Quail Times
Summer/Fall 2020

Invasive Species Spotlight
Bamboo
By: Jeff Fellers – Clemson Extension

Various species of Bamboo are non-native invasive plants that can be difficult to control. It is a member of the grass family, but unlike most grasses they have woody stems and can reach large heights. Bamboo is native to Asia and was originally introduced as an ornamental to decorate homes and gardens in 1882. Bamboo has the potential to choke out native vegetation and create dense stands that reduce diversity. It also provides little wildlife habitat for our native species.

Bamboo is a perennial that rarely produces flowers or seeds. It primarily spreads by rhizomes from a parent plant. This allows it to quickly expand in disturbed areas. Rhizomes can spread more than 100 feet from the mother plant and are resistant to adverse conditions and many herbicides.

In order to control bamboo, one must be patient and diligent. It will not be a once-and-done application. It will take multiple applications and possibly two to three years to achieve control.

Control Methods:

- **Regular Mowing** – bamboo is a grass and can tolerate occasional mowing. However, bamboo does not like frequent mowing. If bamboo is in an area that can be mowed like a lawn, control may be achieved by eventually starving the roots and rhizomes. This method could take two to three years to achieve results.
- **Herbicide Applications –** herbicide applications should provide quicker control, but multiple applications will be needed. If using a foliar herbicide, the bamboo may need to be mowed, allowed to regrow until new leaves expand, and then sprayed to ensure complete coverage. September to October is a good time to treat bamboo with a herbicide application.
- **Arsenal AC –** foliar application as a 1-percent solution, which would be 4 ounces per 3-gallon mix. Arsenal AC does have residual soil activity.
- **Glyphosate –** foliar application as a 4 percent solution, which would be 1 pint per 3-gallon mix. Glyphosate does not have residual soil activity.
- **Arsenal AC and Glyphosate –** a combination of the two herbicides can also be used as a foliar application.
- **Cut Stump Method –** both above herbicides can be used as a cut stump method also. Cut the bamboo at ground level and treat stumps immediately using double the strength of the herbicide solution listed above.

Native Species Spotlight
Milkweed
By: Gary Peters -- NRCS

Milkweed Seed Pod

The milkweed, flowers that are pretty to look at, sap that looks like milk but feels like Elmers glue and seeds that resemble parachutes in the early winter wind. What you may not know is that they have had a close, long-term relationship with a special group of insect species, most notably the Monarch butterfly.

The milky sap for which they are named is more than just sap. Milkweed sap contains steroids called cardenolides that are responsible for many of the plant's medicinal properties.

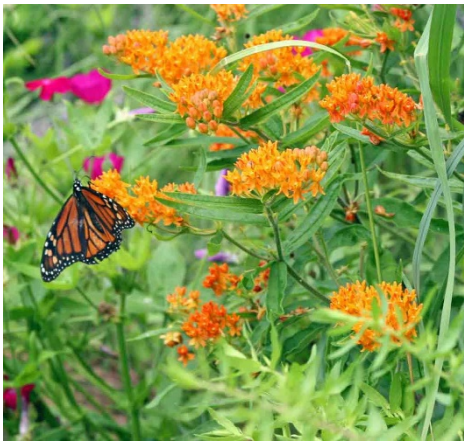
Milkweeds are all members of the genus Asclepias (which contains about 90 species including sub-species, in North America). The genus name Asclepias, is derived from Asclepius, the ancient Greek god of healing and medicine. Despite having toxic properties which is advantageous for the plant and certain insects, some milkweeds have historically been used for food and medicinal purposes. While the bitterness is an indication of the mild poison within, properly prepared (usually boiling) parts of the milkweed have been used externally to treat skin ulcers, burns, warts, and even to repel insects. Native Americans used the roots for snakebites. In pioneer times, properly prepared milkweed was also used internally for toothache, fever, headache, and gas.

At least one milkweed species is found in every county in the state of South Carolina and all perennial. You will be amazed at just how many there are. Here are the ones that could be encountered here in the piedmont.

- **Clasping milkweed** (Asclepias amplexicaule) is found in every part of the State. It has rose to purple flowers and broad, ripple-edged leaves. It prefers mesic to dry soil sites and most often found in open to partially shaded sites such as roadside berms.
- **Poke milkweed** (Asclepias exaltata) is found in the upper Piedmont counties. It has greenish-white flowers, each on a long drooping peduncle. The large lanceolate leaves are fuzzy, and the plant is a tall (2 -6 ft.) solitary stem. It thrives in more mesic sites and is one of the few milkweeds that does well under forest cover.

- **Fourleaf milkweed** (Asclepias quadrifolia) is found in higher elevations in the upper Piedmont counties. It has green-white to pink flowers, and ovate, glabrous leaves in whorls. Occurs as single stems, 12 to 20 inches tall, arising from a short rhizome. The sap is milky. It prefers dry to mesic soils in mixed forest sites.
- **Swamp milkweed** (Asclepias incarnata) is found mostly in the Piedmont counties. It has rose-colored flowers and sessile lance-shaped leaves that are hairy. Tall (2 to 5 feet) solitary stems arise each spring from a taproot. It is almost always found in wet soil sites with sunny exposure.

- **Common milkweed** (Asclepias syriaca) is found in the upper Piedmont counties. It has rose to greenish-white flowers, and elliptic leaves that are glabrous above and fuzzy below. It forms colonies of single stems, which can grow from 3 to 6 feet tall and appears in mesic to dry soils and open sunny sites.
- **Butterfly milkweed** (Asclepias tuberosa) occurs as two closely related sub-species in South Carolina. Asclepias tuberosa ssp. tuberosa is found in every county in the State. The flowers range in color from orange to red. These species are the only milkweeds that exude clear sap. Both species have several stems (8 to 30 inches tall) that grow from a heavy taproot. Both prefer mesic to dry sites that are sunny to partly shaded.



- **Red-ring milkweed** (Asclepias variegata) is found in almost every county in the State. It has bright white flowers with purple centers. Leaves are oval and smooth on single stems 8 to 40 inches tall most often found on mesic sites in open woods and woodland borders.

- **Whorled milkweed** (Asclepias verticillata) is found mainly in the Piedmont and Sandhills counties. The flowers are greenish-white. The leaves are narrow-linear and occur in whorls on stems 12 to 30 inches tall that, form open colonies. This species prefers dry sites in open woods or roadsides.
- **Green comet milkweed** (Asclepias viridiflora) is found in the Piedmont and Sandhills counties. The flowers are yellowish-green and occur in globe-shaped umbels. The leaves are linear, fuzzy and leathery, and occur on single sturdy stems 8 to 30 inches tall. This species is found most often in dry to mesic open sites.

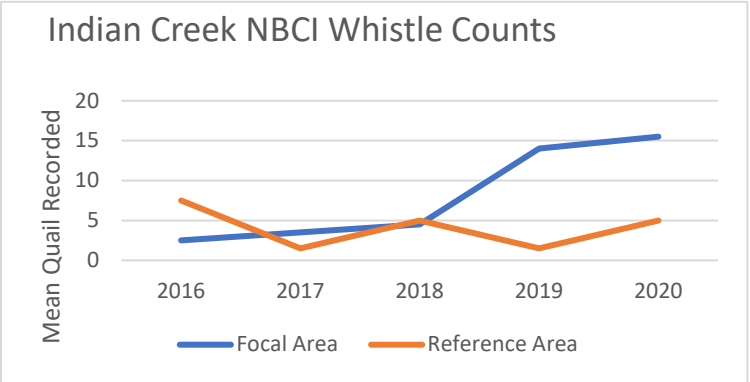
While milkweeds are very pleasing to look at, they are a magnet for wildlife as well. They produce large amounts of nectar which is important to many species of pollinating insects. Their foliage provides the necessary food for the larval stages of several butterflies and moths as well. Hummingbirds use the seed fibers to build nests and are credited with first 'discovering' the insulation properties of the white wispy part of the seed.

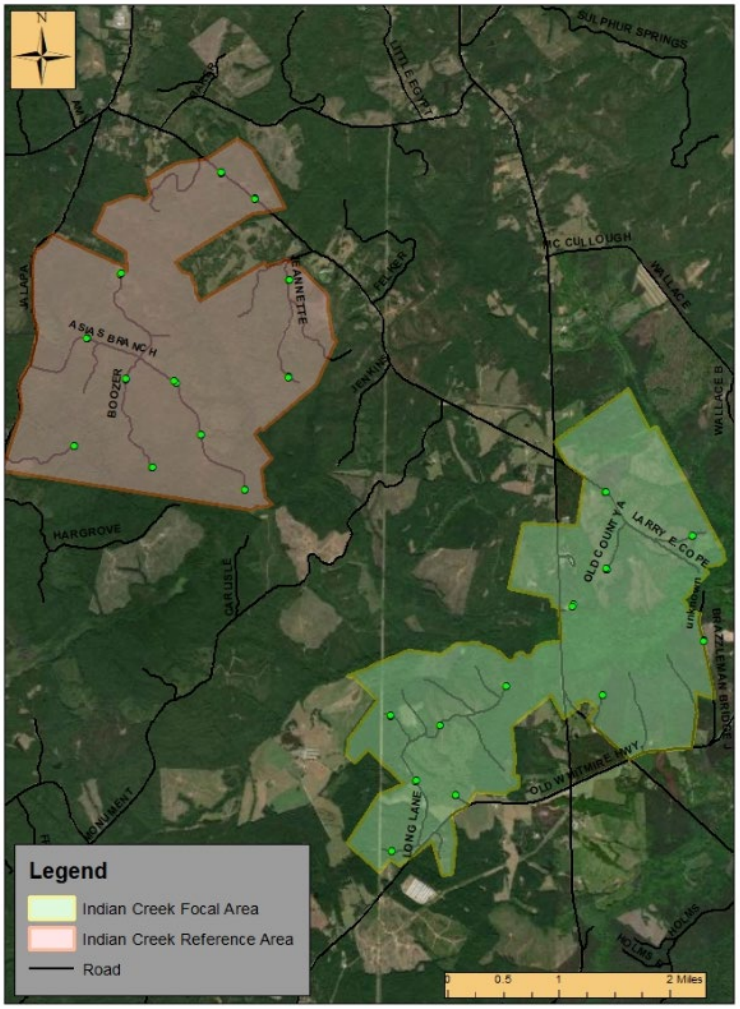
So, as you see, milkweeds are valuable additions to the plant composition in old fields and grassland habitats where they are found. When planning your openland management you should consider protecting and restoring one or more of these native milkweeds in your landscape. The NRCS has a seed blend that is Monarch friendly, what exactly is it? It's a tailored blend of flowering plants designed to have at least three flowering species at any given time from April through October including at least four kinds of milkweed common to South Carolina.

Quail Population Soars at Indian Creek
By: Jake McClain – Quail Forever Biologist

There are few moments on the job that are more enjoyable for a wildlife biologist than those where you see/hear evidence of success from conservation efforts. So, as I ventured out in the early morning light to conduct whistle counts on both the Northern Bobwhite Conservation Initiative (NBCI) Indian Creek Focal and Reference Areas this June, my hopes were high.

A vital part of bobwhite conservation is monitoring populations through fall covey counts and spring whistle counts. Conducting these counts lets us know how the birds are responding to the habitat management. If we hear more quail/coveys as years pass, we know that we are doing something right. If we hear fewer, well then, likely our management efforts are falling short. It is important to note that when conducting these counts, not every quail in the area is detected. In spring, only the males call. They often call





at different rates. Some birds call every 10-15 seconds all day while others may only call a dozen times in a 24-hour period. Modelers at NBCI will use the data collected to formally estimate quail density (quail per acre) using computer modeling.

That first morning on the Focal Area I heard 19 whistling quail! To put that into context, only 3 quail were heard on the Focal Area in 2016. These numbers suggest that the quail population on the Indian Creek Focal Area has grown by >500% since 2016. So how do we know that it was our management efforts that have caused the population to grow rather than just good weather, a decline in predators, or luck? We compare the results of the Focal Area counts to those conducted on the Reference Area just down the road where quail management is not a focus. Since 2016 the count data

indicates a -25% change in the Reference Area quail population.

It is clear we are doing something right on the Focal Area. Of course, all that work has a positive impact on more than just bobwhites. Deer, turkey, rabbits, doves, and many songbirds benefit from quail habitat management. Through intensive timber thinning, frequent use of prescribed fire, and targeted herbicide applications, much of the Indian Creek Focal Area has been transformed into suitable quail habitat. That does not mean our work is over. There is still more to do to reach our population goal of 0.3 quail per acre, but we are certainly on the right track!

I hope that everyone who has played a role in this project will take the time to think about what has been accomplished at Indian Creek. The northern bobwhite is a species that has been in steep decline for decades across its vast range of 25 states. Now, here at Indian Creek, through the dedicated efforts of the US Forest Service, SC Department of Natural Resources, NRCS, Quail Forever, and many other partners, including dozens of private landowners, we have come together and reversed the local decline of an iconic species that brings joy to so many. Let us keep moving forward for quail and the other animals that depend on good habitat management!

For more information contact:

Jake McClain

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Newberry Soil and Water Conservation District kicks off Feral Swine Management Grant
By: Joseph Berry – District Coordinator

The Newberry Soil and Water Conservation District (NSWCD) has officially kicked off its Feral Swine Management Grant to help control the feral hog population in Newberry County. NSWCD is working with the Natural Resource Conservation Service (NRCS), Animal and Plant Health Inspection Service (APHIS) and the University of Georgia – Savannah River Ecology Lab (SREL). Through these partnerships NSWCD hopes to be able to provide trapping services to landowners throughout Newberry County.

While this project has been in the works since late 2019, with the agreements in place, work can officially begin on the project. Within this program, APHIS will work with landowners to set up drop gate traps on lands impacted by feral hogs. At the same time SREL will work with the landowner to access

damage to land and create metrics of how well the program is working. Outside of providing 75% of the funds for the program, NRCS will work with landowners to provide funds to restore land impacted by feral hog damage. NSWCD will work to administer the grant, as well as coordinate the outreach and education to landowners of the program.

NSWCD will be purchasing a number of drop-gate traps, cameras, and baiting supplies to trap feral hogs for disposal by APHIS. The funds will also secure surveying items for SREL to perform assessments of land damage and program success at addressing the population within Newberry County. After the three-year program is completed, most of the equipment and supplies will be retained by NSWCD for continued use.

As part of the outreach to the project, NSWCD will be working with it partners, including the Indian Creek Habitat Restoration Committee, to host workshops for landowners in the area.

Feral swine are considered an invasive species and pose a threat to natural habitats of other wildlife, including bobwhite quail. Through this program, NSWCD hopes to limit the impact these intruders have within Newberry County.

To get more information on the program, sign up to be notified of workshops, or to register your Newberry County property to be trapped, contact NSWCD District Coordinator Joseph Berry at (803) 597-3160 or through email at NewberrySoilAndWater@gmail.com.

Collaborative Landowner Assistance Program Wrap Up
By: Breck Carmichael – SC DNR

The South Carolina Department of Natural Resources (SCDNR) and the U.S. Forest Service collaborated on a cost-share incentive program for private landowners to facilitate additional high-quality bobwhite quail/pine

savanna/woodlands habitat on properties adjacent to, or within close proximity of, National Forests in South Carolina. Each agency contributed $100,000 to fund the program, which began in Fall of 2018 and ended in May 2020, with all funds being expended.

The Collaborative Landowner Assistance Program (CLAP) used a ranking system to prioritize private land applications based on proximity to National Forest lands in South Carolina. Tier I (highest priority) applications were received from landowners with properties adjacent to U.S. Forest Service land; Tier II applications were received from landowners with properties within 1 mile of forest service land; Tier III applications were received from landowners 5 miles or greater from forest service land. Applications were ranked within each tier on a first-come first-serve basis.

SCDNR enlisted the assistance of the Newberry County Soil and Water Conservation District (NSWCD) to receive landowner applications and process cost-share payments to landowners. SCDNR biologists, as well as partner biologists with Quail Forever, visited properties and wrote custom land management plans after talking with landowners about their objectives.

A suite of 12 practices and cost-share rates were made available to applicants for CLAP (see table below). These practices and cost-share rates were taken from those available through the Natural Resources Conservation Service Environmental Quality Incentives Program (FY18), so as not to have competing programs with differing payment schedules. A cap of $10,000 per landowner was established.

Fifty-nine total applications were received (35 Tier I, 10 Tier II, 14 Tier III). The popularity of the program was such that only about two-thirds of Tier I applications could be funded before all funds were obligated. All applicants were offered free technical assistance services. Most applications came from landowners in the Enoree (i.e. the Indian Creek area) and Long Cane Ranger Districts, with a few in the Francis Marion, and one near the Andrew Pickens District. Some planned practices were not able to be completed due to weather and other factors. Covid 19 also impacted practice completion in the last 3 months of the grant period.

The most popular practices landowners implemented were firebreak installation, prescribed burning, and thinning of pine timber to less than or equal to 60 square feet per acre of basal area. The firebreak construction should provide enduring benefits as these are newly constructed, permanent firebreaks bladed out with a bulldozer. This should facilitate the landowners being better prepared to conduct timely prescribed burning on their own in the future.

Habitat restoration practices and cost-share rates available through the Collaborative Landowner Assistance Program in South Carolina, 2018-2020.

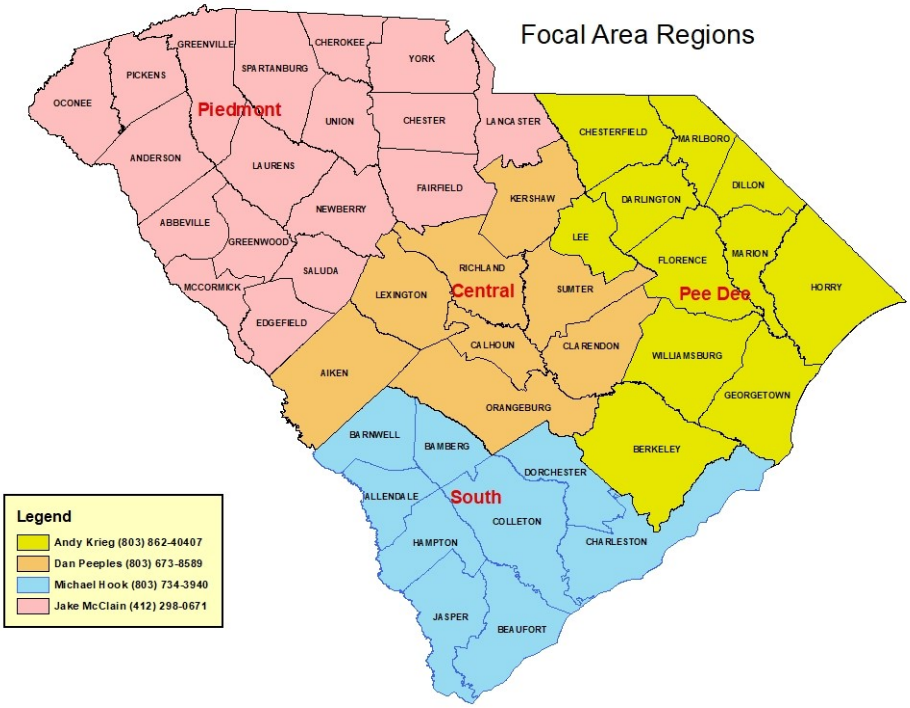
Winter Discing	$28.26/ac	Control of Sod-Forming Grasses	$34.20-506.64/ac
Timber Stand Improv. (Mechanical or Chemical)	$18.34-215.93/ac	Prescribed Burning	$32.62/ac
Firebreaks	$0.25/ft	Tree/Shrub Establishment for Woody Escape Cover	$104.82-129.81/ac
Hedgerow Establishment	$0.99/ft	Thinning to ≤ 60 Basal Area	$38.18-47.02/ac
Forest Opening Establishment	$289.93/ac	Conservation Cover Native or Pollinator Species	$141.61-787.18/ac
Field Border Establishment	$93.15/ac	Native Warm Season Grass Establishment	$307.10/ac

"This program demonstrated that there is a lot of desire by private landowners to see an iconic species like the bobwhite quail restored to our state", said Breck Carmichael, an SCDNR biologist working on the SC Bobwhite Initiative (SCBI) and the coordinator of the CLAP.

"An additional benefit is that habitat that is good for quail is also good for many other wildlife species. A number of which have also been experiencing long-term declines. For example, grassland birds and native pollinators", Carmichael added. "The Forest Service has been partnering with the SCBI effort to improve habitat conditions on National Forest lands (as evidenced by the Indian Creek initiative), so now we can begin to see the type of landscape-level impacts that we need by including adjacent private lands".

The hope is that the U.S. Forest Service will be able to provide some additional funds to help restart CLAP, but as of this writing it is unclear.

Are you interested in managing your land for Bobwhite Quail? We can help! We have personnel who would be glad to meet with you to discuss habitat improvements and financial assistance programs. Just call the person listed in your region of the state and they would be happy to schedule a meeting with you to help with technical assistance. Michael Hook is the SCDNR Small Game Program Leader. Andy Krieg and Dan Peeples work in a unique collaboration with SCDNR and the Natural Resources Commission Service. Jacob McClain is also in a collaboration with DNR, the USFS, and Quail Forever. PLEASE feel free to contact them for some sound advice regarding Bobwhites.



SCDNR Hunting Regulations 2020 -2021

This year's edition of State Hunting and Fishing Regulations is available online or at any SCDNR office. You can access the regs online at:

http://www.eregulations.com/southcarolina/huntingandfishing/