Quail Times
Summer 2021

## Invasive Species Spotlight
## Kudzu
## By: Jeff Fellers – Clemson Extension

As you drive across South Carolina there is a very good chance you will see a patch of kudzu. Especially in the upstate where it was introduced with the best of intentions. Kudzu was introduced in the early 1900's as a possible forage for livestock and soil erosion control from Japan and China. In the 1930's kudzu was planted by the Civilian Conservation Corps throughout the South to help with soil erosion. By the early 1950's kudzu had become a nuisance plant pest and spread rapidly through the South.

*Kudzu in April*

Kudzu is a deciduous plant that loses it leaves in the winter and is very easily damaged by the frost and cold. It produces woody vines that can climb up to 100 feet long. The vines can fully encompass trees and shrubs, which can lead to death of the tree and understory.

Leaves of the Kudzu are alternate, pinnately compound with three-leaflets. Each leaflet ranges from 3 to 7 inches long and 2.5 to 8 inches wide. The leaflets can vary by being slightly lobed, two-lobed symmetric, and two one-lobed side leaflets.

*Leaves of Kudzu in October*

Kudzu flowers from June to September with pealike flowers. The petals are lavender to wine colored with yellow centers. Jelly can be made from the blooms of Kudzu.

*Kudzu Flower in July*

Kudzu is a legume and has fruits that are shaped like a bean. Kudzu can spread by seed, which is set from September to January, or by rooting at nodes along the vine.

**Control Methods:**

Control methods for Kudzu are listed below. Control will take successive years of herbicide applications.

- Foliar – Thoroughly wet all leaves with a herbicide in water with a surfactant.
  - July – October
    - Picloram (Tordon 101) as a 3% solution – non-target plants may be killed or injured. This herbicide is also restricted. (12 Ounces per 3-gallon mix)
  - July – September
    - Metsulfuron Methyl (Escort) at 3-4 ounces per acre – non-target plants may be killed or injured. (.8 to 1.2 dry ounces per 3-gallon mix)
    - Clopyralid (Transline) as a .5% solution – this herbicide primarily targets legume species. (2 ounces per 3-gallon mix)
  - Growing Season partial control
    - Triclopyr (Garlon 4) or Glyphosate – apply as a 4% solution in water. Repeatedly apply as vegetation leafs out. (1 pint per 3-gallon mix)
- Basal Bark – For stems too tall for foliar sprays. Apply to vines January to April.
  - Triclopyr (Garlon 4) – 20-percent solution in basal oil, vegetable oil, crop oil concentrate, diesel fuel, or kerosene (2.5 quarts per 3-gallon mix) with penetrant.
- Cut Surface – large vines and immediately treat the cut surfaces.
  - Triclopyr (Garlon 4) or Glyphosate – apply as a 20% solution in water. Repeatedly apply as vegetation leafs out. (2.5 quarts per 3-gallon mix)

## Native Species Spotlight
## Mayhaw
## By: Gary Peters – NRCS

What is it? It's not a command for a horse, or a sled dog team, it is a plant that is uniquely Southern. Mayhaw, Crataegus *aestivalis*, *C. opaca*, and *C . rufula* (there are three species) a member of the hawthorn genus, is indigenous to the southern United States and grows in the wild as far west as Texas. It takes a keen eye to recognize the rather subtle soft white mayhaw flower in a landscape full of the color and sounds of spring.

Mayhaw's claim to fame is its small, tart-to-tasteless, berry-sized fruits that range in color from yellow to red. In the wild, mayhaw berries remind you of a cranberry or a small crabapple, although the taste may vary widely. Their berries ripen and drop in early summer around, you guessed it, the month of May.

Due to its early season maturity, mayhaw is attractive to wildlife that consumes fleshy fruits but probably is most beneficial to young of the year small mammals, fledgling songbirds, and scratching birds such as turkey, robins, quail, towhee, etc.

A classic example of a hawthorn, it comes with thorny twigs, produces a berry commonly referred to as a 'haw', and although thrives near streams and wetland environments, it is quite versatile and can tolerate moderate to dry sites as well. When selecting a site, look for places that tend to have a little moisture periodically throughout the year, and a little shade. As for soil, mayhaw seems to be quite adaptable but does consistently better in slightly acid well drained soils.

Although often thought of as a 'low country' species, mayhaw does quite nicely here in the piedmont. It is cold tolerant and frost hardy due to its prolonged blooming period and of all the hawthorn species (there are literally 100's of species that occur on all major continents in the Northern Hemisphere), mayhaw is the most disease resistant of the bunch here in America. For more information on the plant itself, go to https://hort.purdue.edu/newcrop/proceedings1990/V1-317.html or, https://en.wikipedia.org/wiki/Mayhaw and click on any of the highlighted words that interest you.

A plant that thrives in open sunlit conditions and does equally well in partial shade, mayhaw is a valuable addition to any hedgerow, field border, or thicket. The slow growing shrubs can reach up to 30' tall and are home to a variety of nesting birds, and food for many Lepidoptera (butterflies and moths) species as well.

It's not all for the birds however, if you're lucky to harvest a crop yourself, mayhaw berries have long been sought after for their jam and jelly making prowess, mayhaw syrup is considered a southern delicacy as well. If you would like to sample a truly southern flavor, there are mayhaw festivals scattered about from Georgia to Louisiana to Arkansas and beyond.

So when you are mapping out your orchard, hedgerow, thicket, or field border, get a taste of mayhaw, for you and your wildlife!

## USDA Feral Swine Management in Newberry County

The Feral Swine Eradication and Control Pilot Program (FSCP) has been in place in Newberry County South Carolina since early 2020. This was part of the first round of 2018 Farm Bill funding which will expire at the end of September 2023.

Funds totaling $847,00 will allow the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) Wildlife Services (WS) to dedicate fulltime staff to combating this invasive species, also known as wild pigs, in Newberry County.

Wildlife Services Role

Two fulltime WS technicians will work with Newberry County landowners to remove wild pigs. A part-time biologist will coordinate the project along with ongoing management activities in Newberry County.

The Newberry Soil and Water Conservation District (NSWCD) is working with WS by providing the trapping equipment. Funding for the trapping equipment is being provided by USDA Natural Resources Conservation Service through a partnered agreement with NSWCD.

Figure 1: Wild pigs in net trap.

There are currently 6 Jager traps in the inventory with funding for more. WS is also experimenting with the new *Pig Brig Net Trap System* (Fig. 1); however, they are not currently in the county's trap inventory. Any traps in the inventory will be available for use through the NSWCD after the project's completion.

Damage Assessment

Despite the extensive and widespread damages caused by wild pigs, currently there is a paucity of data on assessments of damage reduction related to population control efforts. The University of Georgia, Savannah River Ecology Lab (SREL) is collaborating with NSWCD, WS and landowners in Newberry County with an overarching goal to quantify changes in wild pig population size and damages associated with wild pigs in response to control efforts. Specifically, this research will address the following research objectives to assess the impacts of wild pig removal efforts:

**Objective 1:** Quantify changes in wild pig population size across targeted areas in Newberry County, SC in response to wild pig removal efforts coordinated by USDA-APHIS-WS.

**Objective 2:** Quantify changes in wild pig damage to common agricultural crops (e.g., corn, peanuts, pasture/hay land) in response to wild pig removal efforts.

**Objective 3:** Quantify changes in environmental damages caused by wild pigs across targeted areas in Newberry County, SC in response to wild pig removal efforts coordinated by USDA-APHIS-WS.

Funding for the damage assessment is being provided by the partnered agreement with NSWCD.

How You Can Help

Contact WS with any questions or concerns with feral swine. There are only 18 properties currently signed up with the Farm Bill project and we welcome more properties to participate.

Assistance outside the Farm Bill Project

For landowners outside of this area, assistance to manage wild pig damage is still available through Wildlife Services' normal operations. WS also continues to work with the USDA Forest Services. An interagency agreement has been in place to combat wild pig problems on Forest Service lands and adjacent property owners. This partnership is to augment existing wild pig management activities on the Enoree District.

**Contact Information**

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## That Other Bird – What About Mourning Doves?

**By: Michael Small – Assistant Small Game Program Leader, SCDNR**

*Photo by Colleen Lynch*

Yes, this is still a quail-based newsletter! But let's face it, when summer starts to wind down and thoughts of a new hunting season start to come to mind what do you think of? Dove season will open soon, right? And what better timing could there be for a season opener that allows you to get out there in a nicely prepared dove field and hone your skills for the rest of the year's wing-shooting? And the nice thing is, it's something different and relatively easy. I mean, you don't have to go out and "hunt" the birds (except for a few phone calls to friends to ask, "are the birds flying?"), just wait for them to come to you. So, there is some utility to dove hunting after all.

And now that we have established that dove hunting has a place in the quail hunter's bag, do you ever give them additional thought? Here is a glimpse into what agencies

such as the South Carolina Department of Natural Resources are dealing with when it comes to doves. First, because mourning doves are migratory, they are afforded protection under the Migratory Bird Treaty Act and are subject to federal regulations. States do, however, have some input. The USFWS comes out with a regulatory framework enabling states to set their regulations. The federal framework provides the states with a template from which they can build their season around. Currently, that framework allows 90 hunting days to be taken between 9/1 and 1/31. These 90 days can be split up into as many as three smaller segments within that period along with a 15-bird daily bag limit. As most of you know, baiting for doves is not an option! More restrictive regulations may also be imposed by the states, when necessary, but this is relatively rare. So that's the jist of how the seasons work.

But what else? As many of you are aware, quail populations are intensively scrutinized in SC so that their populations can be monitored to help analyze trends and other population parameters. But what about mourning doves? Well, we monitor them annually as well by conducting a state-wide survey using a method called point transect distance sampling. The location of survey points is shown in Figure 2.

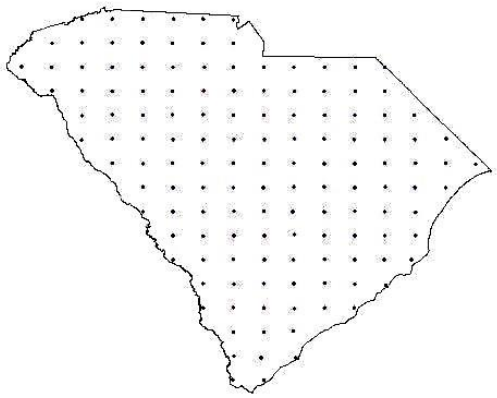

*Figure 2 Mourning Dove Survey Points*

The premise behind this type of survey is that we visit each point once and count distances to doves observed (seen or heard) during the survey. Now, obviously, we can't count every dove in the state, so we count a sample and apply the data to the state as a whole. The way it works is that we assume the closer a dove is to the observer, the more likely it is to be observed. We then record the distance to the observation. This allows us to use some fancy math with the help of a software program called DISTANCE to create a curve that shows how the likeliness of seeing a dove decreases with distance (Figure 3).

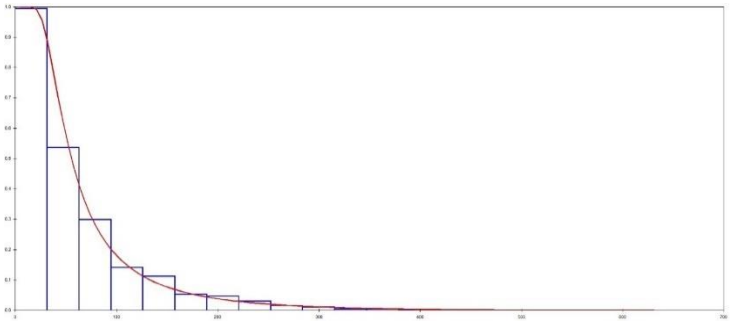

*Figure 3 Curve Showing how observations decrease with distance from the surveyor*

This allows us to estimate the density of doves/hectare in the state and compare these estimates between years with confidence using what is known as confidence intervals. Confidence intervals tell us what the probability is that our density estimate falls within a 95% of certainty. Below are the estimates and confidence intervals for each of the past five years (Figure 4).

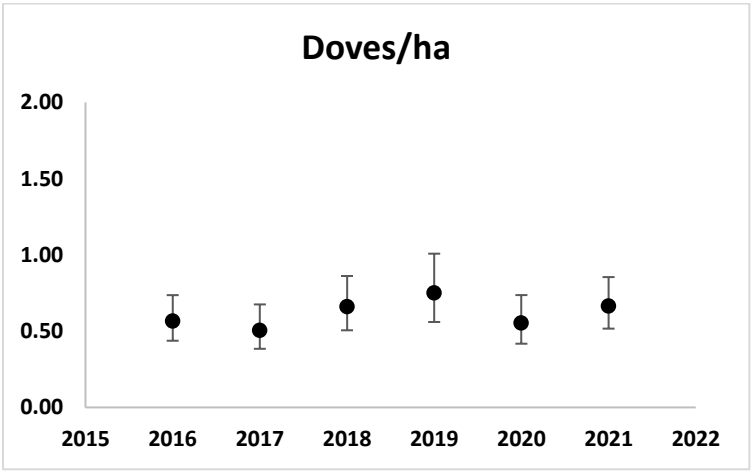


*Figure 4 Estimated Mourning Dove density/ha*

The discussion from our annual survey report reads somewhat as follows:

Mourning Dove population estimates were accurately derived with a really good degree of certainty during late spring/early summer, about 18 months before estimates of actual population size, just prior to the hunting season, become publicly available from the USFWS. Because of the timing of the surveys we invariably counted some juveniles, and thus our density calculations are not for an actual breeding population of adults only. In this way we can determine annual trends, which provides us with some comparability between years and therefore, some indication as to the health of the population and thus probable hunting season quality. As surveys continue and new data is added to the dataset, these estimates will improve.

So what does all this mean? Well, the Mourning Dove population fluctuates somewhat between years but not substantially so. This should be good news! All indications are that our population is stable. On top of

that, please keep in mind that this is a state-wide survey and requires the assistance of numerous staff to collect the data. They are the ones who deserve the credit for all the effort that goes into this survey.

## Longleaf Alliance Lunch and Learn
## By: Breck Carmichael – SC Bobwhite Initiative Biologist, SCDNR

Our conservation partner the Longleaf Alliance recently sponsored a virtual Lunch and Learn session on bobwhite quail biology and management. Biologists with the South Carolina Department of Natural Resources and the Clemson Extension Service fielded questions from more than fifty participants during the hour-long session. Many topics relative to producing high quality bobwhite habitat were touched upon. If you missed it, a recording of the session is still available free of charge at this link: https://bit.ly/3ej5jrO. Check it out!


**Are you interested in take the SCFC Certified Prescribed Manager Course? If we have enough interested we can host a course in Newberry. If you are interested please let Brad Bramlett know at BBramlett@scfc.gov or call him at 864-915-1924**

**Due to Funding we do not know how long we will be able to continue to mail this newsletter out by paper mail.**

**If you receive this newsletter by paper mail and would like to continue to receive it, please sign up for our email list serve.**

**Please send your name, mailing address, and email address to fellers@clemson.edu and be sure to include Indian Creek email list serve in the subject line.**

## Bobwhite Quail Management Calendar
## By: Breck Carmichael – SC Bobwhite Initiative Biologist, SCDNR

It seems like there is always something that needs doing on our lands we are managing for quail. Quail habitat is always trying to become something else just through natural plant succession, and boy is it hard to keep up with!

This calendar was put together by Kyle Lunsford, who was a Quail Forever Coordinating Biologist on the Indian Creek project for a period of time (he is now employed by the Idaho Fish and Game Department).

As you can see, the warm summer months are a good time to use herbicides to reduce non-native and invasive warm season grasses and other species that degrade quail habitat, and make travel for quail chicks very difficult. These would include Bermudagrass, Bahiagrass, and Sericea lespedeza, and fescue in the early fall.

Also notice that mowing or bush-hogging is nowhere on this calendar. Any mowing should be done very sparingly, and not at all during the summer nesting season (see DNR Small Game Project Coordinator Michael Hook's video on the proper way to mow for quail at www.facebook.com/scbobwhites/videos/581251732503211 ).

# *Quail Management Calendar*

| Management Practice | January | February | March | April | May | June | July | August | September | October | November | December |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prescribed Fire | | Conduct all prescribed burning activities. Cease burning by May 14th. | | | | | | | | | | |
| Discing | Winter discing - end by Feb 15th | | | | | | | | | | Winter discing - begin Nov 15 | |
| Herbicide Application: Hardwoods | | | | | | | | Spray undesirable hardwoods. Stop spraying after 1st week in Oct | | | | |
| Herbicide Application: Invasives | | | | | Herbicide application: Bahiagrass (May), Bermudagrass (June), Sericea lespedeza (June-August) | | | | Herbicide application: Tall fescue | | | |
| Herbicide Application: Native Grasses | | | | | | | | | Apply imazapyr to dense native grasses | | | |
| Population Monitoring | | | | | | Conduct Spring whistle counts | | | | Conduct Fall covey counts | | |
| Timber Harvest | Timber harvests may be conducted year-round. If there are concerns about breeding season impacts, logging activities can be restricted to Fall/Winter months (Oct-Feb). Logging activities conducted during the Fall/Winter months may encourage more desirable plant communities due to dormant season soil disturbance. | | | | | | | | | | | |
| Mechanical Equipment | Management of woody vegetation growth with mechanical equipment (e.g. chainsaws) may be conducted year-round. If desired, cutting can be done in conjunction with herbicide treatments to eliminate undesirable species. If heavier equipment (masticators, drum choppers) is used, activities should be conducted outside of breeding season. | | | | | | | | | | | |

| Forest Management Calendar Provided by SC Forestry Commission | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Treatment** | **Jan** | **Feb** | **Mar** | **Apr** | **May** | **Jun** | **Jul** | **Aug** | **Sep** | **Oct** | **Nov** | **Dec** |
| Request A Forest Stewardship Plan | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Apply For Eqip Or Cost-Share Programs With NRCS | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| Apply For Cost-Share Assistance with The SC Forestry Commission | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| Road Maintenance | | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |
| Site Preparation Burning | | | | | | | | ■ | ■ | ■ | | |
| Insect & Disease Inspection | | | | | ■ | ■ | ■ | ■ | ■ | | | |
| Chemical Herbaceous Weed Control | | | ■ | ■ | ■ | | | | | | | |
| Chemical Site Preparation/Release | | | | | ■ | ■ | ■ | ■ | ■ | | | |
| Fire Breaks | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Food Plot Planting | | | ■ | ■ | ■ | | | | ■ | ■ | | |
| Harvesting (Includes Thinning) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Mechanical Site Preparation | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | |
| Order Seedlings | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | |
| Prescribed Burning | ■ | ■ | ■ | ■ | ■ | | | | | | | |
| Tree Planting | ■ | ■ | ■ | | | | | | | | | |
| | | | | | | | | | | | | |
| | ■ Indicates appropriate month for technique | | | | | | | | | | | |