

Habitat Management Shows Its Worth: NBCI Coordinated Implementation Program Sees Steady Growth

By Tom Dailey and Molly Foley | National Bobwhite Conservation Initiative

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

Range-wide demand for bobwhite population restoration success led to a new national standard in 2014, the NBCI Coordinated Implementation Program (NBCI CIP). NBCI CIP aims to demonstrate success—an abundance of bobwhites—relatively quickly, with annual breeding bird and fall bobwhite covey monitoring, habitat monitoring in years 1, 5, and 10, and major habitat and covey abundance benchmarks in years 5 and 10.

A preliminary crude tally of calling male bobwhite during the breeding season reveals a marked benefit from habitat, with 61% more bobwhites heard on NBCI CIP Focal Areas than on Reference Areas

Following publication of NBCI CIP in 2014, NBCI launched a full-service technical website for state agencies and partners in 2016, www.quailcount.org, meeting the state agency desire for centralized and secure data entry, management, analysis, and reporting. Technical tools essential for implementing an NBCI CIP are also housed there, and updates on progress were previously reported by feature articles in 2015 and 2016 Bobwhite Almanacs.

Participation in NBCI CIP has grown steadily, including:

- Six pilot projects in 2013 (Georgia Department of Natural Resources, Iowa Department of Natural Resources, Kentucky Department of Fish and Wildlife Resources, Missouri Department of Conservation, Texas Parks and Wildlife Department/Oaks and Prairies Joint Venture, and Virginia Department of Game and Inland Fisheries);
- Eight new projects enrolled in the NBCI database (bird and covey data submitted by spring 2017) (Delaware Division of Fish and Wildlife, Georgia Department of Natural Resources second focal area, Iowa Department of Natural Resources second focal area, Nebraska Game and Parks Commission, New Jersey Division of Fish and Wildlife, Ohio Division of Wildlife,

Oklahoma Department of Wildlife Conservation/Oaks and Prairies Joint Venture, and South Carolina Department of Natural Resources/United States Forest Service); and

- Eight CIPs in development (Alabama Division of Wildlife and Freshwater Fisheries/United States Forest Service, Arkansas Game and Fish Commission/Pea Ridge National Military Park–National Park Service; Georgia Department of Natural Resources/United States Forest Service, Illinois Department of Natural Resources, Indiana Division of Fish and Wildlife, Louisiana Department of Wildlife and Fisheries/United States Forest Service, Missouri Department of Conservation second focal area, and Pennsylvania Game Commission/Letterkenny Army Depot).

Enrolled NBCI CIP Focal Areas range in size from 1,694 (Delaware NBCI Cedar Swamp Focal Area) to 27,238 (Texas NBCI Austin County Focal Area) acres and average 8,616 acres. As a preliminary measurement of habitat improvement, 12 state coordinators reported 25,784 acres of habitat management for 13 NBCI CIP Focal Areas, either those enrolled or in development (Figure 1). These data are reported in detail in the NBCI Habitat Management Inventory, page 71.

On this foundation of habitat management in NBCI CIP Focal Areas, state agencies and partners are producing many quail. Reported observations of quail and songbird abundance prior to the 2017 field breeding bird season include 29 NBCI CIP Focal and Reference areas, 746 monitoring points, 3,602 breeding bird counts, 14,749 birds counted at those points, 801 fall quail counts, and 1,732 calling quail counted at those points. A preliminary crude tally of calling male bobwhite during the breeding season reveals a marked benefit from habitat, with 61% more bobwhites heard on NBCI CIP Focal Areas than on Reference Areas (i.e., study areas with minimal prescribed bobwhite habitat).

NBCI Science services, including NBCI 2.0 geospatial data, NBCI National Quail Symposium Proceedings, NBCI

Inventory, and NBCI CIP, are built on the foundation of www.quailcount.org and are designed to assist state agencies and partners in their work to restore and manage bobwhite populations. NBCI Science services are developed in collaboration with the NBTC Science

Subcommittee and Steering Committee, University of Tennessee Institute of Agriculture (UTIA) Forest, Wildlife and Fisheries Department, UTIA Information Technology Services, and University of Tennessee Libraries.

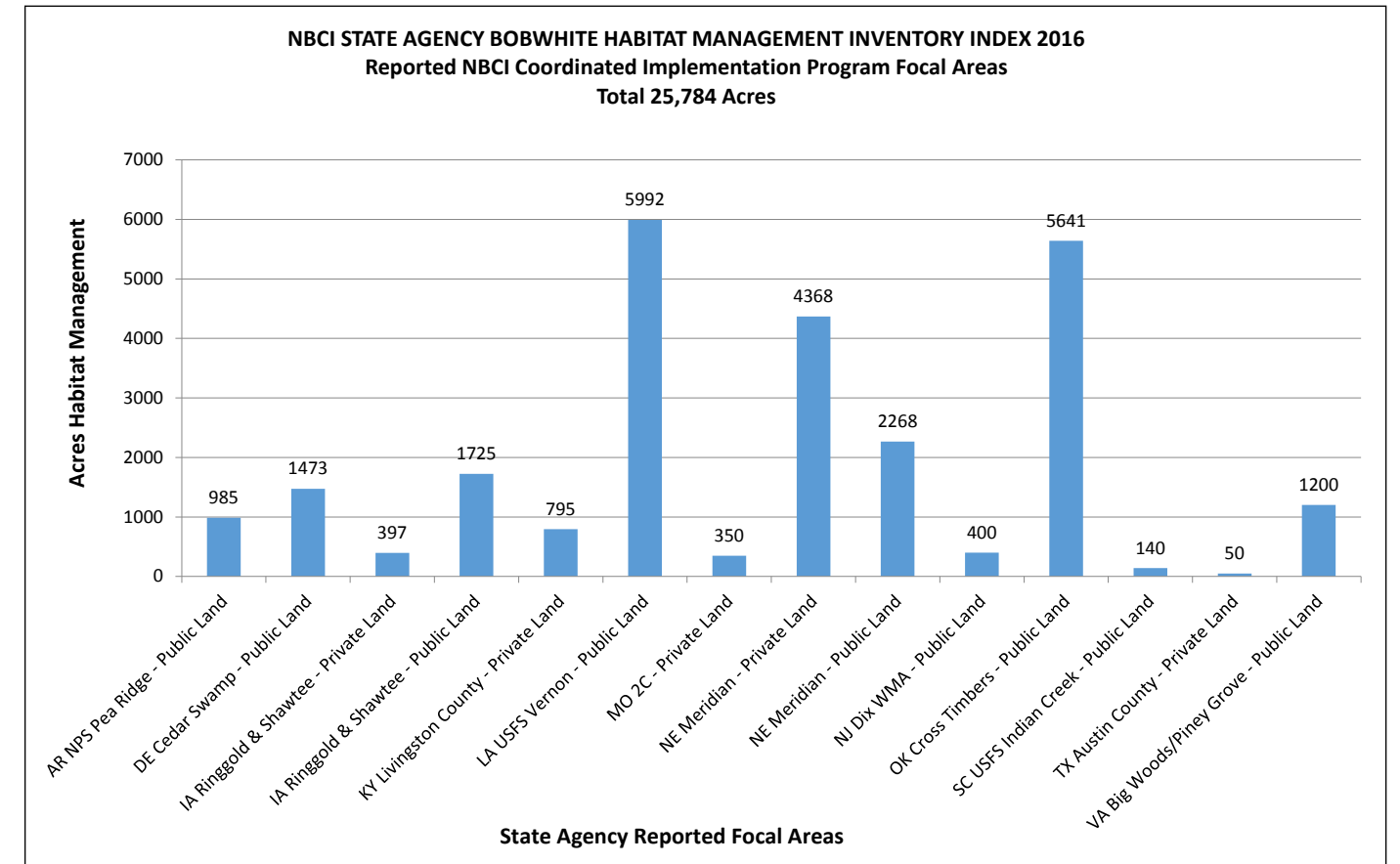


Figure 1. NBCI Habitat Management Index for 2016 for 13 NBCI CIP Focal Areas, including projects enrolled, and those in development. This is a partial listing, e.g., excluding Ohio CIP, and including CIPs in development in Arkansas and Louisiana. Index is acres of habitat managed by prescribed fire, disking, spraying herbicide, cutting, planting, etc., during the 2016 reporting year. These data are reported in detail in the NBCI Habitat Management Inventory.



NBCI State Agency Bobwhite Habitat Inventory Index 2016

By Tom Dailey | National Bobwhite Conservation Initiative

The NBCI State Agency Habitat Inventory is an index of the potential for bobwhite to occur on the landscape, now or in the near future, as identified by the state’s quail coordinator. For 2016, 22 state agency coordinators reported 3,191,266 acres of bobwhite habitat management for 103 programs, a substantial increase in acreage and programs over the previous 5 years of the inventory.

Introduction

This is the sixth annual National Bobwhite Conservation Initiative (NBCI) State Agency Bobwhite Habitat Inventory (hereafter, Inventory), an index of habitat management over the past year as reported by state agency quail program coordinators. The Inventory fulfills part of the 2010 charge of the NBCI Management Board to document “all things being done to benefit bobwhites in each state.” The Inventory documents acres of management of plant succession (prescribed fire, disking, prescribed grazing, cutting, chemical application, etc.), planting vegetation, and protecting vegetation (deferred grazing and haying, leaving crop residue, leaving standing crops, etc.). Inventory management is for the 2016 reporting year, which varies across states and among years.

The Inventory is divided into 3 primary land categories based on a combination of ownership, leadership, and funding source: 1) **State Agency Public Land** includes management on the wildlife agency’s land (Figure 1); 2) **State Agency-Based Private Land** includes management on private lands that is funded, led, or made possible by the wildlife agency and is generally not reported in other private land categories (Figure 2); and 3) **USDA Farm**

Bill includes acres managed under the USDA Farm Bill program (Figure 3). The **Partner Private Land** (Figure 4) and **Public Land** (Figure 5) categories include programs administered by partner agencies, organizations, and institutions and are generally not featured in Figures 1-3. For the second year, most participating state agencies reported acres of habitat management on **NBCI Coordinated Implementation Program (CIP) Focal Areas** (see article on page 46).

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

Does existence of habitat management mean that wild bobwhites can be expected at a particular program’s physical location? Not necessarily. Inventory protocol specifies that habitat is suitable for bobwhites in the reporting year, or will be in the near future. It can take several years after initial management for some habitats to become suitable for bobwhites, followed by a bobwhite population response. Bobwhites occupy, or increase in an area, based on survival and reproduction, which are affected by weather and other non-habitat factors, and by movement into an area, which is affected by distance from existing populations to the area (e.g., habitat fragmentation). Further, as described in detail in 2012 and 2013 State of the Bobwhite reports, because of variability among NBCI states and partners in ability to measure habitat, 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.



Wildlife Technician conducts a covey count at an NBCI Training Workshop.



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

In summary, the NBCI Inventory is an index of the potential for bobwhite to occur on the landscape, as identified by

each state’s quail coordinator. As one state coordinator put it, “Although I classified my confidence as very uncertain because I lack data, I know those acres provide a great deal of benefit to bobwhites, so I wanted to report something. Thus, I took a wild stab just so that practice would be identified as an important one in our state.” On the other hand, some states are conservative in what they report, limiting acres reported to those enrolled in specific quail habitat programs with annual verification of compliance.

In addition to differences among states in capacity to collect data and reporting strategy (e.g., conservative or liberal inclusion of habitat management), some states were constrained in 2016 by other factors. Similar to previous years, quail coordinators for Pennsylvania Game Commission and West Virginia Division of Natural Resources believe that wild bobwhite population abundance was inadequate for responding to habitat management and did not submit data. Per NBCI Inventory

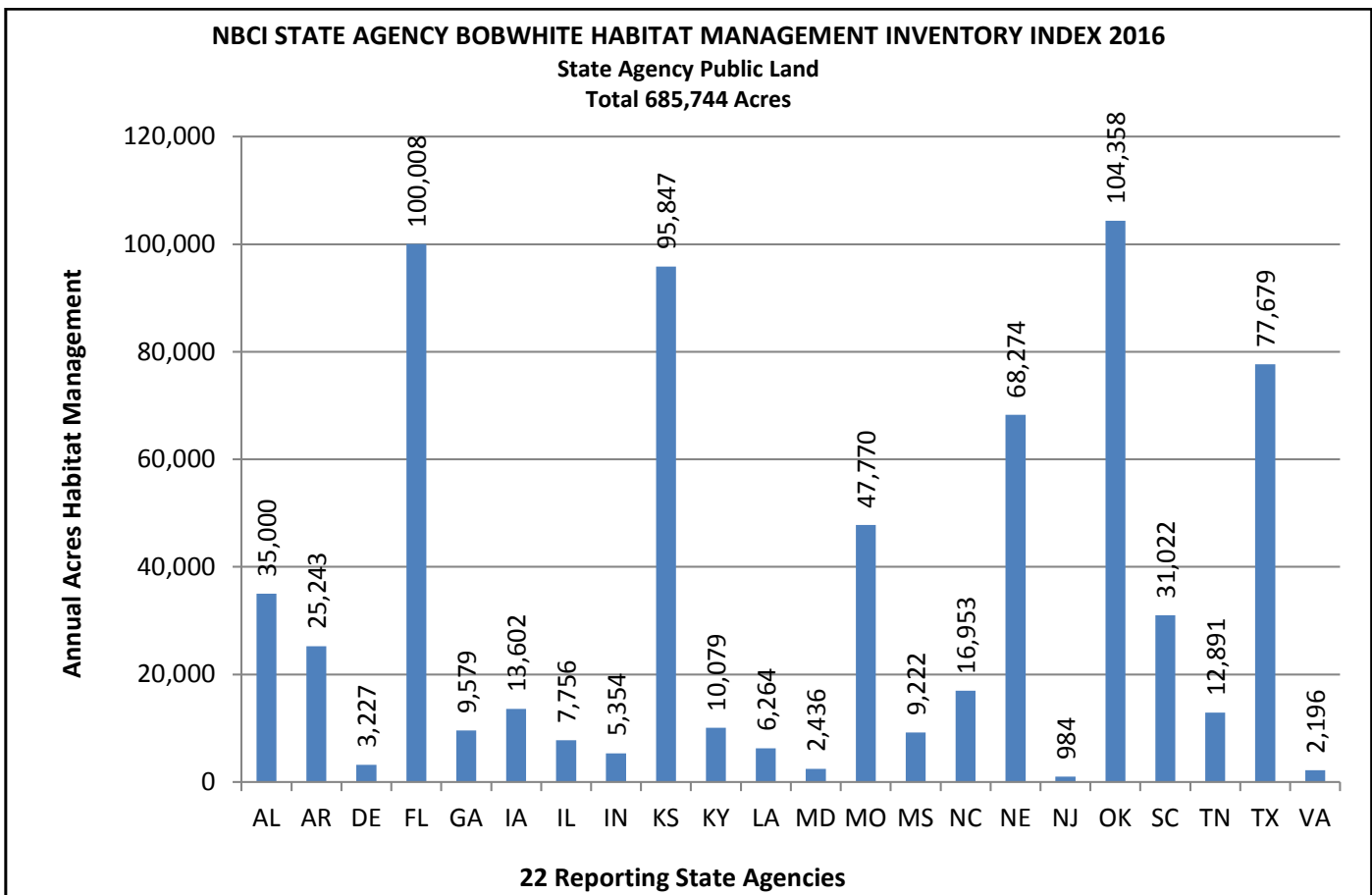


Figure 1. 2016 NBCI State Agency Bobwhite Habitat Management Index for 22 state public land programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from January 1, 2015 to March 28, 2017).



protocol, presence or potential presence (immigration or translocation) of wild bobwhite are minimum criteria for claiming habitat management for an area.

Results

Twenty-two state agency coordinators reported 3,191,266 acres of bobwhite habitat management, 18% more than the 2.7 million acres reported last year. Management in 2016 included:

- 685,744 acres on state wildlife agency publicly-owned lands (State Agency Public Land Management, Figure 1);
- 1,072,635 acres on private lands through state wildlife agency efforts (State Agency-Based Private Land Management, Figure 2);
- 638,145 acres on private lands through the USDA Farm Bill (Private Land U.S. Department of Agriculture Farm Bill, Figure 3);
- 680,360 acres on Partner Private Lands (Figure 4);
- 88,598 acres on Partner Public Lands (Figure 5); and
- 25,784 acres on NBCI CIP Focal Areas (article on page 46).

The “reporting year,” 2016, included dates ranging from July 1, 2015, to March 28, 2017, varying with fiscal years, accounting systems, etc. Across all land categories, acreage for the 22 reporting states was as follows:

- 50,000 acres (AL),
- 53,459 acres (AR),
- 5,275 acres (DE),
- 272,537 acres (FL),
- 404,394 acres (GA),
- 48,408 acres (IA),
- 68,998 acres (IL),
- 7,153 acres (IN),
- 397,420 acres (KS),
- 22,420 acres (KY),
- 26,234 acres (LA),
- 4,201 acres (MD),
- 204,040 acres (MO),
- 17,846 acres (MS),
- 32,354 acres (NC),
- 141,450 acres (NE),
- 6,039 acres (NJ),
- 385,737 acres (OK),
- 174,357 acres (SC),
- 15,717 acres (TN),
- 798,213 acres (TX), and
- 55,013 acres (VA).



Biologist conducting field visit to assess suitability of habitat management, in this case prescribed fire, to benefit bobwhites.



State Agency Public Land Management

For 2016 management of state wildlife agency public lands, 22 state agencies reported 685,744 acres of bobwhite habitat management (Figure 1), a 22% decrease from 0.881 million acres reported in 2015, a 7% increase over 0.642 million acres reported in 2014, and an 17% decrease from the 0.825 million acres reported in 2013. State coordinator acreage reports (state, coordinator confidence) included the following:

- 35,000 (AL, neutral);
- 25,243 (AR, somewhat uncertain);
- 3,227 (DE, somewhat confident);
- 100,008 (FL, moderately confident);
- 9,579 (GA, moderately confident);
- 13,602 (IA, moderately confident);
- 7,756 (IL, moderately uncertain);
- 5,354 (IN, very uncertain);
- 95,847 (KS, somewhat uncertain);
- 10,079 (KY, moderately confident);
- 6,264 (LA, very confident);
- 2,436 (MD, neutral);
- 47,770 (MO, moderately confident);
- 9,222 (MS, very confident);
- 16,953 (NC, somewhat confident);
- 68,274 (NE, moderately confident);
- 984 (NJ, moderately confident);
- 104,358 (OK, somewhat uncertain);
- 31,022 (SC, very confident);
- 12,891 (TN, moderately confident);
- 77,679 (TX, very confident); and
- 2,196 (VA, moderately confident).

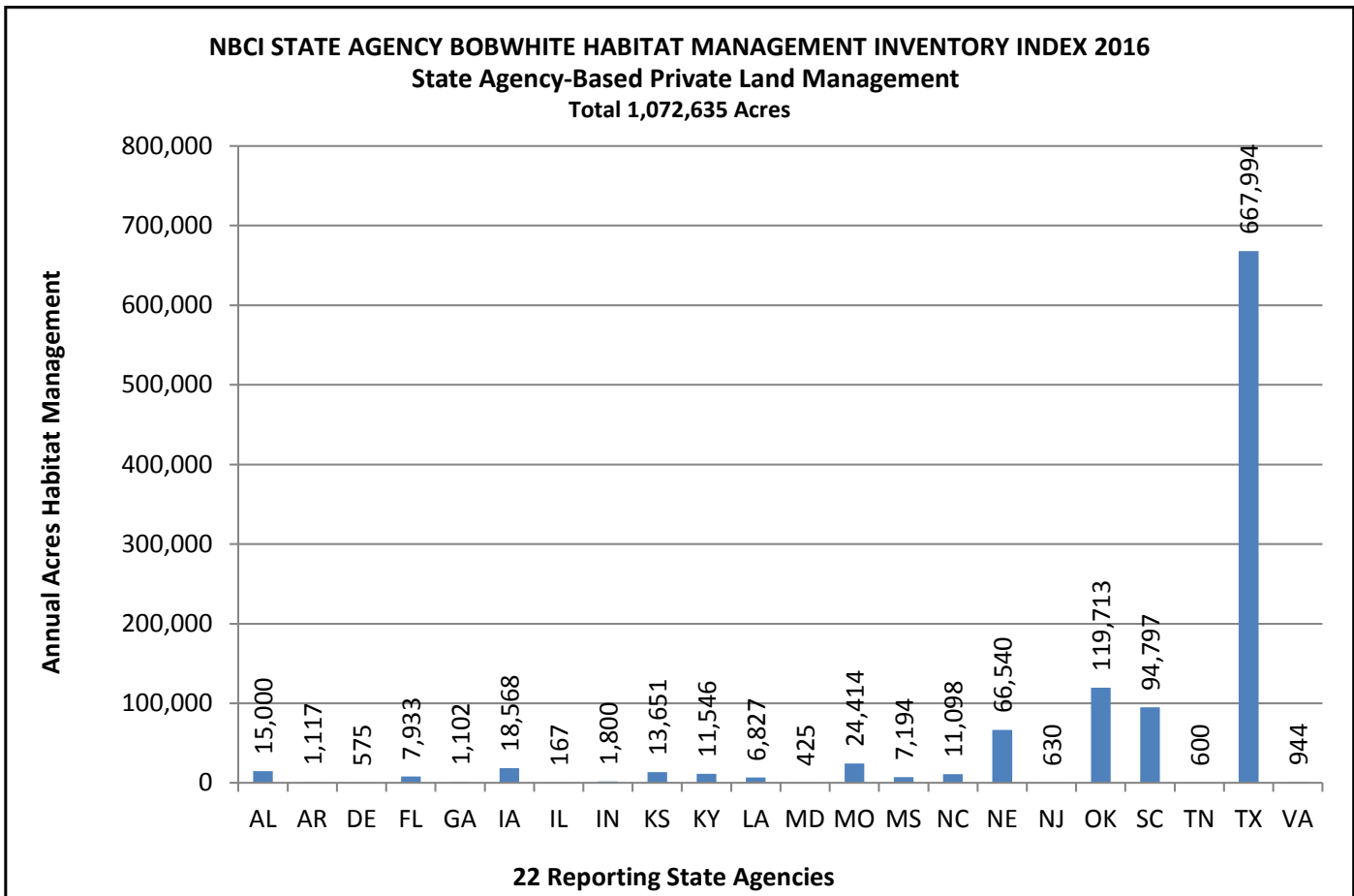


Figure 2. 2016 NBCI State Agency Bobwhite Habitat Management Index for 22 state-led private land programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from January 1, 2015 to March 28, 2017).



State Agency-Based Private Land Management

For 2016 on private lands, where management was based on state agency work and not a part of the USDA Farm Bill, 22 state agencies reported 1,072,635 acres of bobwhite habitat management (Figure 2), a 124% increase over 478,019 acres in 2015, a 243% increase over 312,813 acres in 2014, and 249% greater than 307,281 acres in 2013. State coordinator acreage reports (state, coordinator confidence) included the following:

- 15,000 (AL, neutral);
- 1,117 (AR, moderately confident);
- 575 (DE, neutral);
- 7,933 (FL, very confident);
- 1,102 (GA, somewhat confident);
- 18,568 (IA, moderately confident);
- 167 (IL, moderately uncertain);
- 1,800 (IN, very uncertain);

- 13,651 (KS, moderately confident);
- 11,546 (KY, moderately confident);
- 6,827 (LA, moderately confident);
- 425 (MD, somewhat confident);
- 24,414 (MO, moderately confident);
- 7,194 (MS, moderately confident);
- 11,098 (NC, somewhat confident);
- 66,540 (NE, moderately confident);
- 630 (NJ, neutral);
- 119,713 (OK, moderately uncertain);
- 94,797 (SC, very uncertain);
- 600 (TN, very confident);
- 667,994 (TX, moderately confident); and
- 944 (VA, moderately confident).

Management in this category is markedly greater than the previous year, largely because of increased acreage reported by Texas Parks and Wildlife Department (TPWD)—166,093 acres in 2015 and 667,994 in 2016, a

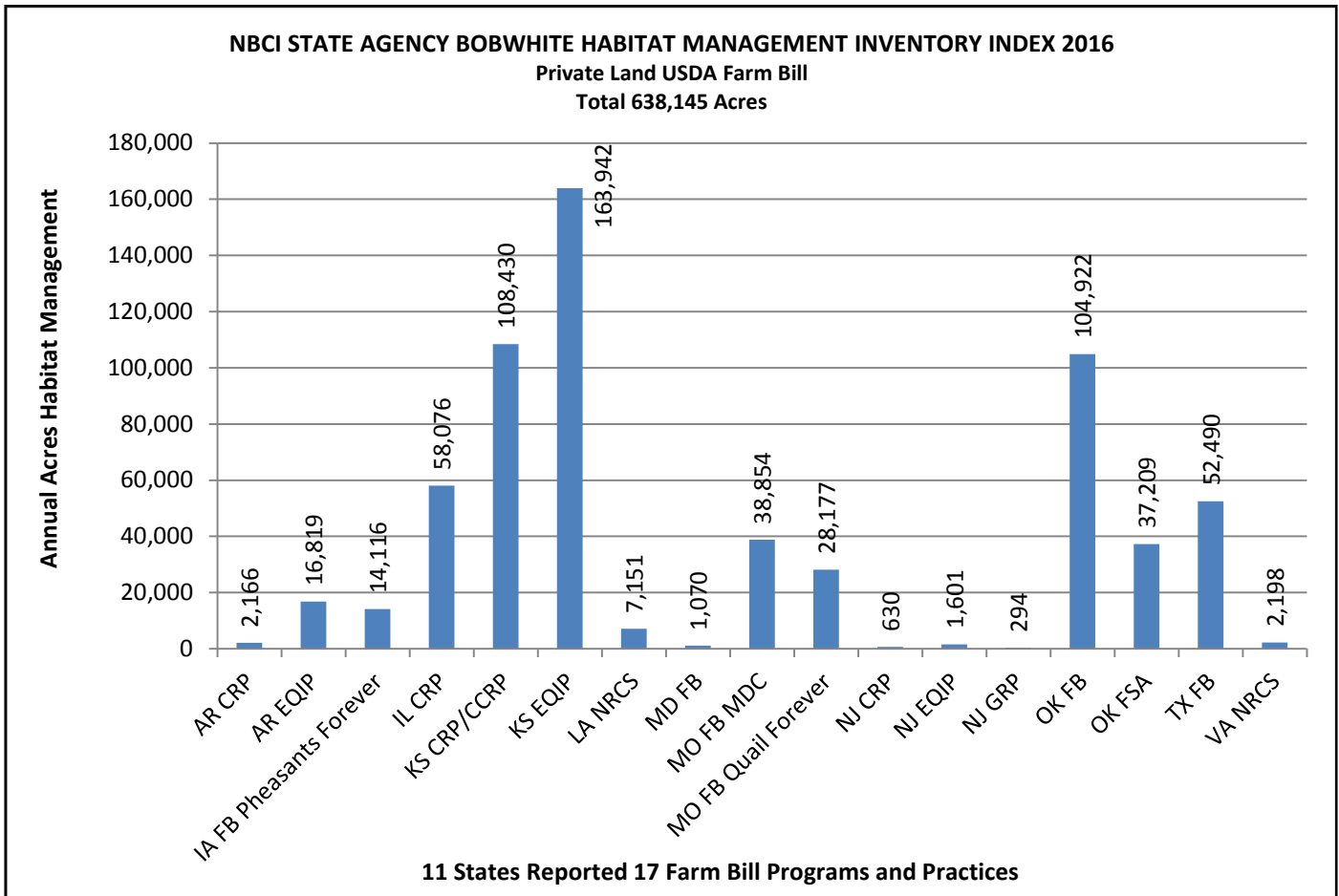


Figure 3. 2016 NBCI State Agency Bobwhite Habitat Management Index for 11 states and 17 U.S. Department of Agriculture Farm Bill funded programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2015 to December 31, 2016). Acronyms on page 83.



302% increase. As explained by TPWD quail coordinator Robert Perez, TPWD private land biologists have been trained on the use of prescribed grazing to retain the value of habitat for all wildlife, and had not previously been reporting prescribed grazing acres unless the landowner was specifically interested in bobwhite abundance in the Rolling Plains. TPWD has changed the criteria in its reporting system to capture prescribed grazing acreage for wildlife within the bobwhite range in the Rolling Plains of Texas, resulting in a pronounced jump in acres reported in the NBCI Habitat Inventory. Similarly, in previous NBCI Habitat Inventories, deferred grazing during drought in select areas was reported as management activity potentially benefiting bobwhite.

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

For 2016, on private lands where management was based on USDA Farm Bill programs, 11 state agencies reported on 17 programs, practices, and management delivered by partners for a total 638,145 acres of bobwhite habitat management (Figure 3). Quail-friendly management via the Farm Bill program is up from 603,963 acres reported in 2015 and 435,329 acres reported in 2014, but remains down from 739,736 acres reported in 2013. State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following:

- 2,166 acres (AR, CRP, moderately confident);
- 16,819 acres (AR, EQIP, moderately uncertain) (AR CRP/EQIP, 18,985 acres);
- 14,116 acres (IA, delivered by Pheasants Forever, moderately confident);

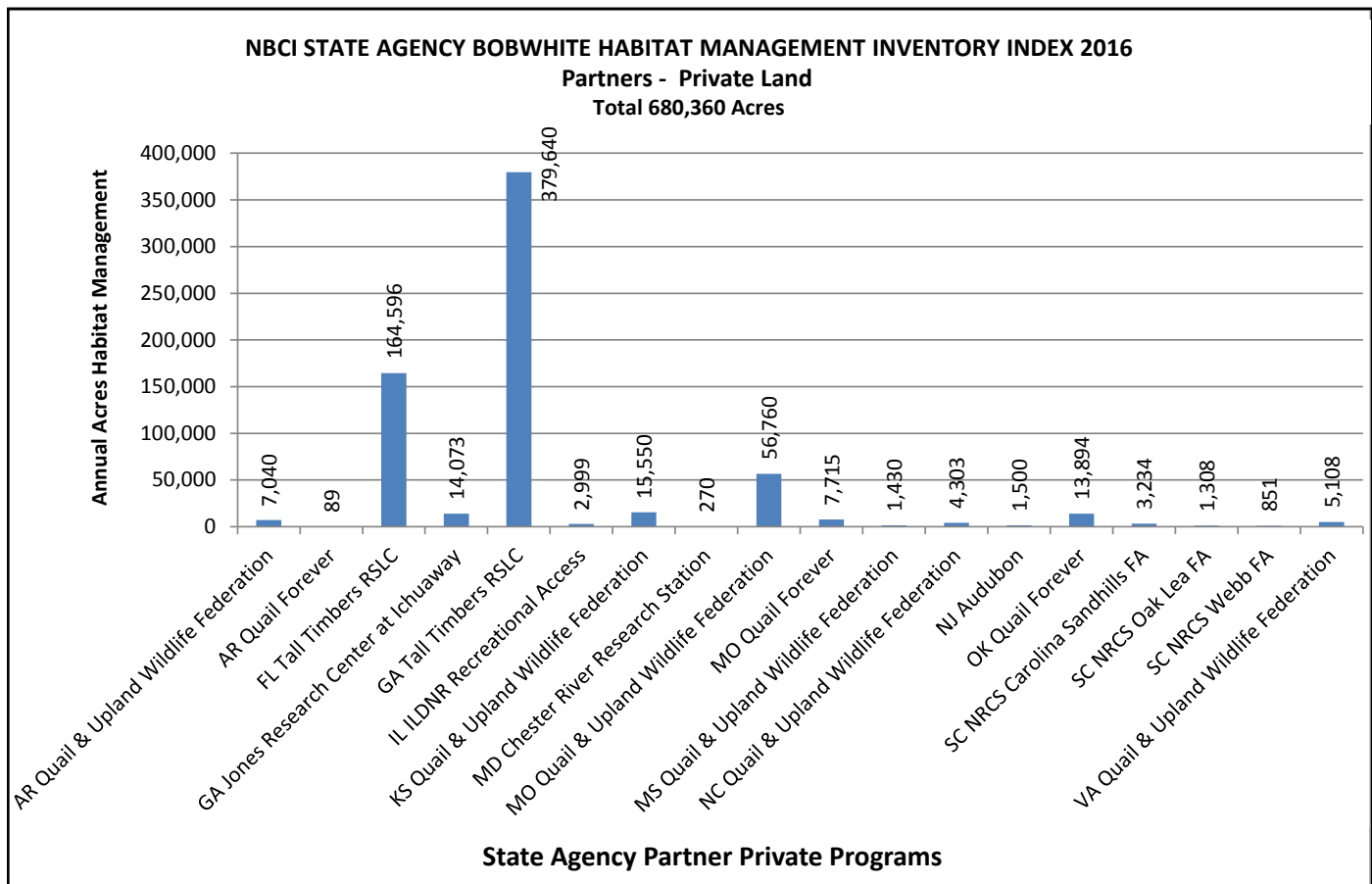


Figure 4. 2016 NBCI State Agency Bobwhite Habitat Management Index for 18 partner private land programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from January 1, 2015 to January 1, 2017). Acronyms on page 83.



- 58,076 acres (IL, CRP, moderately confident);
- 108,430 acres (KS, CRP/CCRP, somewhat confident);
- 163,942 acres (KS, EQIP, moderately uncertain) (KS CRP/CCRP/EQIP, 272,372 acres);
- 7,151 acres (LA, NRCS, moderately confident);
- 1,070 acres (MD, Farm Bill, neutral);
- 38,854 acres (MO, delivered by MDC, somewhat uncertain);
- 28,177 acres (MO, delivered by Quail Forever, moderately confident) (MO MDC/QF, 67,031 acres);
- 630 acre (NJ, CRP, neutral);
- 1,601 acres (NJ, EQIP, very uncertain);
- 294 (NJ, GRP, somewhat uncertain) (NJ CRP/EQIP/GRP, 2,525 acres);
- 104,922 acres (OK, Farm Bill, somewhat uncertain);
- 37,209 acres (OK, FSA, somewhat confident) (OK Farm Bill/FSA, 142,131 acres);
- 52,490 acres (TX, Farm Bill, moderately confident);
- 2,198 acres (VA, NRCS, moderately confident).

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

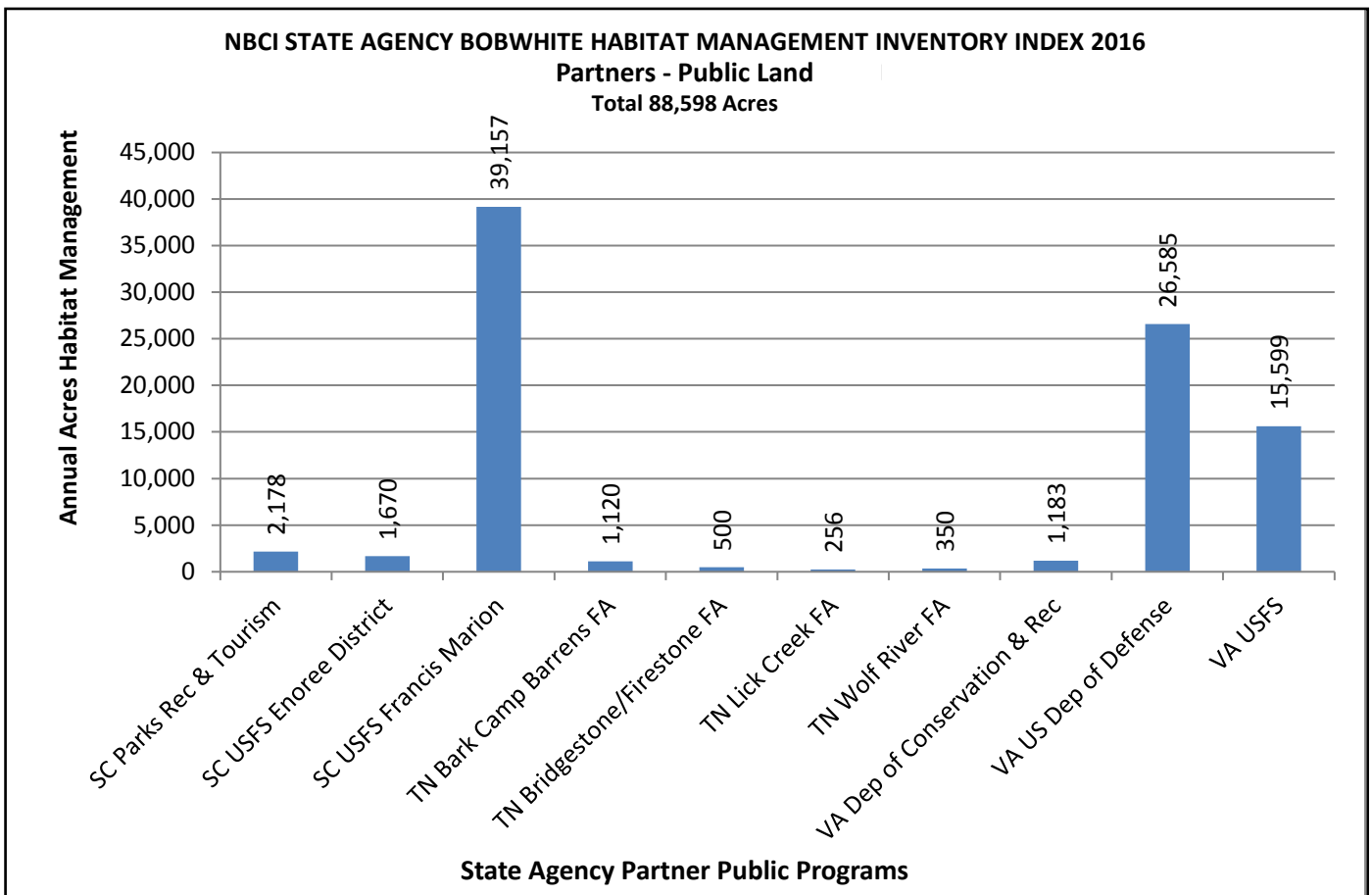


Figure 5. 2016 NBCI State Agency Bobwhite Habitat Management Index for 10 partner public land programs. Index is acres of habitat managed by prescribed fire, disking, grazing, spraying herbicide, cutting, planting, etc., during the reporting year (ranging from July 1, 2015 to December 31, 2016). Acronyms on page 83.



Partner Private Land

For 2016, 13 state agencies reported on 18 partner private land programs that contribute to quail management for a total of 680,360 acres (Figure 4). These programs were reported previously in the miscellaneous private and public lands category and continue 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. State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following:

- 7,040 (AR, Quail and Upland Wildlife Federation, very uncertain);
- 89 (AR, Quail Forever, moderately confident);
- 164,596 (FL, Tall Timbers Research Station and Land Conservancy, very confident);
- 379,640 (GA, Tall Timbers Research Station and Land Conservancy, moderately confident);
- 14,073 (GA, Jones Ecological Research Center at Ichuaway, moderately confident);
- 2,999 (IL, Illinois Department of Natural Resources, IDNR, Recreational Access, somewhat uncertain);
- 15,550 (KS, Quail and Upland Wildlife Federation, somewhat confident);
- 270 (MD, Chester River Research Station, somewhat confident);
- 56,760 (MO, Quail and Upland Wildlife Federation, somewhat uncertain);

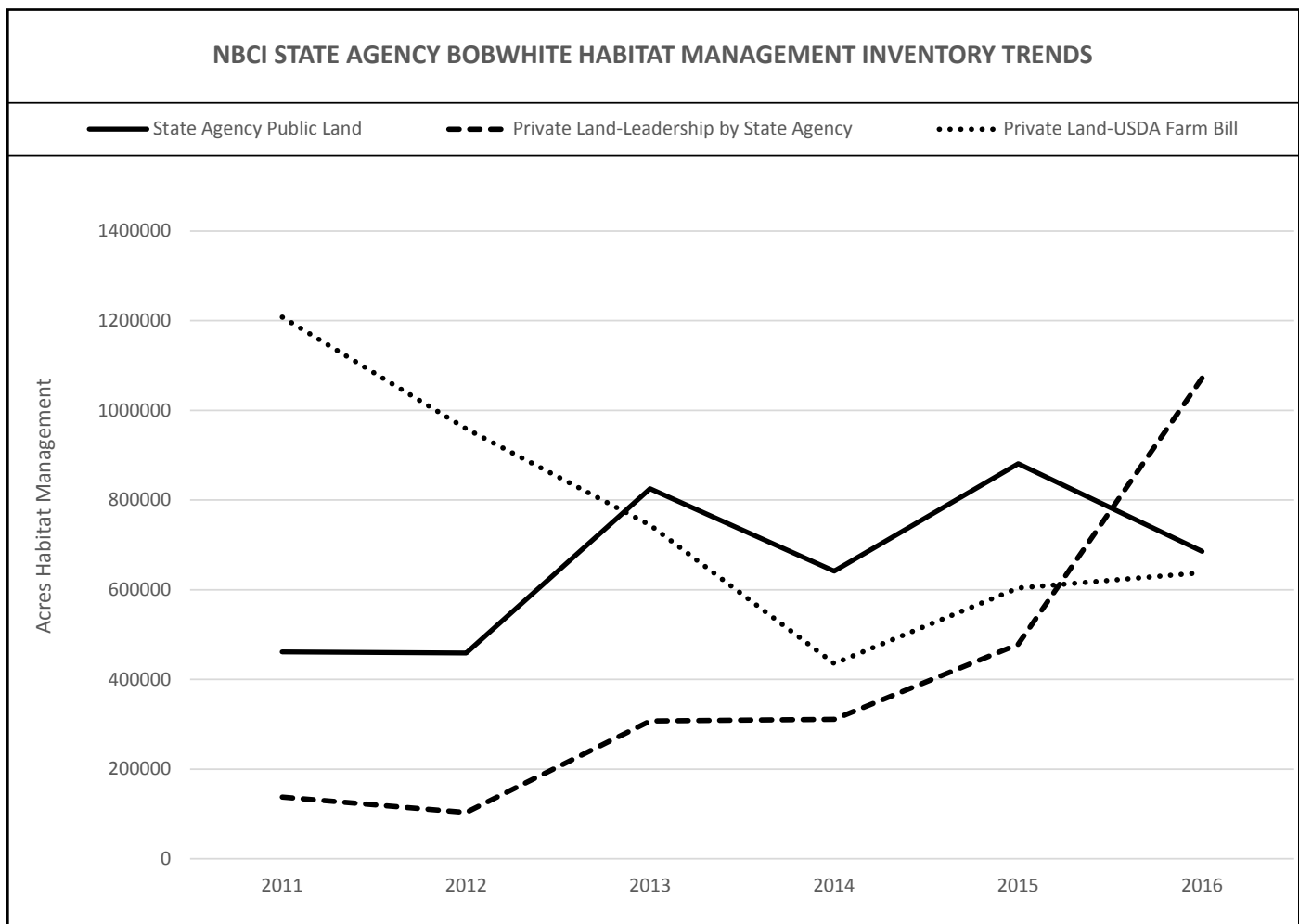


Figure 6. Trends in NBCI State Agency Bobwhite Habitat Inventory Index, 2011—2016. Includes data from standardized categories identified in Figures 1-3.



- 7,715 (MO, Quail Forever, very confident);
- 1,430 (MS, Quail and Upland Wildlife Federation, moderately confident);
- 4,303 (NC, Quail and Upland Wildlife Federation, moderately confident);
- 1,500 (NJ, New Jersey Audubon, very confident);
- 13,894 (OK, Quail Forever, very confident);
- 3,234 (SC, NRCS Carolina Sandhills FA, somewhat confident);
- 1,308 (SC, NRCS Oak Lea FA, moderately confident);
- 851 (SC, NRCS Webb FA, moderately confident); and
- 5,108 (VA, Quail and Upland Wildlife Federation, somewhat confident).

Partner Public Land

For 2016, 3 state agencies reported on 10 partner public land programs that contribute to quail management for a total of 88,598 acres (Figure 5). State coordinator acreage reports (state, program/practice/delivery, coordinator confidence rating) included the following:

- 2,178 (SC, SC Parks, Recreation, and Tourism, very confident);
- 1,670 (SC, USFS—Enoree District, very confident);
- 39,157 (SC, USFS—Francis Marion, moderately confident);
- 1,120 (TN, Bark Camp Barrens Focus Area, very confident);
- 500 (TN, Bridgestone/Firestone Focus Area, moderately confident);
- 256 (TN, Lick Creek Focus Area, very confident);
- 350 (TN, Wolf River Focus Area, very confident);
- 1,183 (VA, VA Department of Conservation and Recreation, moderately confident);
- 26,585 (VA, Department of Defense, somewhat confident); and
- 15,599 (VA, U.S. Forest Service, moderately confident)

NBCI Coordinated Implementation Program (CIP) Focal Areas

The 2017 NBCI Inventory provided coordinators of the NBCI CIP the second opportunity to report preliminary habitat data for their focal areas. Twelve coordinators reported 25,784 acres of habitat management for 13 NBCI CIP Focal Areas. Iowa is the first state to implement a second NBCI CIP and added Shawtee Focal Area management to their report this year. Reporting states include those collecting and submitting bird and quail population data to NBCI for 2016 or prior years, and some of the states that plan to submit data in 2017. NBCI CIP progress and a habitat chart are described in an article on page 46. Reported acres of management include (CIP name: public or private land, acres of habitat management, coordinator confidence rating, state agency/partner):

- AR NPS Pea Ridge: public land, 985 acres, very confident, Arkansas Game and Fish Commission/Pea Ridge National Military Park—National Park Service;
- DE Cedar Swamp: public land, 1,473 acres, moderately confident, Delaware Division of Fish and Wildlife;
- IA Ringgold and Shawtee: private land, 397 acres, very confident; and IA Ringgold and Shawtee: public land, 1,725 acres, very confident, Iowa Department of Natural Resources;
- KY Livingston County: private land, 795 acres, very confident, Kentucky Department of Fish and Wildlife Resources;
- LA USFS Vernon: public land, 5,992 acres, very confident, Louisiana Department of Wildlife and Fisheries/Kisatchie National Forest, Vernon Unit—United States Forest Service;
- MO 2C: private land, 350 acres, very confident, Missouri Department of Conservation/Quail Forever;
- NE Meridian: private land, 4,368 acres, very confident; and NE Meridian: public land, 2,268 acres, very confident, Nebraska Game and Parks Commission;
- NJ Dix WMA: public land, 400 acres, moderately confident, New Jersey Division of Fish and Wildlife;
- OK Cross Timbers: public land, 5,641 acres, very confident, Oklahoma Department of Wildlife Conservation/Oaks and Prairies Joint Venture;
- SC USFS Indian Creek: public land, 140 acres, very confident, South Carolina Department of Natural Resources/Sumter National Forest/United States



Forest Service;

- TX Austin County: private land, 50 acres, very confident, Texas Parks and Wildlife Department/Oaks and Prairies Joint Venture; and
- VA Big Woods/Piney Grove: public land, 1,200 acres, moderately confident, Virginia Department of Game and Inland Fisheries.

Summary

In this sixth year of the NBCI State Agency Habitat Management Inventory, state agency participation remains steady with 19-22 states providing data during 2011-16 reporting years. For this year, the 22 state agency coordinators reported 3,191,266 acres of bobwhite habitat management for 103 programs, a substantial increase in acreage over last year (2,695,645 acres), and the previous 5 years of the inventory. Coordinators also reported on more programs than in the past, recognizing efforts by partners to put habitat on the ground.

Across the past 6 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. Year-to-year changes are described under each category, and shifts among categories over years are described in previous State of the Bobwhite Reports. The notable change for the 2016 reporting year is the large increase in State Agency-Based Private Land, attributed largely to increased capacity to report bobwhite-friendly grazing management in Texas. Other favorable trends include the stability of State Agency Public Land management since 2013, and the increasing recovery of bobwhite-friendly management under the USDA Farm Bill Program.

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 and 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.

