

The South Carolina Forest Steward

January 2002



In This Issue.....

This issue of the *The Forest Steward* contains reminders of forest management opportunities that coincide with the generally mild South Carolina fall/winter seasons. In contrast to harsh conditions that exist in the northern reaches of the country, our weather is generally favorable for outside activities and particularly for working in the woods. Tree planting is one of the more important management activities that occurs during this period. An article by Phil Epps, a forestry area agent with the Clemson Extension Service, discusses aspects of tree planting and other activities that can help landowners achieve a successful forest stewardship program.

As safety is always a prime concern, we include both a general reminder and feature articles by Bob Franklin, our low-country area forestry agent and Dr. William Simpson of the Medical University of South Carolina. Safety regarding all-terrain vehicles and what to do in case of snakebite are both timely as we spend more time in the woods.

Finally, the dormant season is an opportune time to improve wildlife habitat. We included information on what to plant for food and cover and the importance of maintaining streamside management zones.

Larry Nelson and Bob Franklin, Coeditors

Tree Planting Time

Philip O. Epps, Area Extension Agent, Clemson Extension

December through March is the primary season for planting forest tree seedlings in South Carolina. If you are reforesting cut-over land or old fields, there are several things you should be concerned with before and during the planting operations. These include:

- seedling availability
- preparation of the planting site
- seedling handling
- proper planting techniques.

Seedlings can be ordered as early as July 1 prior to the planting season. You should order your seedlings early in order to guarantee that the desired species and genetic stock will be available. Loblolly pine seedlings are usually available through late fall.

For pine sites, loblolly pine should be planted on most soils in this area, except deep sands where longleaf pine is the preferred species.

Seedlings can be purchased from the South Carolina Forestry Commission or forest industry nurseries. To receive help in locating seedlings, contact the local office of the Clemson Extension service, the South Carolina Forestry Commission, a local forest industry member, or your consulting forester.

Proper preparation of the planting site is necessary to establish a new forest. Competing hardwoods and perennial grasses such as bermuda must be controlled prior to or shortly after planting. There are many different treatments available. A forester can tailor a site preparation recommendation to fit your situation.

Proper seedling handling will ensure healthy young trees. Upon receiving your seedlings, inspect all bags for tears and mend with tape as necessary. Keep the seedlings in cold storage until needed. Take to the planting site only the amount of trees you will plant that day. Protect seedling bags from

direct sun both during transport and at the site. Do not let workers sit on the seedling bags at any time. Do not allow seedling roots to dry out. Tightly reclose opened bags. Moisten roots if necessary. Keep root pruning to an absolute minimum.



If you don't have time to plant the tree seedlings when they arrive from the nursery, it is very important to store them properly. Unless you intend to plant them immediately, don't open the bags. It is not necessary to add water. They arrive in moist mulch to keep them damp.

Store the bags in a cool, well-ventilated place for no more than two weeks. If they must be stored longer, keep them in a cooler in which the temperature stays a constant 37 degrees F. Do not let them freeze. The bags can be stored in a small building near a running air conditioner.

An alternative is to heel them in. Dig a small trench and "plant" the seedlings, making sure the roots are well covered and kept moist. Heeling in a large quantity of seedlings, however, is not practical.

Planting can be done several different ways. One method is to hire a tree planter to use his tractor and machine planter to plant your seedlings. You may also hire a planting crew to plant the seedlings by hand. This crew can use either dibbles, planting hoes or hoedads. The planting methods are different for each of the different tools, and the planters should be checked to ensure proper planting techniques are followed. This is important to produce a healthy stand of trees.

If you plant your own seedlings or you will be checking the planting crew, be sure you know proper planting techniques and guidelines so that your trees will survive and produce quality forest products for the future. If you need information on proper planting techniques for forest tree seedlings, call the local South Carolina Forestry Commission office or Clemson Extension Office. 🌲

Winter – Time to Practice Forestry

Philip O. Epps, Area Extension Agent, Clemson Extension

Although tree planting is one of the more important forest activities conducted during the dormant season, wintertime is also advantageous for a variety of other woodland tasks, including:

- pruning lower limbs of pine and other trees to improve access, aesthetics, and timber quality.
- implementing forest stewardship practices without being attacked by mosquitoes or gnats.
- cutting firewood to have well-seasoned wood next fall.
- evaluating the form and quality of logs contained in the main trunk of hardwood trees without interference from understory and overstory foliage.
- having commercial logging executed in the fall during dry weather in order to facilitate logging and prevent severe soil disturbance (rutting and erosion).
- conducting logging operations after leaves fall from deciduous trees to reduce damage to the residual forest stand. In summer this foliage can hang up on other trees during their felling, thereby damaging those standing trees.
- checking the condition of property boundaries on cross country walks. Stopping periodically with handsaw or clippers to remove branches, shrubs, seedlings, and saplings may be easier, fun, or just a nice change in routine.

Now that we have identified a few forestry activities, let's focus on saving time, money, and suffering through an accident-prevention program.

Accidents are unplanned events. Near misses are accidents that occur without a significant and costly result. These near misses are sometimes neglected, but they are a sign of danger, indicating that something is wrong.

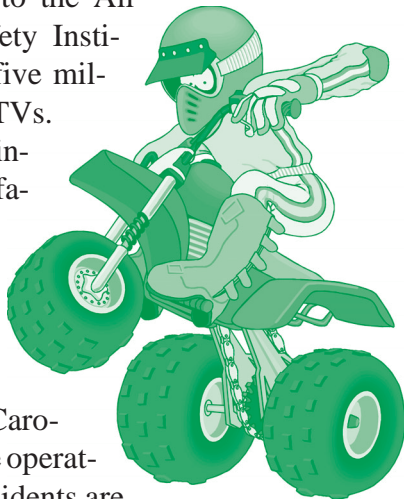
Find out what you do not know that will make you safer. Read, understand, and observe all safety precautions and warnings in the operator's manual for chainsaws, brush cutters, and other power equipment. Don't gamble big by using high risk procedures. It isn't worth it in the long term. Wear and use proper safety clothes and equipment, which reduces the severity of an accident when it occurs.

Winter is an excellent time for forestry activities, from firewood cutting to just walking in the woods checking property lines, storm damage, insect and disease problems, or just to think about your plans for a specific tract of timber. However, remember that you must practice safety at all times. 🌱

Play It Safe With Your All Terrain Vehicle

Robert M. Franklin, Area Extension Agent, Clemson Extension

More and more people are using All Terrain Vehicles (ATVs) for recreation and activities associated with hunting. According to the All Terrain Vehicle Safety Institute, there are over five million people riding ATVs. With their popularity increasing, injuries and fatalities due to rollovers, being thrown off, collisions, etc. are a major concern. In 1999, two people in South Carolina were killed while operating ATVs. These accidents are preventable with proper knowledge, experience and attitude.



Whether you are an experienced ATV user or a novice, it pays to know how to operate your ATV in a safe manner. When riding an ATV, remember the following:

Operation: Read and follow the owners manual to understand the proper operation of a particular ATV. Take advantage of the ATV rider courses that are offered by dealers to the purchasers of new ATVs. For

others interested in taking the course, there is a small fee. This course is conducted by a licensed ASI (ATV Safety Institute) Instructor. For more information on ATV safety classes, call 1-800-877-2887, or contact your local ATV dealer. In addition, ATVs are intended for off-road use. Never operate an ATV on the highway! Most of South Carolina's recent ATV fatalities have resulted from driving ATVs on the highway! Not only is it unsafe, it is also illegal!

Personal Protection Equipment (PPE): Always wear your PPE when operating an ATV. PPE should include an approved helmet, goggles, long sleeved shirt, long pants, gloves and boots.

Riding Techniques: When riding uphill, your body weight should be shifted forward on the seat and a slow, constant speed should be maintained. Driving downhill, you should shift your body weight towards the rear of the seat, maintain a slow constant speed and apply gentle pressure to the brakes to control the speed. When turning, always shift your body weight towards the inside of the turn. Also, ATVs are intended to transport individuals. **Never** carry a passenger on an ATV.

Youth Safety: Before turning your kids loose with an ATV, make sure they are aware and understand how to operate the machine. Youth should be evaluated to determine if they have the ability and judgement to operate an ATV safely. Since all ATVs are not alike, make sure they know how their particular ATV works. Young people should also understand riding techniques that allow for safe operation. Most importantly, they should wear their PPE and not carry passengers when operating an ATV. In addition, don't allow a young person to operate an ATV larger than they can handle! ATVs with an engine capacity of less than 70cc's are suitable for youth ages 6-12; 70cc-90cc engines can be handled by youth ages 12 to 16; ATVs with engines larger than 90cc's should only be operated by persons older than 16 years of age. However, there are a few ATV models that require the operator to be 18 or older. Finally, don't forget to take the ATV safety course.

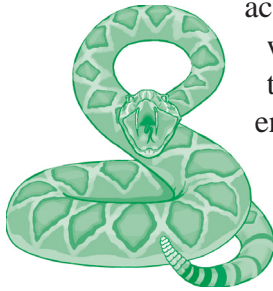
Following these common-sense rules will allow you to safely operate your ATV and enjoy it during hunting season! 🌱

Snakebite! What To Do

William M. Simpson, Jr., M.D.

Robert M. Franklin, Area Extension Agent, Clemson Extension

With deer hunting season upon us, there is sure to be more activity in the woods. With the increased activity, outdoorsmen and women can expect to encounter venomous snakes. If you encounter a snake, remember, most snakebites occur when a person tries to kill or capture the snake. The best thing to do if you encounter a poisonous snake is to **LEAVE IT ALONE!** If you are bitten by a snake, use the following advice.



About 45,000 snakebites occur in the United States each year, around 8,000 by venomous snakes. Of those 8,000 bites, only 12-15 are fatal. Most fatalities occur in persons with significant underlying medical problems such as severe heart or lung disease.

All but about three percent of snakebites occur on the extremities, one third on the arms, two thirds on the legs. At least twenty percent of the time, and some authorities say up to fifty percent of the time, the venomous snake injects no or only a small amount of venom.

First aid for a snakebite victim is relatively simple:

1. Calm the victim and move him/her away from the snake.
2. Immobilize the area of the bite with a splint, keeping the area of the bite at or below the level of the heart.
3. Identify the snake if possible and safe to do so.
4. If the bite is on an extremity, remove all jewelry and constricting clothing.
5. Get the victim to medical attention as soon as possible.

DO NOT:

1. Make cuts over the bite.
2. Give the victim anything to eat or drink (especially alcohol).

3. Place a tourniquet above the area of the bite.
4. Immerse the area of the bite in ice (an ice pack wrapped in a towel may be used for pain).
5. Use a “stun gun.”

None of these interventions have been shown to be effective and may increase tissue damage and/or complications of the bite.

Some authorities recommend a Sawyer Extractor if it can be applied within less than 10 minutes of the bite. It should be left in place for 30-60 minutes. Since a snakebite is usually considered a moderate risk wound for tetanus, a diphtheria/tetanus booster should be given if it has been five or more years since the last tetanus booster.

You may contact William M. Simpson, Jr., MD, (843) 792-3607, simpsowm@musc.edu, for more information or questions.

References:

Walter, FG; Fernandez, MC; Haddad, LM. North American venomous snakebite. In: *Clinical Management of Poisoning and Drug Overdose*. Haddad, LM; Shannon, MW; Winchester, JF (eds.). Philadelphia, W.B. Saunders Company, 1998.

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Plant Trees & Shrubs for Wildlife

Robert M. Franklin, Area Extension Agent, Clemson Extension

Would you like to try something different with your wildlife plantings? Consider using trees and shrubs as a component of your wildlife food plantings. Once established, they will cost less and require less maintenance than annual plantings of agronomic crops.

There are a host of native and adapted trees and shrubs available for wildlife plantings. Most were originally identified as beneficial based on the fruit (seed, berries and acorns) produced and its value as a food source for certain wildlife species. Many of the same species can also provide other wildlife

benefits when planted properly. To get maximum benefit from tree and shrub plantings for wildlife, you need to answer the following questions.

1. What species of wildlife do you want to benefit?
2. What are the habitat needs for the species you want to benefit, both in general and on your property?
3. What trees or shrubs can be planted to provide the desired benefit?

Determine Your Objectives

Once you've answered the first two questions, you have taken the first step toward maximizing the results of your efforts — you have identified your wildlife management objectives. Objectives may vary, but most fall into two categories: 1) creating viewing opportunities and 2) creating or improving needed habitat. Increased viewing opportunities, whether for watching, photographing or harvesting, can be achieved by increasing the availability of choice foods. However, food is not usually the factor that limits wildlife numbers. Often a potential food source goes unused because other habitat requirements are missing. Creating or improving needed habitat requires a little more attention to detail about both the habitat needs of the species you desire and the habitat your property presently provides. For many species, the limiting factor on your property may be protective cover, nesting habitat or brood rearing habitat. Once these needs are identified, you can determine what trees and shrubs are beneficial to plant.

Selecting the Proper Tree or Shrub

Most native or adapted trees and shrubs used for wildlife plantings provide a food source suitable for one or more wildlife species and often to a variety of species. For establishing long-term, perennial wildlife foods, suitable trees and shrubs are your best alternative. Table One lists a variety of trees and shrubs commonly used for wildlife plantings and the species that benefit.

Fruit produced by forest trees is called mast, and is an important part of the diet for many kinds of wildlife. Mast is classified in two categories: hard mast and soft mast. Hard mast includes acorns, beechnuts, chestnuts and hickory nuts. Hard mast

provides high quality fall and winter food for white-tailed deer, eastern wild turkey, gray squirrels, blue jays and other animals. Soft mast includes fruit from species like dogwood, persimmon, black cherry, wild plum and autumn olive. Most soft mast is only available for a short time in the summer and fall. It is relished by a variety of animals such as songbirds, wild turkey, bobwhite quail and white-tailed deer, just to name a few. Combining hard and soft mast plantings can extend the time mast is available for wildlife.

Hard mast species such as oaks are very beneficial in areas dominated by pines. In most cases, native oaks require 20-25 years before sizable acorn crops are readily produced and should be considered long-term investments in wildlife habitat improvement. Since white oak acorns mature in one growing season and red oak acorns take two years to mature, a mixture of native oaks from both groups can help insure some form of acorn crop is available each year.

Sawtooth oak is a non-native, adapted oak that produces acorns at an early age and can be used to fill the gap until native oaks begin mast production. Sawtooth oaks drop acorns very early in the fall, and may yield acorns as early as age five if complete competition control and fertilization are used. Without intensive care, it may take ten years or more to produce sizable acorn crops. Because sawtooth acorns are available for only a limited time during the fall, they cannot be expected to provide all the hard mast needs for wildlife.

In most cases soft mast can be produced in less time than hard mast. Native trees such as black cherry and persimmon can provide fruit as early as age ten, but maximum fruiting occurs after age twenty. Red mulberry and dogwood can produce fruit as early as age six, with fruiting abundance increasing as the trees grow older. Non-native soft mast producers such as autumn olive can also yield early fruit.

Creating or Improving Needed Wildlife Habitat

Most often, planting additional food sources provides wildlife with a luxury instead of filling a critical habitat need. Depending on your wildlife management objectives, this may be the easiest

Table 1. Trees and Shrubs Commonly Planted for Wildlife

| Tree/Shrub Species | Used By | Benefits Provided |
|----------------------------|--|---|
| Autumn Olive | Quail, Turkey and Songbirds | Berries provide fall/early winter soft mast. Escape cover for birds when planted in clumps or hedges. |
| Chinese Chestnut | Deer and Squirrels | Nuts provide fall hard mast. |
| Dogwood | Deer, Quail, Turkey, Songbirds, Squirrels and Wood Ducks | Berries provide fall/winter soft mast. |
| Eastern Redbud | Deer and Songbirds | Legumes/seeds provide fall/early winter food source. |
| Oak | Deer, Quail, Rabbits, Songbirds, Turkey, Ducks and Squirrels | Acorns provide fall and winter hard mast. |
| Pecan | Deer and Squirrels | Nuts provide fall and winter hard mast. |
| Persimmon | Deer, Quail, Songbirds, Turkey, Rabbit and Squirrels | Fruit provides fall soft mast. |
| Plum | Deer, Quail, Songbirds, Squirrels and Turkey | Fruit provides soft mast. Escape cover for birds when planted in clumps and hedges. |
| Sawtooth Oak | Deer, Turkey and Squirrels | Acorns provide early fall hard mast. |
| Shrub Lespedeza | Deer, Rabbit and Quail | Forage provides food source for deer and rabbits. Seeds provide food source for quail. Plants provide escape cover for quail and rabbits when planted in clumps and hedges. |
| Southern Crab Apple | Deer, Quail and Songbirds | Fall source of soft mast. Escape cover for birds when planted in clumps and hedges. |

Red Oaks: Blackjack, Bluejack, Cherrybark, Laurel, Nutall, Shumard, Southern Red, Water & Willow.

White Oaks: Live, Overcup, Post, Sand Post, Swamp Chestnut, White.

Table 2. Planting Standards for Selected Wildlife Plants

| Species | Planting Scheme |
|---------------------|--|
| Autumn Olive | Plant multiple rows with seedlings on an 8 X 8 foot spacing to provide fruit production and escape cover for quail and songbirds. |
| Hawthorn | Plant multiple rows with seedlings on a 6 X 6 foot spacing to provide escape cover for quail and songbirds. Plant scattered individual seedlings for bird nesting habitat. |
| Plum | Plant in multiple rows with seedlings on a 3 X 4 foot spacing to provide fruit production and escape cover for quail, songbirds and rabbits. |
| Shrub Lespedeza | Plant in patches 5 rows wide, 150 feet in length, with seedlings 1.5 feet apart and rows 3 feet apart to provide seed production and protective cover for quail. |
| Southern Crab Apple | Plant multiple rows with seedlings on an 8 X 8 foot spacing to provide fruit production and escape cover for quail, songbirds and deer. |

improvement to make. However, if overall habitat improvement is your objective, providing additional food sources may be secondary to developing protective cover, nesting cover and brood rearing habitat. Absence of specific kinds of cover reduces habitat quality and limits wildlife numbers. Bob-white Quail, for instance, receive the most benefit from improvements associated with escape, nesting and brood rearing cover. Escape cover is a habitat component that can be improved with appropriate shrub plantings. Species such as wild plum, hawthorn, southern crab apple, autumn olive and shrub lespedeza can be planted in a way that provides quality escape cover for quail and songbirds and sometimes provides an additional food source (see Table 2).

For large expanses of open land, travel corridors and hedgerows can be established using tree and shrub plantings. Tree corridors and hedgerows provide security cover and create wildlife habitat where none previously existed. Pine trees can offer rapid establishment of travel corridors over large expanses of open land. Hardwood trees can also be used, but they take longer to become established.

Planting

Once you've decided what to plant, you need to figure out where to locate the planting. You want a good site where the trees and shrubs will make the most growth and provide the greatest benefit. Try to locate the planting on fertile soil of medium texture that has good moisture-holding capacity without being excessively wet. Tree and shrub plantings will do poorly on deep, well drained, infertile sands, so try to stay away from those sites.

Consider locating the plantings along field edges, and transitional zones where the pine forest meets a hardwood bottom. Sites along the edges of interior woods roads and existing openings are good locations as well and have the benefit of being easier to prepare than areas that would need to be cleared of existing brush or trees.

Prior to planting, take a sample of soil and have it tested by your local County Extension Agent. The cost is \$5 and you will get a report back that will tell you the correct amount of fertilizer and lime your tree and shrub planting will need.

Plant your trees and shrubs anytime between Mid-November and Mid-February. Plantings in the late fall or early winter will usually do better than late winter plantings as the root systems will have a longer time to become established before the start of the growing season.

Finally, take care when you plant the seedlings. Try to plant them at the depth which they grew in the nursery or slightly deeper. Planting too deep or too shallow will increase seedling mortality.

There are many opportunities to improve both long- and short-term food sources and habitats of many wildlife species with tree and shrub planting. To maximize the beneficial effects of your plantings, identify your objectives, evaluate the needs of the desired wildlife species and deficiencies on your land and match the proper tree or shrub to your situation.

For a more in-depth discussion of wildlife plantings, we are featuring Japanese honeysuckle and lespedeza in the following articles. ♣

Native Plants for Wildlife Browse: Japanese Honeysuckle

Philip O. Epps, Area Extension Agent, Clemson Extension

Japanese honeysuckle, a nutritious and widely distributed woody evergreen vine, can constitute a major portion of the seasonal diet, and in some cases the year-round diet, of white-tailed deer in the Southeast. The leaves and seeds also are eaten by cottontail rabbits, bobwhite quail, and eastern wild turkeys.

A recent study at Auburn University indicated that well-managed honeysuckle can produce more food, of higher quality, and at a lower cost than many planted wildlife food plots.

The Auburn study area was a 2.5 acre natural opening covered with a dense growth of Japanese honeysuckle. The honeysuckle stand was mowed with a rotary mower in February to a uniform height of approximately six inches. At that time, all trees and brush were removed to reduce shading. Small circular enclosures were put in the patch to keep out

deer and other herbivores. Half of the enclosures were limed and fertilized according to recommendations based on soil tests, and the rest were not treated. Fertilization was done in June and repeated in late September.

After the second year, foliage measurements showed that the treated plots produced more than twice the quantity of leaves (2,481 vs. 1,127 pounds per acre) than the unfertilized plots. Nutritional analysis of the leaf samples showed that the fertilized plots contained 49 percent more crude fiber than the unfertilized plots.

This research demonstrated that fertilization can double year-round production and improve nutritional quality of Japanese honeysuckle. This is especially important since honeysuckle is a preferred evergreen browse that is available during critical fall and winter periods.

Although fertilization on a large scale would be prohibitively expensive, managing small plots of honeysuckle would be more economical than site preparing, planting, and managing cultivated food plots. The Auburn test plots initially cost about \$134 per acre to establish (mow, lime, and fertilize). A cultivated food plot of clover would cost at least \$150 per acre to establish and would provide less than half the browse (in pounds) compared to honeysuckle.

If you are a hunter or lease your woodland for hunting, you should consider locating patches of honeysuckle on your land and liming and fertilizing them for quality deer browse.

Soil samples can be dropped off at your local Clemson Extension Office. A pint of soil is required, and there is a five dollar charge for each sample. ♣

Planting Lespedeza – Why and How

Philip O. Epps, Area Extension Agent, Clemson Extension

Most landowners are interested in providing habitat for a variety of wildlife species, as well as repairing and stabilizing any artificial and natural soil disturbances. The shrub form of lespedeza (often called bush clover) can be used in all of these situations.

A member of the legume family, lespedeza produces small, pea-shaped flowers that grow in clusters and later produce short pods with one seed. These perennial deciduous shrubs are typically six to ten feet high, drought tolerant, and fast growing, thriving on poor, slightly acidic clay, sand, or loam. They prefer full sun but survive well with some shade. Originally from Japan, they occur now throughout the southeastern United States from Arkansas to Maryland, Florida to Texas.

Lespedeza provides excellent cover and forage for many types of wildlife, especially quail, who love the seed – the Bicolor variety seems to be especially tasty to them. Turkey, doves, and many songbirds also benefit, as well as small mammals including rabbits, who eat the bark in winter. It is also attractive food for deer and livestock, so appropriate measures should be taken to protect the plants from browsing.

When planting lespedeza for food plots, any odd, available space can be used, such as fence rows, field borders, woods openings, sink holes, bare knobs, gullies, borrow pits, or gravel pits. Recommended spacing varies, but most sources suggest a minimum of five to eight rows, three to four feet apart, with plants spaced two to three feet apart in the rows. Lespedeza seedlings can be planted by machine or hand, any time from November to March. If area permits, insert a small skip that will serve as a flush area once the shrubs mature and thicken. When planted to these specifications, approximately one thousand plants will cover one-eighth acre, which should be ample to accommodate a covey of quail throughout the winter.

Lespedeza is also excellent for erosion control, and is often used to revegetate skid trails, log decks, roads, and other areas recently disturbed by forestry practices. Its stabilization ability is also beneficial along stream banks and steep slopes where sediment infiltration can be detrimental to aquatic life. In addition, its leaves provide outstanding moisture-retaining mulch for the soil.

Because nitrogen is the primary nutrient lost during fire, and lespedeza is a nitrogen-fixing plant, it is often used in the restoration of recently burned

forests. Consequently, when fertilizing, an 0-12-12, 0-15-30, or other nitrogen-free formula fertilizer is recommended. One source suggests four hundred pounds per acre of 0-20-20 on field borders, and two hundred-fifty pounds per acre in woodland areas. Some sources recommend fertilizing right before planting, while others prefer to wait until the second year, and every third year after that.

A lime rate of one to two tons per acre can also be implemented if the soil is known to be very acidic. A soil test should be taken to insure adequate pH and nutrients for the lespedeza. Contact your Clemson Extension Office for assistance.

Competition should be controlled during the first year, and the plants can be cut back after the first growing season, just before growth starts in the spring, to encourage them to branch out and yield more seed. Prescribed burning every four years will also help to increase the spread and density of your plot.

Lespedeza has also been grown as an ornamental, and is used in the restoration effort on surface-mined lands. It is a good source of pollen for honeybees, and since the high mineral and protein concentrations improve livestock performance and digestion and help to prevent health problems, it has also been incorporated into pastures for cattle forage.

Lespedeza will enhance the overall value and usefulness of lands. Lespedeza seedlings are available from many sources. Contact your local Clemson Extension agent, South Carolina Forestry Commission forester, or USDA Natural Resources Conservation office for a list of sources. ▲

Streamside Management Zones & Wildlife

Robert M. Franklin, Area Extension Agent, Clemson Extension

We use a lot of acronyms in the natural resources profession. One you're hearing a lot about these days is SMZs. SMZ stands for *Streamside Management Zone*, and refers to a strip of mature hardwood forest left along creeks or rivers when the adjacent



forest is harvested. Some folks call them hardwood stringers, hardwood corridors or hardwood leave strips. Out in the western U.S., they call SMZs *Riparian Areas*, and they are highly productive zones important to a host of wildlife.

Why are SMZs so important in land management here in South Carolina? SMZs are a component of voluntary Forestry Best Management Practices that are used to protect and enhance water quality. You may not realize it, but water quality is an important product of our forests, and all landowners should take pride in the protection of our waterways and in the production of clean water!

While SMZs are an important factor in protecting our water resources, they are even more valuable in providing quality wildlife habitat. Wildlife use of SMZs is much higher than the average person would expect. For example, if seven percent of your property is in SMZs, eighty percent of the wildlife use is there also! SMZs are usually mature, wetland-type bottomland hardwood forests, which add habitat diversity in pine-dominated landscapes.

This junction of wetland to upland has a particularly high value. Habitats associated with creeks and rivers provide many places for wildlife to live. Fish, amphibians, reptiles, many birds and most furbearers are “tied” to the waterway. Due to high mast production and the presence of hollow trees that can be used as dens, squirrels abound. Wild turkeys use SMZs more often than expected and deer readily use SMZs.

Many additional species live in SMZs. This is good, because a major wildlife problem has been a decline in biological diversity. By keeping these SMZ “*Super-Strips*” along our streams, we help to maintain biological diversity.

By establishing SMZs, a long, meandering edge is created. Hardwood forest is adjacent to pine plantations or some other habitat type. This “*edge*” is beneficial to deer, quail, rabbits and songbirds such as cardinals and mockingbirds, among others. Species that require large blocks of hardwood forest will not select SMZs for a home, but they might use them to travel from one area of suitable habitat to another.

SMZs also serve as habitat links. Some of man’s activities fragment forests and divide the landscape into isolated areas, or islands. SMZs can join these fragments and allow movement of wildlife between these “*islands*.”

To maximize the wildlife value of SMZs, leave a hardwood strip on the small and intermittent drainages that flow into the SMZ. This can provide a network of corridors to link bottomland to upland.

Managing the SMZ

Managing SMZs can be challenging. First, in order for SMZs to provide value for wildlife, they need to be wider than the recommended widths used to protect water quality. How wide? Wider is better! At least 200 to 300 feet is recommended (100 to 150 feet on each side of the stream.). If that isn’t practical, leave the SMZ at least as wide as the height of the dominant mature trees within the SMZ.

Can SMZs be managed for wood products? Yes! Due to site conditions, there is potential for excellent hardwood production within SMZs. Simply setting aside areas for water or wildlife benefits is difficult for some to accept. But by devising management plans and techniques we can make SMZs adaptable to both commodity production, water quality protection and wildlife habitat enhancement.

Initially, some large pine sawlogs can be removed – carefully. However, remember that pine seeds are a

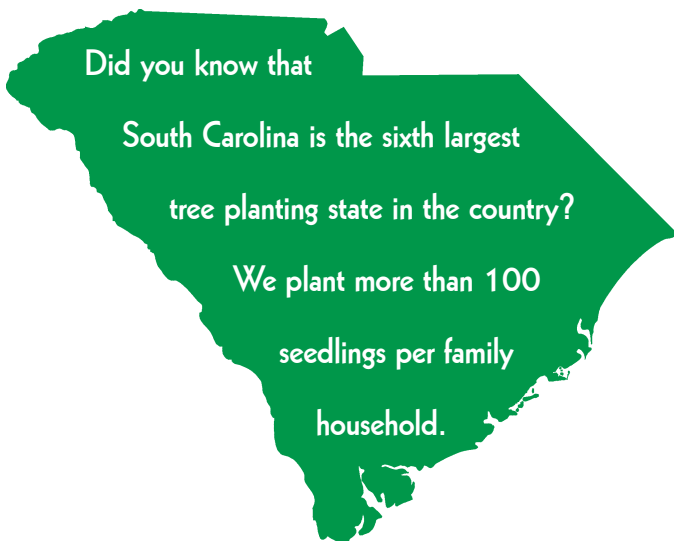
favorite food for quail, turkey and squirrels. A mature pine component adds to the value of SMZs. Many SMZs are in poor condition due to past logging, which removed the best quality trees and left the rest. This is called high-grading. To remedy past high-grading, small, patch clearcutting scattered through the SMZ and selective harvesting can be used to improve stand conditions without destroying wildlife values. Care should be taken to leave enough trees in the primary SMZ along the stream to protect water quality. Landowners can decide how many cull trees to leave for mast and dens. Loggers need to appreciate the fragile areas in which they are working and use appropriate practices.

Beavers can be a problem in SMZs. They like to create ponds that are valuable habitat for many critters; however, they also destroy (flood & girdle) trees. Beaver activities are a trade-off. You will have to act when (not if) control becomes necessary. The “S” in SMZ represents *sensitive, special, and stewardship*. Enjoy your SMZs, and realize you did well by saving these super-strips for wildlife.

If you’d like more information on SMZs for water quality and wildlife, contact your local Clemson Extension office, South Carolina Department of Natural Resources Biologist or South Carolina Forestry Commission Area Forester. 🌲

| Upcoming Events | | |
|--------------------------------|--------------------------|--|
| Meetings/Courses | February 5 thru March 19 | Master Tree Farmer II Satellite Broadcast. Eleven sites across SC. Each Tuesday 7:00 - 10:00 pm. Contact George Kessler at (864) 656-4836. |
| | February 7 | Forestry 101 for Forest Landowners. Lexington, SC. Thursday evenings for 6 weeks. For details or registration information, call the Lexington County Extension Office at 803/359-8518. |
| Landowner Association Meetings | February 4 | McCormick County Forestry Association Meeting – “Value Added Products.” Blairs Restaurant, McCormick, SC. 7:00 p.m. Contact McCormick County Extension Office at (864) 465-2112. |

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Questions about this newsletter, submissions and requests for subscriptions should be directed to: Editor, *Forest Steward* Newsletter, Clemson University Cooperative Extension Service, Department of Forest Resources, 272 Lehotsky Hall, Box 340331, Clemson, SC 29634-0331. Phone: 864/656-2479.

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