shrubs.

- Pennsylvania has submitted official translocation requests to partner states and is working closely on logistics for this effort. 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 1,212 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Ken Duren, Wildlife Biologist, kduren@pa.gov

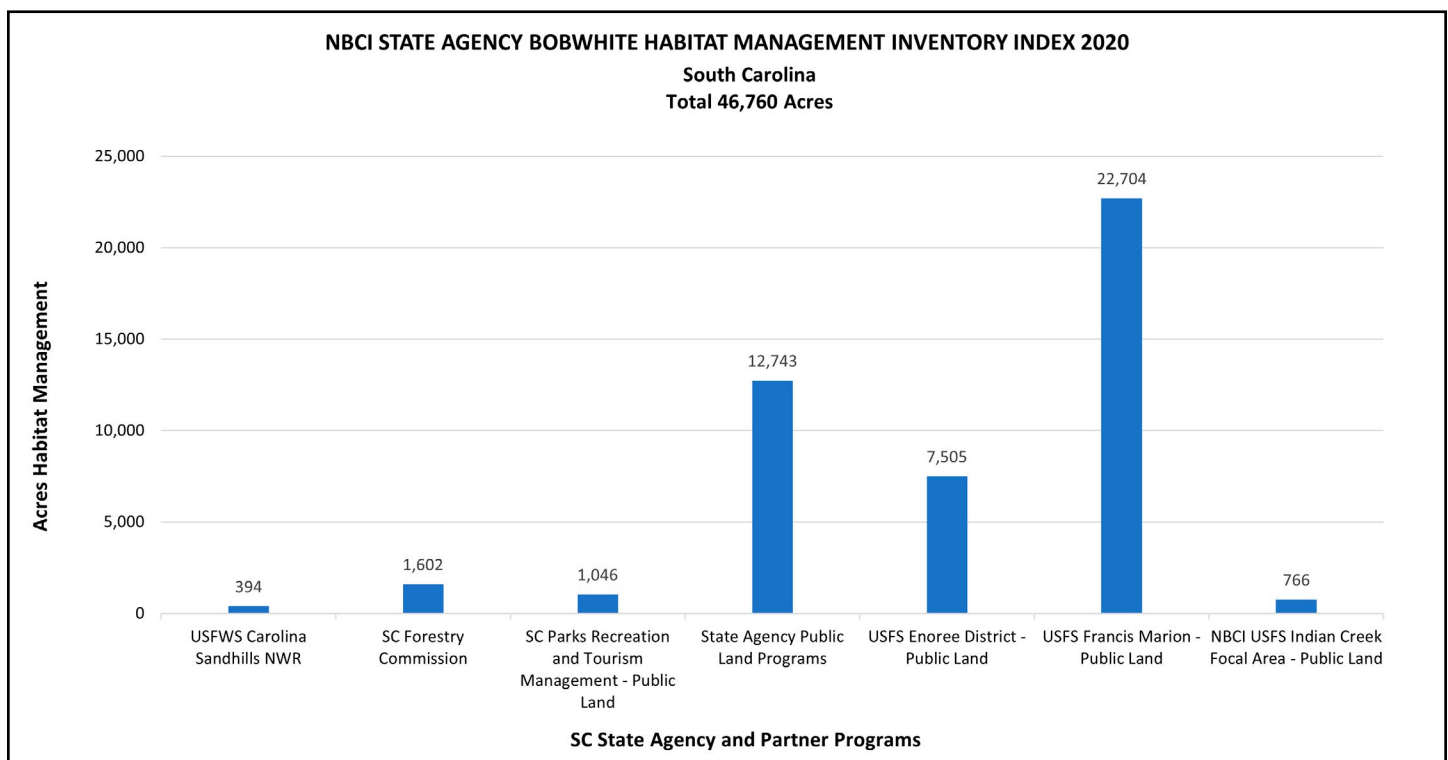
South Carolina Department of Natural Resources (SCDNR)

Population: The SCDNR 2019 statewide bobwhite whistling cock census was 11.3% above the 2019 index and 61.7% below the long-term average.

Hunting: The most recent information on statewide quail hunting (2014) indicated that 7,079 hunters harvested 75,653 wild quail during 35,224 days afield. Average hunter success increased over the prior year in the annual Quail Hunter Survey. The most recently published report for the 2018-19 hunting season indicated 0.39 coveys per hour of hunting.

Management: Quail management highlights include:

- Monitoring and habitat manipulation continued in 2020 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.
- A virtual South Carolina Bobwhite Funding Partnership fundraising event was held in October. There were over 150 attendees, and the Partnership raised over \$23,000 for the South Carolina Bobwhite Initiative (SCBI) and the Tall Timbers Carolina Regional Quail Project.
- One Quail Forever, NRCS, and SCDNR Farm Bill Biologist position vacancy was filled. Ms. Kelli Bashaw is working in Hampton and Allendale counties assisting landowners with federal assistance programs, with a focus on the statewide Working Lands for Wildlife cooperators.
- The Bobwhite Quail Whistling Cock Census was conducted for the 42nd year, the Annual Summer Bobwhite Quail Brood Survey was conducted for the 27th year, and the Annual Fall Covey Count Survey was conducted for the 20th year.



- Maintained the quail page on the SCDNR web site. Visitors can also find out more about SCBI on our webpage, on Instagram (@scbobwhites), or at www.facebook.com/scbobwhites.
- Reported 46,760 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Michael Hook, Small Game Program Leader, hookm@dnr.sc.gov

Tennessee Wildlife Resources Agency (TWRA)

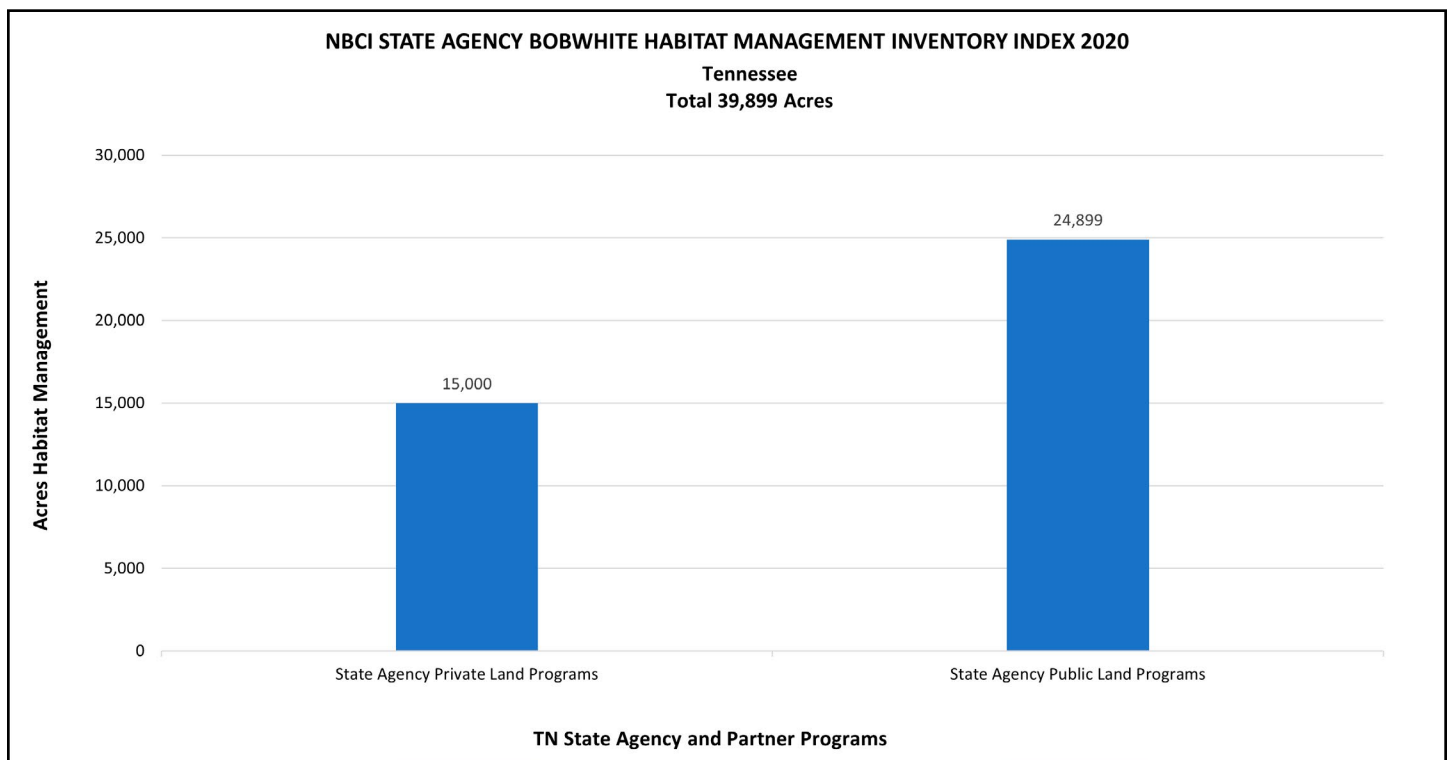
Population: Tennessee’s quail population continues to decline or remains locally stable. TWRA has collected spring counts on anchor Wildlife Management Areas (WMAs) for 2014-20 and enters data into the Eastern Avian Knowledge Network database. Spring counts will be continued in 2021.

Hunting: A mixed mode survey was conducted for the 2019-20 season. It was estimated that 5,941 + 2,611 hunters harvested 28,186 + 1,425 bobwhites.

Management:

- Tennessee has five anchor WMAs and four focus areas, which continue to be managed. In 2018, Wolf River WMA became Tennessee’s first NBCI Coordinated Implementation Program (NBCI CIP). NBCI CIP habitat inventory (as well as both spring and fall covey counts) were completed, and management continues on this area.
- Reported 39,899 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: Roger Applegate, Wildlife Population Biologist, roger.applegate@tn.gov



Texas Parks and Wildlife Department (TPWD)

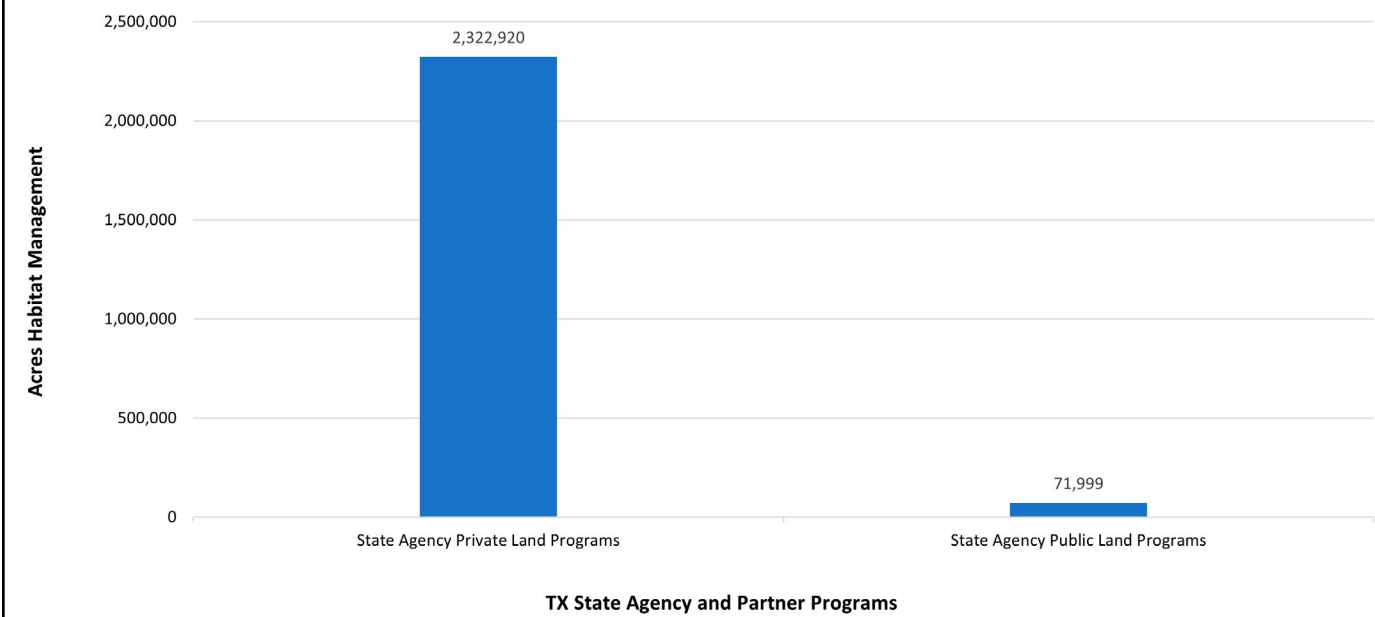
Population: According to TPWD surveys, bobwhite populations in key hunting regions decreased in most areas prior to the 2020-21 hunting season, primarily due to drought conditions. The South Texas ecoregion reported good hunting in certain areas closer to the coast, while the Rolling Plains ecoregion fell well below expectations. Spring and summer 2021 conditions far have been extremely favorable bobwhite production. Bobwhite numbers are predicted to increase going into next season.

Hunting: The TPWD bobwhite hunter numbers for 2019-20 increased from 30,394 in the previous year to 36,926; estimated bobwhite quail harvest decreased 30% from previous year down to 284,339. The small game hunter survey questionnaire has excluded pen-reared birds in the harvest estimate since 2013.



NBCI STATE AGENCY BOBWHITE HABITAT MANAGEMENT INVENTORY INDEX 2020

Texas
Total 2,394,919 Acres



Management: Texas Quail conservation efforts include continued development of quail focal areas using protocols outlined by the NBCI Coordinated Implementation Program (NBCI CIP) in 3 of Texas’ 10 ecological regions. One main NBCI focal area has been reporting both spring and fall counts since 2013. Two other NBCI protocol focal areas have been monitored only in the spring in partnership with Texas State University and other Oaks and Prairies Joint Venture partners. TPWD quail conservation highlights include:

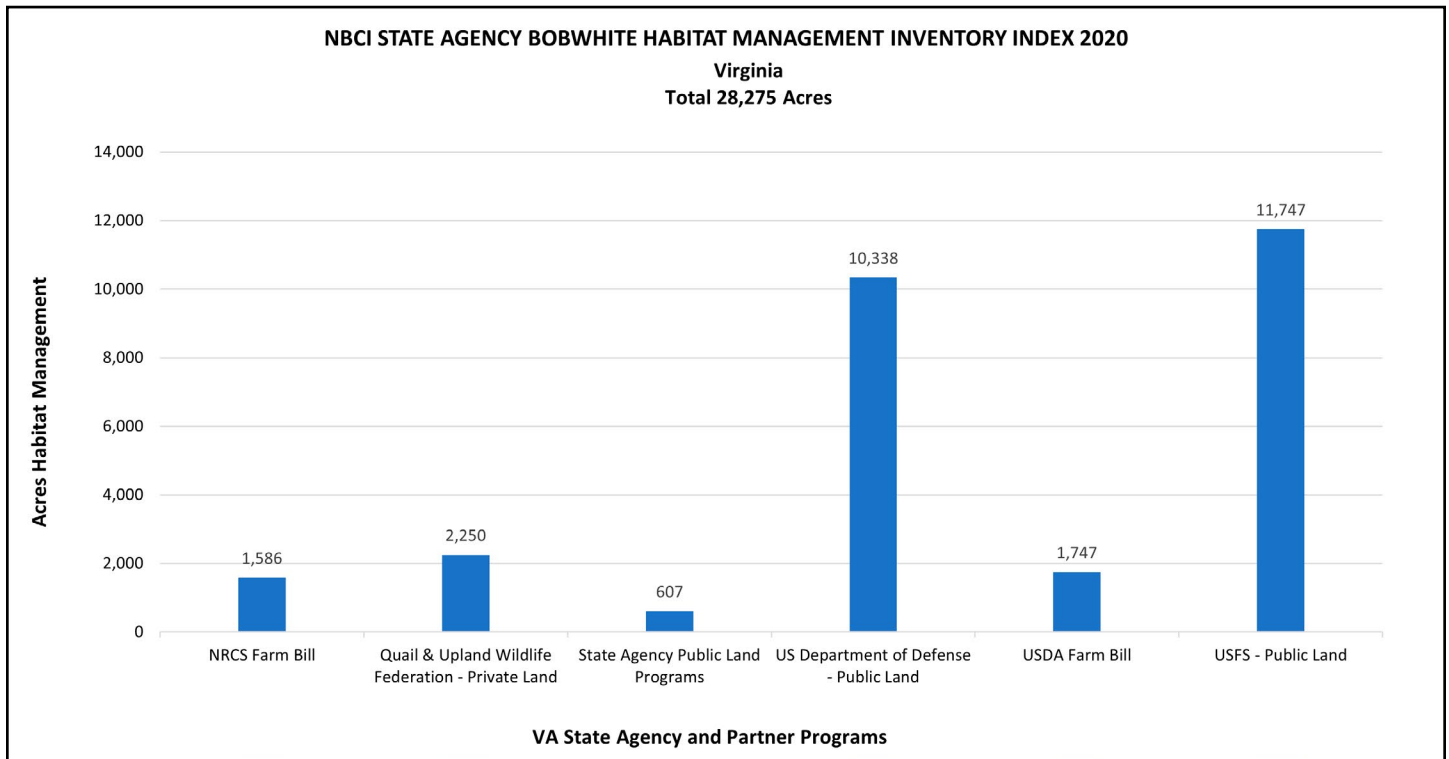
- Current bobwhite research across several conservation entities and institutions includes the following: evaluation of wild quail translocation; potential parasite and toxin impacts; and bobwhite demographics and human dimensions.
- The Oaks and Prairie Joint Venture (OPJV) partners—including leadership by National Wild Turkey Federation, Pheasants Forever/Quail Forever, and TPWD—continue to manage an NRCS Regional Conservation Partnership Program (RCPP) grant (2017-21). The \$6 million partnership with NRCS addresses significant declines in grassland wildlife populations through the improvement and restoration of native grassland habitats on qualifying projects in Texas and Oklahoma.
- The RCPP is a part of the OPJV’s successful Grassland Restoration Incentive Program (GRIP) and includes the support for two full time biologist positions held by Quail Forever.
- Texas was added to the list of states participation in the NRCS Working Lands for Wildlife initiative and is adding 3 delivery biologists to be embedded in NRCS offices in key areas of the state.
- The GRIP model of incentive-based habitat work on private lands continues within the geographies of the Oaks and Prairies, Rio Grande (South Texas GRIP) and Gulf Coast Joint Ventures (Coastal GRIP). Funding partners include ConocoPhillips, National Fish and Wildlife Foundation, TPWD, and others. Projects are underway.
- About 1,600,000 acres of quail habitat were developed on private lands and another 71,999 acres on public lands under the direction of state wildlife personnel.
- Reported 2,394,919 acres of bobwhite management for the NBCI Habitat Management Inventory.

NBCI State Quail Coordinator: John McLaughlin, West Texas Quail Program Leader, john.mclaughlin@tpwd.texas.gov

Virginia Department of Wildlife Resources (VDWR)

Population: While Virginia’s quail population continues to decline in some areas, populations seem to have stabilized in other significant areas, and there are a few areas where modest increases are underway. One hunter reported finding 101 unique coveys of quail this season. Several others reported finding in excess of 80 coveys, one stating it was the best





season he has had in 30 years.

Hunting: For the 2020-21 hunting season, 24 avid quail hunters reported on 399 hunts. They found 592 coveys and averaged finding 1.4 coveys per hunt, with a statewide average of 2.4 hours per covey find. (These are slight decreases from last year but better than the 5-year average.) Of note, hunters averaged killing only one quail per covey flush (606 killed). Our hunter interest survey for 2018-19 showed that quail hunting was still extremely important to 8.9% of our hunters (harvest and effort statistics were not collected in this survey). The 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: VDWR Quail Recovery Initiative completed 11 years of implementation on June 30, 2020. The agency prepared a comprehensive report, compiling their actions on behalf of bobwhites since 1980, as well as the 2017 Quail Plan Revision. Quail management highlights of the first 11 years included:

- 4,978 site visits made to landowners owning over 545,000 acres of land, resulting in over 2,300 management plans written, despite being down two private lands biologists.
- Quail DVD, Answering the Call, widely distributed.
- 460 tracts of land and 442 landowners in the Quail Management Assistance Program totaling 107,270 acres enrolled, with 14,869 (14%) under some form of quail management.
- Forestry-related Best Management Practices (BMPs) partnership with Virginia Department of Forestry offering cost-share for eight wildlife-friendly forestry BMPs, including prescribed fire. Total projects completed to date: 180; total acres: 6,604 (static this year due to lack of funding).
- Preparing for the ninth year of June call counts and point habitat assessments, per NBCI Coordinated Implementation Program (NBCI CIP) monitoring protocol for focal areas.
- Reported 31,724 acres of quail management for the NBCI Habitat Management Inventory (acres down due to COVID).

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



West Virginia Division of Natural Resources (WVDNR)

Population: West Virginia published the second Breeding Bird Atlas (BBA) in 2021. These results documented a nearly 91% decline in statewide occurrence of bobwhite populations from the previous BBA published in 1994. Breeding Bird Survey (BBS) data demonstrate nearly a 94% decline in bobwhite populations from 1986-2011. Both data sets have limited reliability, and declines may be underestimated based on low detection numbers on BBS routes and not being able to differentiate captive-bred birds from wild individuals during atlasing.

Hunting: This species remains a game bird in West Virginia with no annual harvest limit, a bag limit of three and possession limit of nine. The continued open season assumes that most, if not all, harvested birds are captive-raised released birds. Hunting remains closed on the Tomblin Wildlife Management Area (WMA) in the Southwestern coal fields.

Management:

- West Virginia has a statewide bobwhite operational plan and management guidelines. Most management is in conjunction with creating and enhancing early successional habitat for ruffed grouse and wild turkey.
- Tomblin WMA was administratively selected for focused bobwhite habitat creation/enhancement. It was the translocation site for 48 quail.
- The WVDNR is undergoing reassessment of the current habitat program on Tomblin WMA for our activities to be conducive to both quail and elk.

NBCI State Quail Coordinator: Dr. Linda Ordiway, Resident Small Game Biologist, linda.d.ordway@wv.gov



NBCI State Agency Bobwhite Habitat Inventory Index 2020

Molly Foley | NBCI Data Analyst

The NBCI Habitat Inventory is an index of the potential for bobwhite to occur on the landscape based on habitat, now or in the near future, as identified by the state's quail coordinator. For 2020, 17 state agency coordinators reported 3,671,552 acres of bobwhite habitat management for 64 programs, demonstrating a tremendous commitment to habitat to benefit bobwhites and myriad fauna.

Introduction

This is the tenth 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.). Data in this report are rounded to nearest whole number, with X.5 rounded up (e.g., 1333.49 and 1333.5 are equivalent to 1334). Inventory management is for the 2020 reporting year, which varies 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) US Department of Agriculture (USDA) Farm Bill, includes acres managed under the USDA Farm Bill program (Figure 3). The Partner Private Land (Figure 4) and Partner Public Land (Figure 5) categories include programs administered by partner agencies, organizations, and institutions, and are generally not featured in Figures 1-3. As of 2019, Inventory acres of habitat management for NBCI Coordinated Implementation Program (CIP) Focal Areas are not required and are being reported in the CIP database. Some states continue to report these acres for the Inventory, and this management can be found in Figures 4 and 5.

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). Acres are sometimes

counted more than once across land categories. For example, agency and partner management might occur simultaneously on USDA Farm Bill lands. The Inventory is action-oriented.

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 to existing populations. Further, as described in detail in the 2012 and 2013 State of the Bobwhite reports, because of variability among NBCI states and partners in ability to measure habitat, the NBCI Inventory is appropriately interpreted as an index of habitat management. As an index of the amount of habitat management beneficial to bobwhites, comparisons among years, states, partners, and programs should be made cautiously.

To better describe the amount of uncertainty in habitat data, coordinators grade their confidence in acreage they report by choosing among 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. There are non-biological sources of variability that affect the accuracy of this assessment of management. Foremost, there are differences among states in capacity to collect data and within a state from year-to-year. Also, the reporting strategy varies among states (e.g., conservative or liberal inclusion of habitat management).

Some states were constrained in 2020 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. Per NBCI Inventory protocol, presence or potential presence (immigration or translocation) of wild bobwhite are minimum criteria for claiming habitat management for an area. Because Pennsylvania has a peer-reviewed plan to translocate wild bobwhite, their management was reported for a third year under public land partners (Figure 5).

Additionally, due to the ongoing COVID-19 pandemic, a substantial amount of states had difficulty obtaining numbers both from internal sources as well as partner agencies, thus reported acreages of habitat management may appear artificially low for the 2020 reporting year.

Results

Seventeen state agency coordinators reported 3,671,552 acres of bobwhite habitat management, more than the 3.2 million acres reported last year. Management in 2020 included:

- 453,087 acres on state wildlife agency publicly owned lands (Figure 1),
- 2,492,992 acres on private lands through state wildlife agency efforts (Figure 2),
- 81,256 acres on private lands through the USDA Farm Bill (Figure 3),
- 581,344 acres on Partner Private Lands (Figure 4), and
- 62,873 acres on Partner Public Lands (Figure 5).

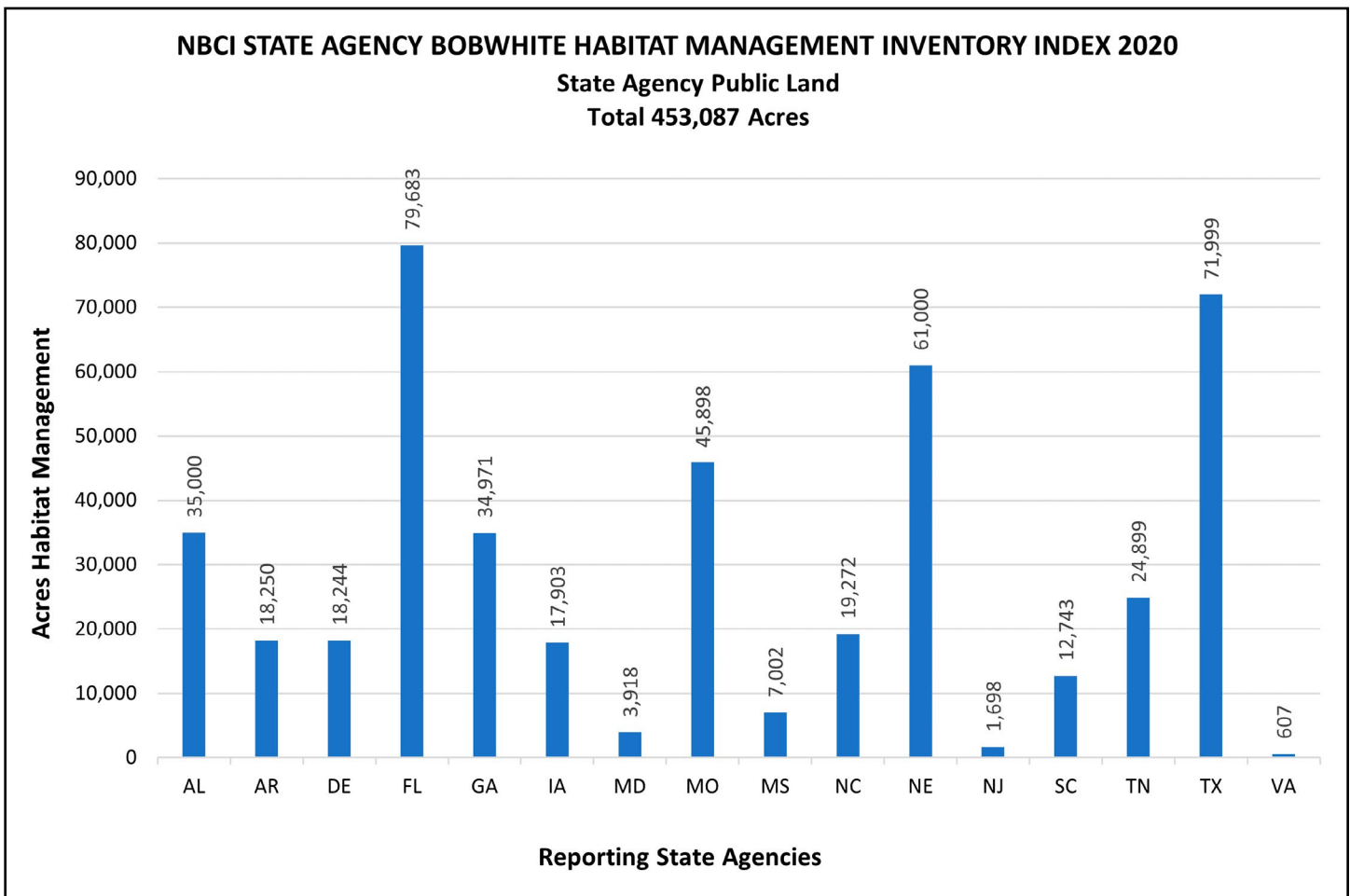


Figure 1. 2020 NBCI State Agency Bobwhite Habitat Management Index for 16 state public land programs. Index is acres of habitat managed during the reporting year (ranging from July 1, 2019 to March 31, 2021).



The “reporting year,” 2020, included dates ranging from July 1, 2019, to March 31, 2021, varying with fiscal years, accounting systems, etc. Acreage for all 25 NBCI states are as follows:

- AL: 50,782,
- AR: 42,672,
- DE: 18,244,
- FL: 294,236,
- GA: 422,013,
- IA: 31,549,
- IL: no data submitted,
- IN: no data submitted,
- KS: no data submitted,
- KY: no data submitted,
- LA: no data submitted,
- MD: 5,318,
- MO: 136,181,
- MS: 11,049,
- NC: 34,400,
- NE: 111,835,
- NJ: 2,208,
- OH: no data submitted,
- OK: no data submitted,
- PA: 1,212,
- SC: 46,760,
- TN: 39,899,
- TX: 2,394,919,
- VA: 28,275, and
- WV: no data submitted due to lack of adequate bobwhite population.

State Agency Public Land Management

For 2020, management of state wildlife agency public lands, 16 state agencies reported 453,087 acres of bobwhite habitat management (Figure 1). State coordinator acreage reports (state, coordinator confidence) included the following:

- 35,000 (AL, somewhat confident),
- 18,250 (AR, moderately confident),
- 18,244 (DE, moderately confident),
- 79,683 (FL, moderately confident),
- 34,971 (GA, moderately confident),
- 17,903 (IA, moderately confident),
- 3,918 (MD, somewhat confident),
- 45,898 (MO, somewhat confident),
- 7,002 (MS, very confident),
- 19,272 (NC, somewhat confident),
- 61,000 (NE, very confident),
- 1,698 (NJ, very confident),

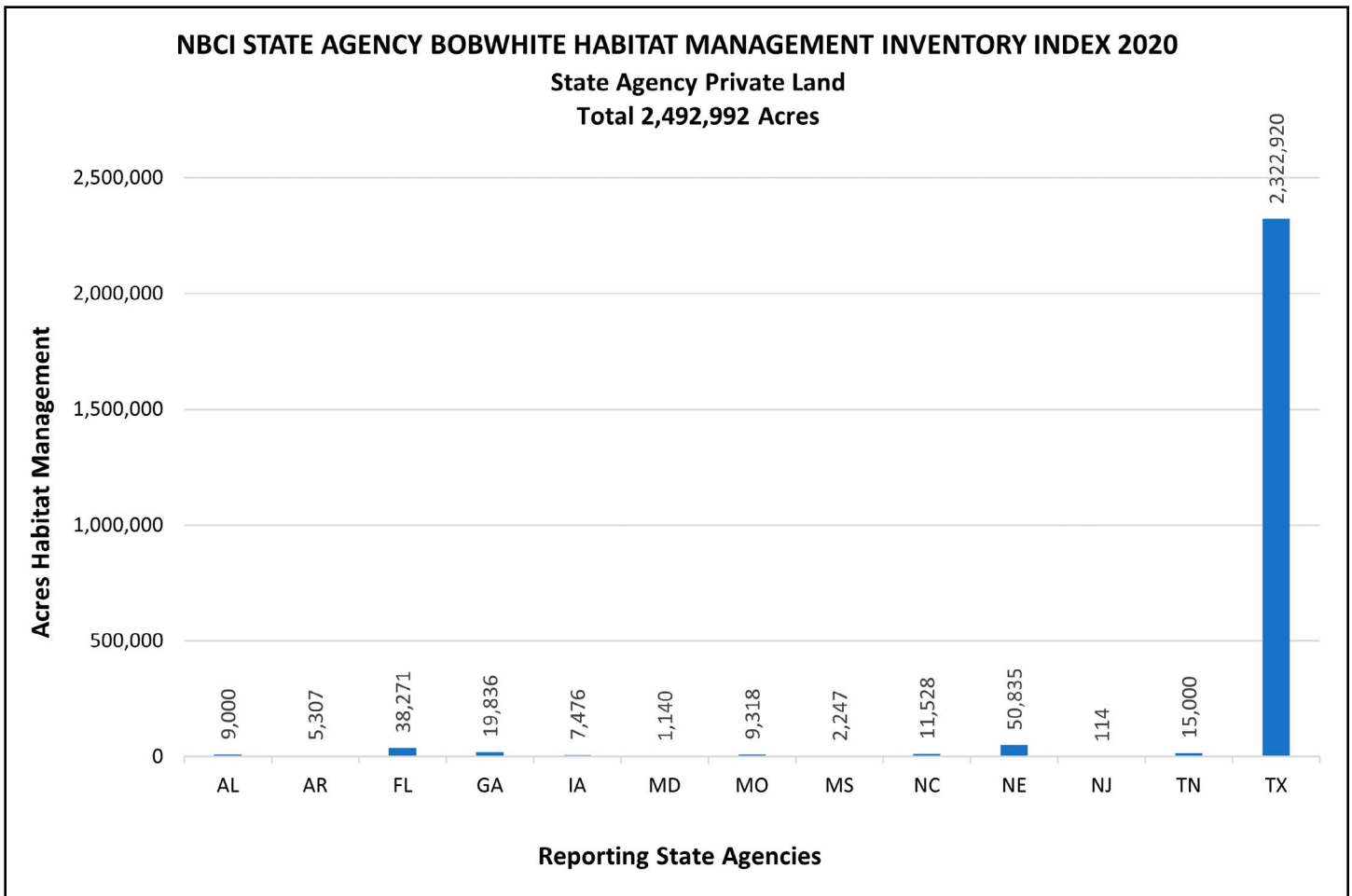


Figure 2. 2020 NBCI State Agency Bobwhite Habitat Management Index for 13 state-led private land programs. Index is acres of habitat managed during the reporting year (ranging from July 1, 2019 to March 31, 2021).



- 12,743 (SC, very confident),
- 24,899 (TN, very confident),
- 71,999 (TX, very confident), and
- 607 acres (VA, very confident).

- 7,476 (IA, moderately confident),
- 1,140 (MD, somewhat confident),
- 9,318 (MO, very confident),
- 2,247 (MS, very confident),
- 11,528 (NC, somewhat confident),
- 50,835 (NE, very confident),
- 114 (NJ, very confident),
- 15,000 (TN, moderately confident), and
- 2,322,920 acres (TX, very confident).

State Agency-Based Private Land Management

For 2020, on private lands where management was based on state agency work and not a part of the USDA Farm Bill, 13 state agencies reported acres (2,492,992, Figure 2). State coordinator acreage reports (state, coordinator confidence) included the following:

- 9,000 (AL, very confident),
- 5,307 (AR, moderately confident),
- 38,271 (FL, moderately confident),
- 19,836 (GA, very confident),

Private Land Enrolled in US Department of Agriculture Farm Bill

For 2020, on private lands where management was based on USDA Farm Bill programs, 6 state agencies reported on 10 programs, practices, and management delivered by partners for a total 81,256 acres of bobwhite habitat

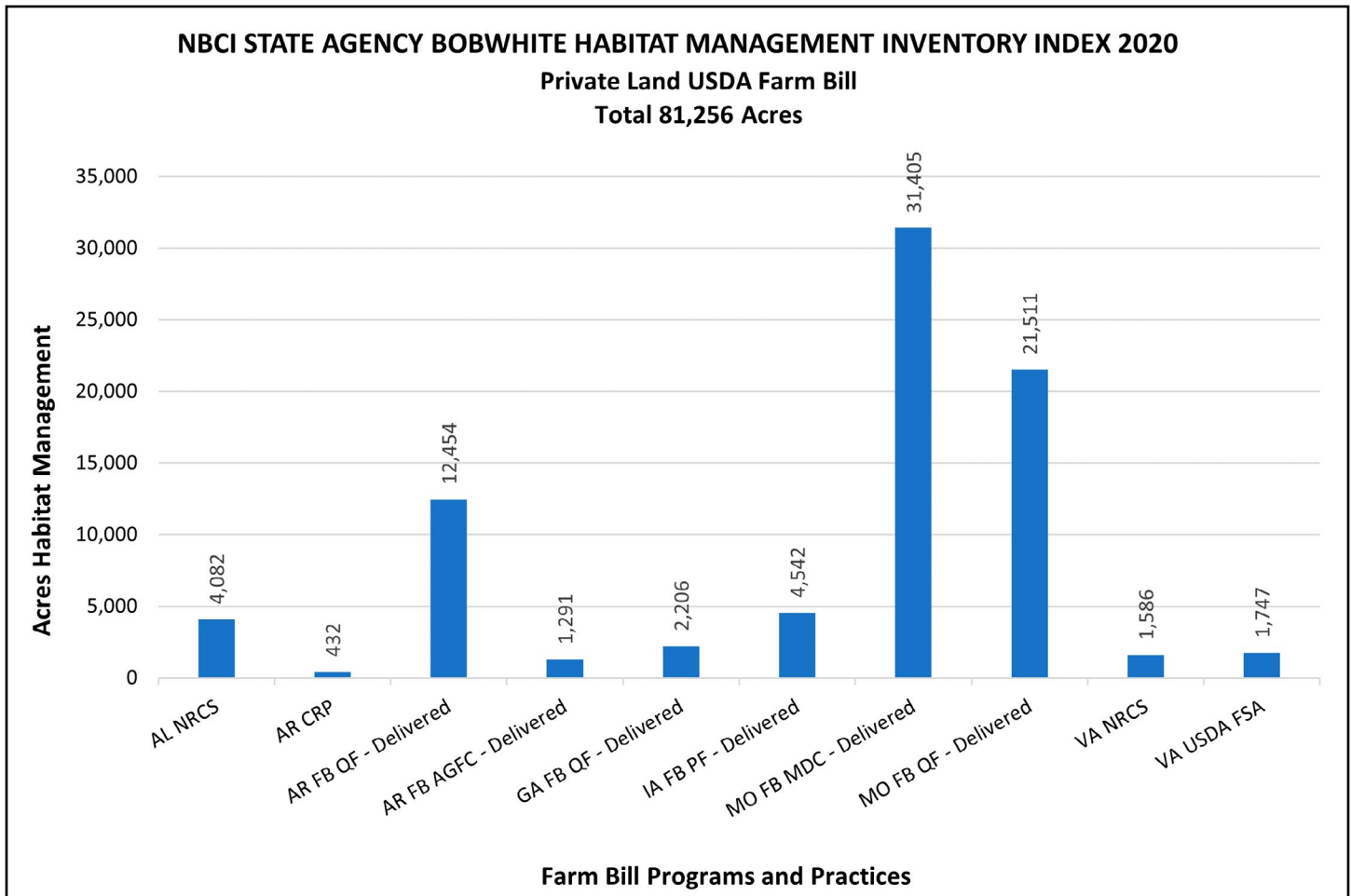


Figure 3. 2020 NBCI State Agency Bobwhite Habitat Management Index for 6 states and 10 US Department of Agriculture Farm Bill funded programs. Index is acres of habitat managed during the reporting year (ranging from July 1, 2019 to March 31, 2021).

Acronyms: CRP (Conservation Reserve Program), FB (Farm Bill), FSA (Farm Services Agency), NRCS (Natural Resources Conservation Service), USDA (US Department of Agriculture); AR, GA, IA, and MO program delivery by AGFC (Arkansas Game and Fish Commission), MDC (Missouri Department of Conservation), PF (Pheasants Forever), and QF (Quail Forever).



management (Figure 3). State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following:

- 4,082 (AL, USDA NRCS, somewhat confident),
- 432 (AR, USDA CRP, moderately confident),
- 12,454 (AR, USDA Farm Bill Quail Forever (QF) Delivered, moderately confident),
- 1,291 (AR, USDA Farm Bill AGFC Delivered, moderately confident),
- 2,206 (GA, USDA Farm Bill QF Delivered, very confident),
- 4,542 (IA, Pheasants Forever Delivered, moderately confident),
- 31,405 (MO, USDA Farm Bill MDC Delivered, somewhat confident),
- 21,511 (MO, USDA Farm Bill QF Delivered, very

confident),

- 1,747 (VA, USDA FSA, very confident), and
- 1,586 acres (VA, USDA NRCS, moderately confident).

Partner Private Land

For 2020, 9 state agencies reported on 11 partner private land programs that contribute to quail management for a total of 581,344 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 (Figure 4).

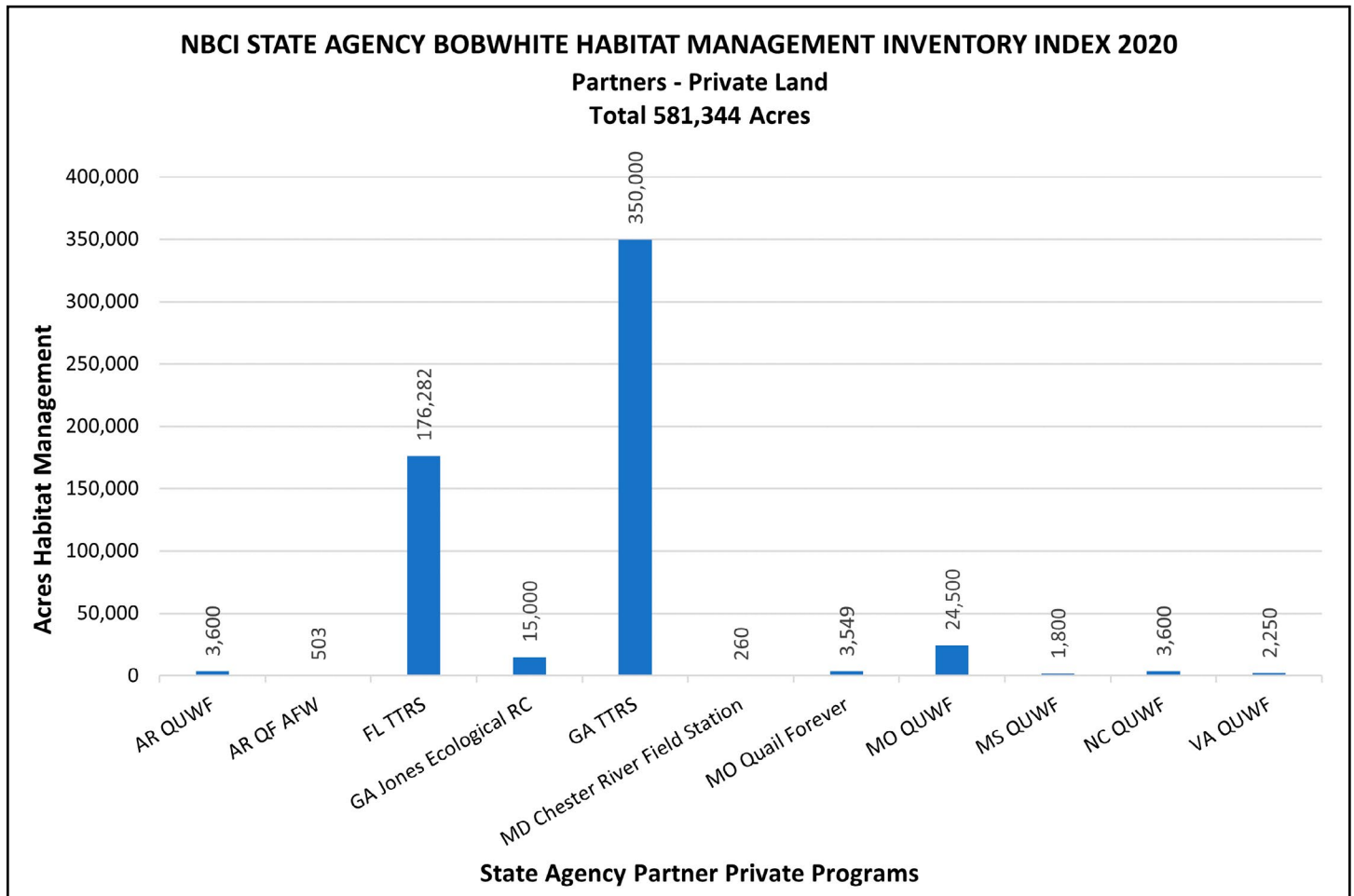


Figure 4. 2020 NBCI State Agency Bobwhite Habitat Management Index for 11 partner private land programs. Index is acres of habitat managed during the reporting year (ranging from July 1, 2019 to March 31, 2021).

Acronyms: AFW (Acres for Wildlife), FA (Focus or Focal Area), NRCS (Natural Resources Conservation Service), QF (Quail Forever), QUWF (Quail and Upland Wildlife Federation), RC (Research Center), TTRS (Tall Timbers Research Station and Land Conservancy), and USFS (US Forest Service).



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

- 3,600 (AR, Quail and Upland Wildlife Federation, somewhat uncertain),
- 503 (AR, Quail Forever Acres For Wildlife, moderately confident),
- 176,282 (FL, TTRS, very confident),
- 15,000 (GA, Jones Ecological Research Center, very confident),
- 350,000 (GA, TTRS, very confident),
- 260 (MD, Chester River Field Station, very confident),
- 3,549 (MO, Quail Forever, very confident),
- 24,500 (MO, Quail and Upland Wildlife Federation, somewhat confident),
- 1,800 (MS, Quail and Upland Wildlife Federation, very

confident),

- 3,600 (NC, Quail and Upland Wildlife Federation, moderately confident), and
- 2,250 acres (VA, Quail and Upland Wildlife Federation, moderately confident).

Partner Public Land

For 2020, 7 state agencies reported on 14 partner public land programs that contribute to quail management for a total of 62,873 acres (Figure 5). State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following:

- 2,700 (AL, NBCI Boggy Hollow Focal Area, somewhat confident),
- 835 (AR, NBCI National Park Service Pea Ridge Focal Area, moderately confident),
- 1,023 (IA, NBCI Ringgold Focal Area, very confident),

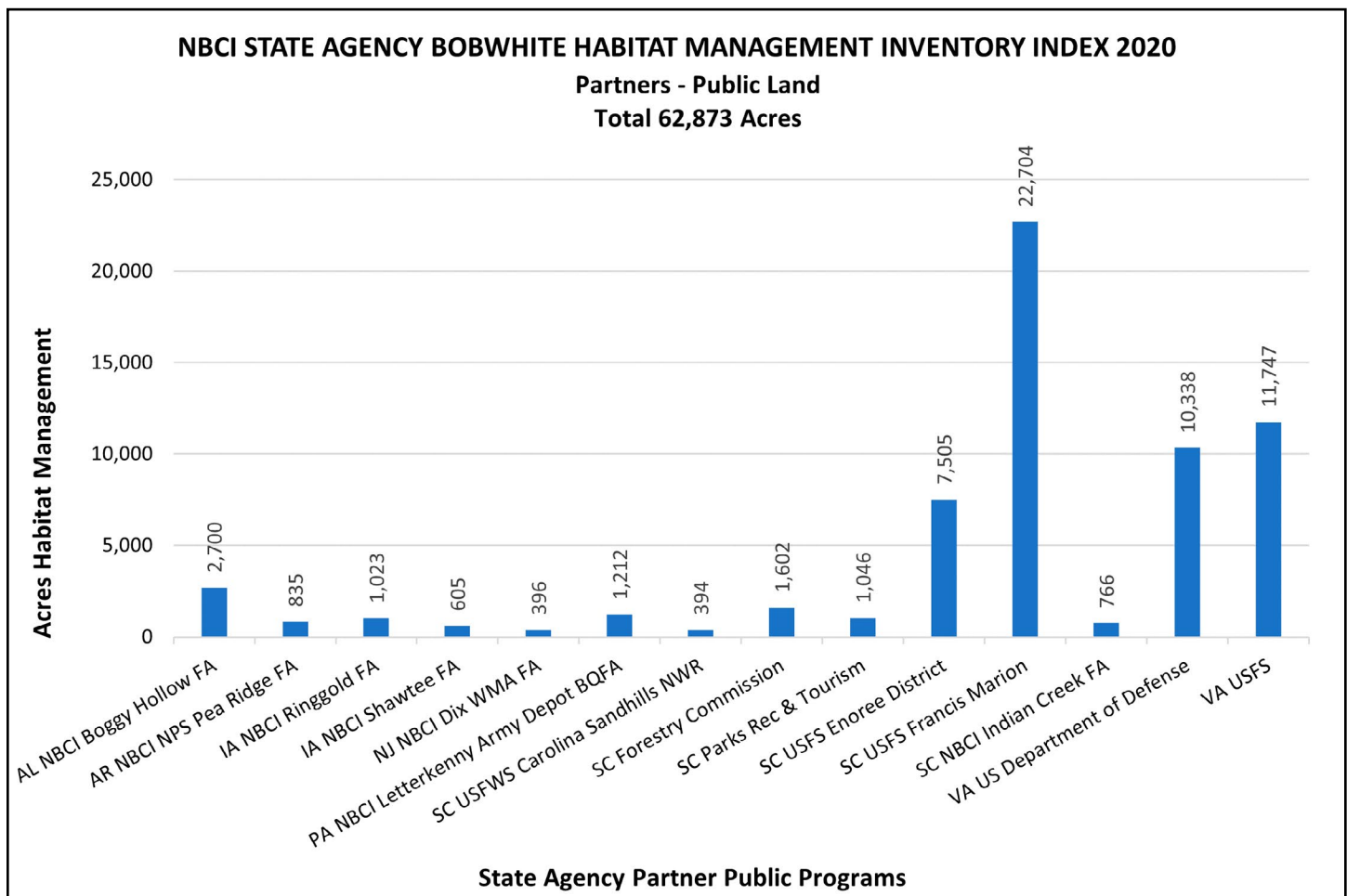


Figure 5. 2020 NBCI State Agency Bobwhite Habitat Management Index for 14 partner public land programs. Index is acres of habitat managed during the reporting year (ranging from July 1, 2019 to March 31, 2021).

Acronyms: BQFA (Bobwhite Quail Focus Area), FA (Focus or Focal Area), NPS (National Park Service), NWR (National Wildlife Refuge), USFS (US Forest Service), USFWS (US Fish and Wildlife Service), and WMA (Wildlife Management Area).



- 605 (IA, NBCI Shawtee Focal Area, very confident),
- 396 (NJ, NBCI Dix WMA Focal Area, very confident),
- 1,212 (PA, NBCI Letterkenny Army Depot Bobwhite Quail Focus Area, very confident),
- 1,602 (SC, Forestry Commission, moderately confident),
- 766 (SC, NBCI Indian Creek Focal Area, very confident),
- 1,046 (SC, Parks Rec and Tourism, moderately confident),
- 7,505 (SC, USFS Enoree District, very confident),
- 22,704 (SC, USFS Francis Marion, moderately confident),
- 394 (SC, USFWS Carolina Hills National Wildlife Refuge, very confident),
- 10,338 (VA, US Department of Defense, somewhat confident), and
- 11,747 (VA, USFS, somewhat confident).

Summary

In this tenth year of the NBCI State Agency Habitat Management Inventory, 17 state agency coordinators reported 3,671,552 acres of bobwhite habitat management for 64 programs. Total acreage was up from 3.2 million acres last year, which is a reflection of state coordinators' continued recognition of the many efforts by partners to put habitat on the ground.

Across the past 10 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. The continued downward trend since 2017 of USDA Farm Bill programs appears to have momentarily stabilized, showing a 24,322-acre increase this year. Another positive trend seen this year is a marked uptick in Agency-Based Private Lands management. There has been a 687,921-acre increase, largely due to Texas' increased management

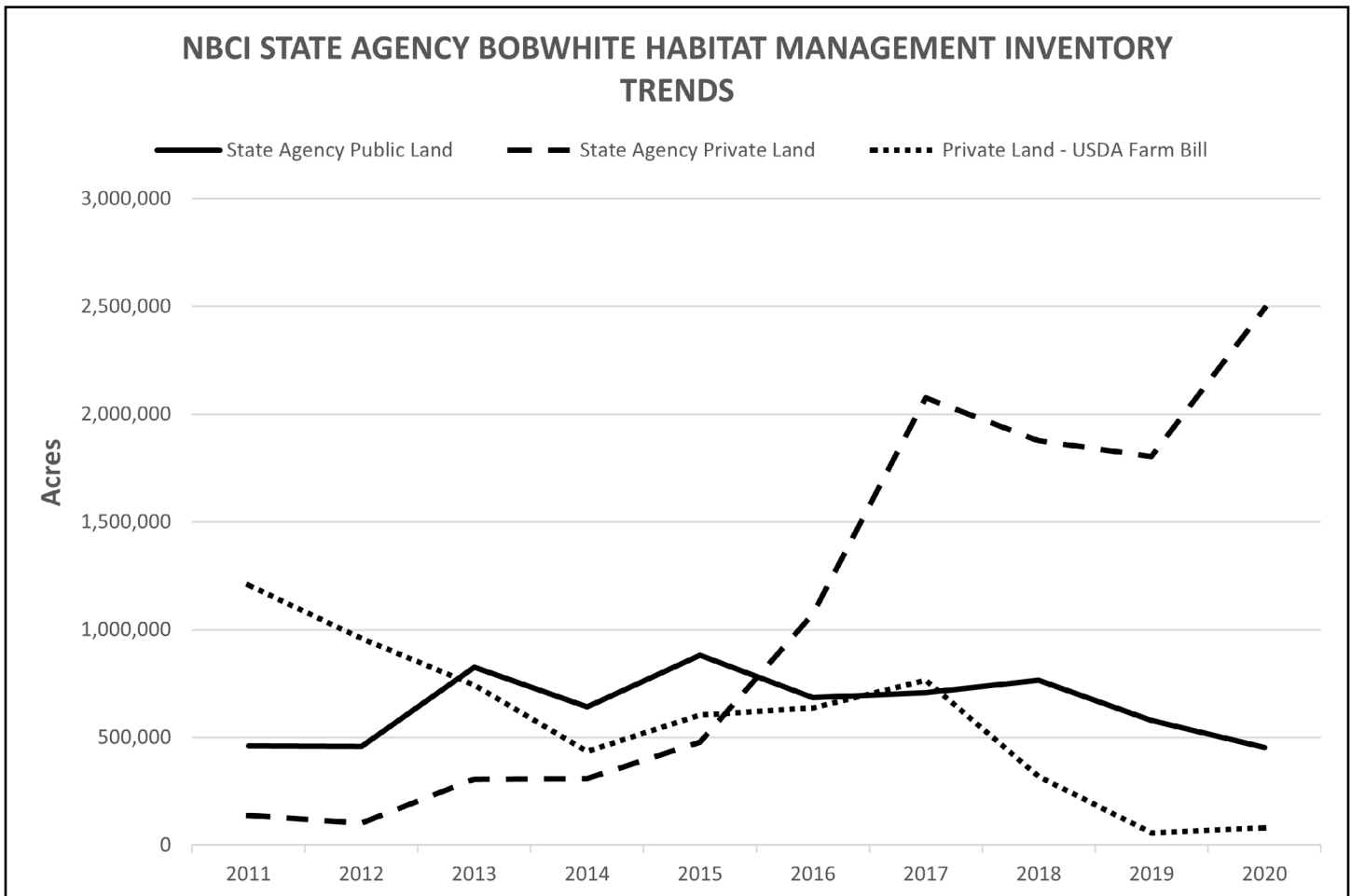


Figure 6. Trends in NBCI State Agency Bobwhite Habitat Inventory Index, 2011-20. Includes data from standardized categories identified in Figures 1-3.



activities on their private land. While Agency-Based Public Lands management has continued on a downward trend since 2018, the gains in various types of private land management should not go ignored as this is an essential part of the bobwhite restoration picture. Bobwhite conservation has traditionally been based on habitat on private lands, and the Inventory bears this out with 86% of all management occurring under the private land categories for the reporting year of 2020. This percentage has greatly increased in the 2020 reporting year, when 76% and 78% of management in 2018 and 2019, respectively, occurred on private lands.

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



NBCI State 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 Wildlife Resources (VDWR)
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
WSFW – Wildlife and Sport Fish Restoration





NBCI Benefactors



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