



Quail Times

Winter/Spring 2018 - 2019

Indian Creek Field Day (November 29, 2018)

By: Jeff Fellers – Clemson Extension

The Indian Creek Wildlife Habitat Restoration Initiative will offer it's fall field day on Thursday November 29, 2018. Participants will be able to see how other private landowners manage their property to promote habitat for bobwhite quail and other wildlife. There will be three stops on the tour that feature several different philosophies of management.

One stop will look at management from a landowner with a primary objective of timber management. If you would like to see how to integrate quail habitat management while still focusing on timber, then this stop will address those management techniques. Prescribed burning and herbicide applications are the primary techniques employed at this site.

Another stop will focus on a landowner with a primary goal of quail management with the benefit of a little timber revenue to help offset some of the wildlife management cost. A thinning operation has just been



Figure 1 Newly thinned stand to a low basal area

completed to reduce the basal area in one stand from 70-80 sq.ft./acre to 40-50 sq.ft./acre. Another stand will demonstrate a thinning from 120 sq.ft./acre to a 60 sq.ft./acre. These sites will show thinning to a lower basal area will improve habitat conditions for quail.

Lastly, we will visit a site on the National Forest. At this site, sweetgum was beginning to take over the understory on a 138-acre site. An imazapyr-based herbicide was used to control the sweetgum through backpack application.

Registration for the field day will begin at 8:30 at the Whitmire Community Center (1222 Glenn Street, Whitmire, SC 29178). We will leave the community center at 9:00 am sharp to travel to the tour sites. Lunch will be served at the end of the tour at the Whitmire Community Center. The cost of the field day is \$20.00 (Please make checks payable to Newberry Soil and Water Conservation District). Pre-registration is required. To

register please contact Clemson Extension at 864-427-6259 Credits have been applied for CFE and pesticide credit hours.

Hunters Provide Valuable Quail Data Through Surveys

By: Michael Hook – SC Department of Natural Resources

In October of 1987 packets containing data sheets, small hang tags, and instructions were distributed to quail hunters across the state who were interested in helping the SC Department of Natural Resources get a better handle on the quail population across the state. We are preparing to send out the same packets for the 32nd time this year, although now days not all the hunters enter the data on the printed-out form. Some of the more technologically advanced hunters fill out their data online. The purpose of the Quail Hunter Survey is to collect quantitative information on hunting success. This data can be combined with the data collected from the annual quail brood survey, the annual whistling cock survey and the fall covey count survey to get a pretty good idea of what the quail population looks like during the summer, fall and winter portions of each year.

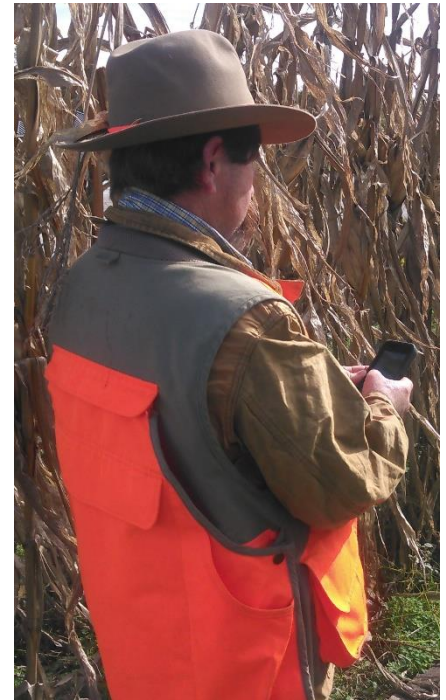


Figure 2 A quail hunter completing a survey

Each participating hunter is asked to keep a diary of the date of the hunt, the county of the hunt, how long you hunted, how many people hunted, the number of coveys flushed, the number of birds in the covey, the number of birds killed, how many rabbits were jumped and how many woodcocks were flushed. Many years the SCDNR has asked about the dogs' performance, whether you hunted public or private land, and your opinion of the season. Additionally, the hunter is asked to clip and return up to 10 wild, bobwhite quail

wings with the ID hang tags attached that identifies the county the bird was killed and the sex of the bird. These wings are used to age the bird and combined with the other wings collected across the state come up with a good feel for what the quail population looks like. For a good healthy quail population, ideally you will see a bunch of young birds.

During the 2017-18 quail season we only had 13 participating hunters, but they provided information for 97 hunts. The average hunt length was 3.59 hours and the group size averaged 1.41 hunters. Most hunters were in the woods during December and January. Participating hunters flushed an average of 0.22 coveys per hour last season. The highest average coveys per hour was observed during the 1990-91 season when the hunters flushed 0.9 coveys per hour. Living in the Indian Creek area you will be interested to know that the piedmont region had the second highest coveys flushed per hour at 0.24 coveys per hour. At a county level, Newberry county claimed the third highest flush rate in the state at 0.19 coveys flushed per hour. Newberry county also had the third highest average covey size as well.

Forty-five wings were collected from hunters across the state. Of these wings, 65% were males and 35% were female. These results are typical for South Carolina. As for the age of the birds, 44% were adults and 56% were juvenile. Again, the higher the number of juveniles, generally speaking the better off you are – so I would say that last season was a success and should indicate that there would have been plenty of birds to begin nesting in the spring.

Lastly, we did ask what type of property the hunters were utilizing. 59% of the hunters were hunting on state managed lands, 22% were hunting on other types of public lands, and 19% were hunting on private lands.

If you are a bird hunter and would like to participate in the survey please call 803-734-3940 or visit www.dnr.sc.gov/surveys/smallgame to sign up. If you do participate you will receive a copy of the annual report and generally a small token of appreciation. If you would like to see the full report please visit: <http://www.dnr.sc.gov/hunting/smallgamesurveys/reports.html>. You will notice that there are other surveys you can sign up for as well including a rabbit hunter survey or even a fox squirrel sighting survey. We look forward to seeing your name in the ledger and good luck in the field.

Fall Covey Counts: Monitoring is a key component to habitat restoration

By: Kyle Lunsford, Quail Forever

The Indian Creek Wildlife Habitat Restoration Initiative began in 2004 and has strived to restore woodland habitats (low basal area forest stands) through the use of timber harvest, prescribed burning, winter disking, and herbicide application. The goal of this effort was to restore habitat for early-successional species such as the northern bobwhite, prairie warbler, loggerhead shrike, and Bachman's sparrow. The northern bobwhite has been the umbrella species for this project due to the national, state, and local interest in restoring populations back to huntable levels. Population monitoring is an important part of habitat restoration efforts, and with

northern bobwhites we use fall covey counts to assess our current population. These covey counts help us gain a better understanding of population responses to habitat restoration and obtain fall density estimates.

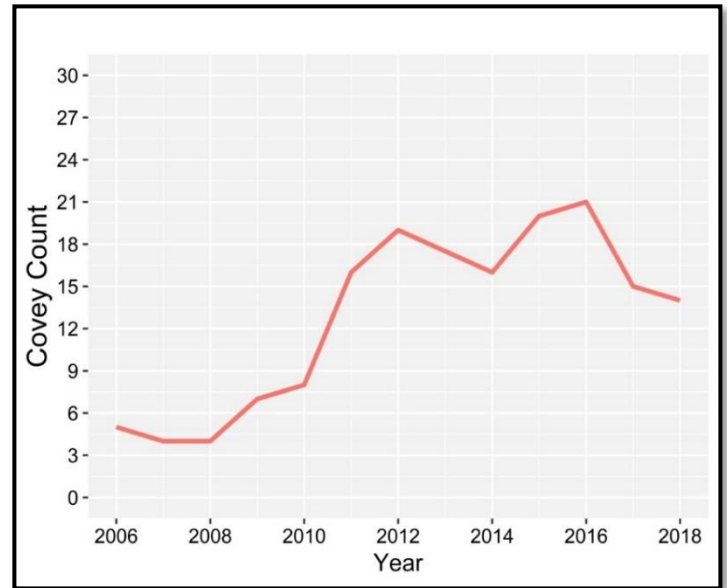


Figure 3 Chart showing the data from the Indian Creek fall covey count

October represents a time of change for northern bobwhites. October is the month of annual peak in bobwhite populations as this is period between the close of breeding season and the onset of fall raptor migrations and quail hunting season. In many instances, broods from single or multiple nests become coveys with other birds joining the group until optimal covey sizes are reached (usually around 11 birds). Larger groups, usually 20+ birds, often break up into 2 coveys as group formation continues—other coveys slowly form as small groups of adults (4-6 birds) combine with others. The characteristic “koi-lee” call acts a spacing mechanism among bobwhite coveys so competition for food and cover resources is limited. The last two weeks of October is usually the peak calling period—with rates peaking earlier as you move northward in the bobwhites range.

When planning fall covey counts it is important to consider survey design, point spacing, pre-sampling, and re-sampling. When designing covey count surveys, point locations should be placed so that the habitat composition of the area surveyed is directly proportional the amount of habitat type in each category (pine uplands, fields, etc.) — for example, if 75% of your property is in upland pine habitat then 75% of the covey count points should be in this habitat type. Habitats where bobwhites do not normally live (i.e. bottomland hardwoods, wetlands, etc.) can be excluded when planning your fall covey counts. Managers and landowners should strive to sample at least 30–50% of their property annually, however, when populations are low this percentage should be increased to maximize the number of covey detections. The point-count sampling design used for bobwhites allows for a 500-m listening radius which leads to a total sampling area of 160 acres for each point. This allows landowners to easily achieve the desired percentages of study area sampled. Ideal weather conditions for fall covey counts are clear, calm mornings without drastic changes in barometric pressure over the last 24

hours. Avoid conducting fall covey counts on overcast or foggy mornings or days predicted to have high winds (7+ mph). Points may need to be re-sampled if weather conditions change or other factors interfere with counts (e.g. timber harvesting operations).

We will continue to monitor bobwhite populations in the Indian Creek Restoration Area as habitat restoration continues to happen. Although bobwhite populations do have annual fluctuations, we hope to continue the upward trend (See Figure 1) since this project began. Partnerships with the USFS, SCDNR, QF, NWTF, NRCS, and SCFC will continue to drive this effort and help Bring Back the Whistle in Indian Creek!

Collaborative Landowner Assistance Program Popular in the Indian Creek Area

By: Breck Carmichael, SC Department of Natural Resources

The South Carolina Department of Natural Resources (SCDNR) partnered with the U.S. Forest Service to make cost-share funds available to landowners interested in improving habitat for bobwhite quail in the Indian Creek area, and other portions of the state in close proximity to National Forest lands. Tracts adjacent to National Forest lands were the highest priority with the goal of providing connectivity between public and private lands for bobwhite habitat.

The Collaborative Landowner Assistance Program, or *CLAP*, consisted of a suite of 12 practices and cost-share rates available to applicants, all with potential to provide positive impacts for quail habitat. The practices and cost-share rates were taken from those available through the Natural Resources Conservation Service Environmental Quality Incentives Program, so as not to have competing programs with differing payment schedules. A cap of \$10,000 per landowner was established. Prescribed burning, timber thinning to open the canopy of pine forests, firebreak construction and understory hardwood treatment with herbicides were some of the most popular practices. The Newberry County Soil and Water Conservation District (NSWCD) was contracted to receive applications and assist with administration of the cost share payments.

Fifty-nine total *CLAP* applications were received statewide, with about half of those from the Enoree Ranger District and Indian Creek area. Site visits were conducted by SCDNR or partner (Quail Forever) biologists, and a custom, written habitat management plan prepared for each tract. The sign-up period closed on September 30, 2018, and all the available funds have been obligated.

“This has been such a popular program we are hopeful we can obtain additional funds to meet the demand”, said SCDNR biologist Breck Carmichael. “Even if we can’t find more funding (highly dependent on

Federal budgets) we are interested in working with any landowner interested in improving habitat for bobwhites, and a site visit and written management plan won’t cost you anything. It has been really neat to see how many landowners would like to have quail around just to see and hear them, not just from the hunting standpoint. And there is the added benefit that high quality habitat for quail is good for a whole host of other species ranging from songbirds to pollinators. This is what the South Carolina Bobwhite Initiative is all about”, Carmichael added.

For more information contact the SCDNR at 803-734-3940, check out their [Facebook page](#)- *the South Carolina Bobwhite Initiative* or [go here to visit the website: www.scbobwhites.org](#).

Indian Creek Restoration Initiative Area: Habitat Update

Compartment 148: Judy Road Unit -- Herbicide Application

By: Kyle Lunsford, Quail Forever

Managing plant succession (progression of plant communities through time) is a vital component of any management prescription for bobwhites. Habitat monitoring and applying proper management techniques (prescribed fire, herbicide application, mastication, drum chopping, etc.) at the appropriate time are important to ensuring that plant succession remains at a stage (what we call early-succession) that favors bobwhites. Ideally, forest understories should contain a variety of plant species that include native warm-season grasses, forbs, and shrubs/scrubby vegetation to fulfill the cover and food requirements of adult and juvenile bobwhites throughout the year.

When habitat conditions reach the point where vegetation structure and composition are favorable to bobwhites, we can usually maintain these areas with prescribed fire. However, if prescribed fires are missed in a particular year (or worse multiple years) due to adverse weather conditions, lack of resources, or other responsibilities then habitat conditions will begin to degrade. In the Southeast, this usually means hardwood intrusion in quail management units – in our case, sweetgum (Figure 4).

Sweetgum can be problematic due to its quick sprouting ability, high seed production, and ability to re-sprout after fire. When this happens, action must be taken to shift



Figure 4 Picture highlighting sweetgum regeneration on Judy Road

vegetation communities back to more grass/forb/shrub-dominated systems and this is accomplished by proper selection and application of forest herbicides (Figures 5 & 6).



Figure 5 Contract crews applying imazapyr based herbicide to sweetgum regeneration

We used grant money from the Duke Energy Foundation to hire contract crews to apply imazapyr-based herbicide to our Judy Road management units using foliar sprays and hack-and-squirt methods to reduce sweetgum regeneration in these areas.

September is a great month to do herbicide work just before hardwoods divert nutrients to root systems before going dormant and allows many herbaceous plants to seed out which may



Figure 6 Hack-and-squirt method used for applying herbicide to larger hardwoods that are beyond the control of fire

limit herbicide impacts on desired vegetation. We will follow this herbicide application with a spring fire to begin to shift this area back to a more herbaceous understory.

Firebreak Establishment and Improvement: Larry Cope & McCullough Roads

Prescribed fire is an important tool for maintaining plant communities that are favorable to northern bobwhites. Important components of prescribed fire are scale, frequency, timing, and intensity. Although prescribed fire is one of the most important management tools for bobwhites, when applied at large scales (1000+ acres) its effects can be detrimental. Directives that guide many federal lands focus on reducing fuel loads and risk of wildfire. These directives often clash with the goals of biologists and land managers focused on restoring bobwhite populations. Aldo Leopold referred to the bobwhite as the “least mobile game bird” with most coveys having fairly small home ranges in good habitat. If prescribed burns are conducted at large scales this will leave many areas devoid of cover during a critical time period (just before breeding season and during spring raptor migration) for quail. Without cover, many quail will begin to disperse into areas that have cover which may require long distance movements in search of

favorable conditions. Long distance movements do not bode well for quail survival as this can often leave them vulnerable to the many predators that eat them when occupying or moving through suboptimal habitats.

During the past two years, the Indian Creek Wildlife Habitat Restoration Initiative Area has begun to reduce burn unit size in bobwhite management areas. We used grant money provided by the Duke Energy Foundation (held by NWTf) to rent a bulldozer to improve firebreaks current bobwhite management units. We also established firebreaks in first-thinned pine stands and other management units that will eventually become bobwhite habitat after future timber harvests. We also established new



Figure 7Habitat dominated by switch grass

firebreaks in units that are in dire need of restoration (two Wallace Road units). These two units represent unique challenges to restore habitat conditions for bobwhites: the first unit is dominated by switchgrass which is suppressing other vegetation and the other unit is an old seed tree harvest with an abundance of hardwood regeneration and some switchgrass growth.



Figure 8 Seed tree harvest with an abundance of hardwood regeneration

Due to funding, mailings are becoming harder to offer. If you would like to receive our newsletters and field day notifications electronically, please contact Jeff Fellers at 864-427-6259 Ext: 115 or at fellers@clemson.edu.