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Earl Says...

We just finished up exhibiting at the Birmingham Deer Expo and the GON Show in Emerson, GA. While we were so happy to talk to many of our existing and prospective subscribers, it sure is good to be home.

While we had lots of questions on food plots, tree planting, pond management and more, it was obvious the folks attending are serious about managing their properties for wildlife. I believe I talked to more people who work their properties for their kids and grandkids than for themselves. And tractor time is therapeutic and just a fun time to be on the farm. Even in the hot and often wet conditions we are having.

Stay safe and hydrate is the best advice I can give you today.





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P.O. BOX 640596 PIKE ROAD, ALABAMA 36064 www.wildlifetrends.com 800-441-6826

> PUBLISHER/EDITOR Andy Whitaker

DESIGN Walker360 2501 East 5th Street Montgomery, AL 36107 (334) 832-4975

CONTRIBUTING AUTHORS

Dave Edwards Dana Johnson Brant C. Faircloth Wes and Leslie Burger Dr. Wes Wood Theron Terhune Marion Barnes Ted DeVos Bryan Burhans Keith Gauldin Rodney Dyer Dr. Keith Causey Ron Jolly Dr. Stephen Ditchkoff Tes Randle Jolly Kevin Patterson Ryan Basinger G. Ryan Shurette D. Clay Sisson Kent Kammermeyer Allen Deese Scott Brown Jason R. Snavely Steve Tillmann Mark Thomas

For Wildlife Trends editorial, advertising, or change of address: 1-800-441-6826 info@wildlifetrends.com

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Winter Food Plots – A Necessity



This is a picture of greenbriar vine which a preference forage year round.

properly prepared winter food plots are an integral part of any wildlife management plan. Most times, these winter-feeding areas are nothing more than an agricultural crop planted for wildlife. They can be planted for the purpose of attracting a single species but end up attracting many wildlife species year-round. Hunters often refer to winter food plots as legal baiting, but for the biologist or land manager they are a long-term food source that produces much more after the season ends. They increase the carrying capacity of the land by providing quality forage for wildlife species above what the habitat can produce. These plots also provide predator cover as they mature and increase the forage biomass during a stressful time of year when summer vegetation is dormant.

Land managers and biologists consider many factors before starting their winter food plot plans. Choosing a cereal grain or brassica, that is an annual, or a legume that can be annual, biennial, or perennial is one factor as it must be determined if the plot will be converted to a spring/summer plot or be left undisturbed until the fall. Other factors to consider when choosing which forage is best for a specific field include soil drainage, pH, available sunlight, fertility, available acreage, topography, and spacing. Budget, however, may have the most significant impact as fuel, fertilizer, and seed costs continue to increase every year. Depending on what is being planted and preparation time, a 1-acre plot can get quite costly.

As winter food plots mature in the spring, some forages, like clovers,

By Dana Johnson

Dana Johnson has a Bachelors Degree in Wildlife Science and is employed with the USDA as a Wildlife Specialist. Dana has over 20 years of field and research experience managing wildlife and assisting landowners with producing quality wildlife habitats. He has authored numerous articles on issues ranging from animal damage to food plot preparation. For more information about feral hog management, call Dana at 334-301-1417 or email dana.k.johnson@usda.gov.

start to mature and can provide good nutrition for post rut bucks and pregnant does. They attract insects for turkey hens and provide great areas for poults to search for insects, a necessity for young turkeys. Hunters also use these food sources to increase their harvest opportunities whether it be for deer, hogs, or turkeys.

Consider the Digestive System

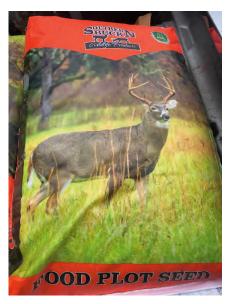
The white-tailed deer is a ruminant which is defined as an even-toed mammal that chews the cud regurgitated from its rumen. They have a stomach divided into four chambers which helps in the digestion of vegetation. These chambers are the rumen, reticulum, omasum, and the abomasum. All ruminants can feed on grass, woody plants, forbs, and both soft and hard mast (berries and nuts).

The digestion process in ruminants begins by chewing and swallowing their food. The saliva of ruminants has digestive enzymes which starts the process of breaking down vegetative matter. Ruminants do not completely chew the food they eat while foraging, but just consume as much as they can and then swallow the food which goes into the rumen. This is an adaptation by some prey animals to lower the amount of time feeding. Prey ruminants, like white-tailed deer, spend as little time as possible feeding then return to cover to begin the digestive process.

Ruminants include white-tailed and mule deer, moose, mountain goats, pronghorn, elk, domestic goats, caribou, bison, mouflon, bighorn and domestic sheep, and cattle. All these species have a four chambered stomach, but their food preferences can be different. Once consumed the digestive process is the same but each one has evolved to break down forages differently. There are three categories of ruminants based on their preferred vegetative preferences and knowing this can make your food plots more attractive to white-tailed deer than the neighbors.

The three categories of ruminants are concentrated selectors, intermediate types, and grass / roughage eaters. Each is dictated by their forage preferences. White-tailed deer are considered concentrate selectors or browsers. These ruminants prefer easily digestible plants that contain high levels of nutrients including protein, starch, and fat. They can digest fibers and cellulose found in plant walls, but it's not very efficient. A deer, if left to feed on grasses alone, could starve to death. This is why deer prefer forbs, browsing, and hard or soft mast over grasses.





Some people mix their own seed while others prefer the pre mixed commercial seed blends.

Intermediate types are between grazers and browsers. Examples are goats, pronghorn, elk and caribou. These species can adapt to either grazing or browsing based on plant availability. Dietary fiber needs can vary between species in this category. They rely more on grasses than concentrated feeders but less than the final category, grazers.

Grazers, or roughage feeders, are the final group of ruminants. This group includes cows, sheep, bison and other pasture animals. This group prefers to forage on grasses. They have very large rumens, and this adaptation allows them to process the fiber and cellulose much more efficiently than other ruminants. White-tailed deer have much smaller rumens and don't have the time to break down large quantities of grasses. Grazers, in difficult times, may be seen feeding on forbs and mast, but too much can cause bloat which can be fatal.

Knowing both deer and cattle are ruminants, but digest vegetation differently, should be the base when starting a winter food plot program. White-tailed deer have been documented to eat over 350 different plants. These studies showed that

deer may prefer one forb in one area yet not the same one 50 miles away. This is dictated by the habitat and how it's being managed. Areas that are burned yearly provide more vegetative biomass and a higher diversity of foods than those that aren't. The bottom line is that what you decide to plant can influence how attractive your hunting land is compared to your neighbors. Knowing that deer are considered concentrated selector ruminants, they require highly digestible plants with a good crude protein percentage for growth and survival.

To provide the most attractive winter food plots, various species of forbs should be included to maximize the attractiveness to whitetailed deer. I live in rural southcentral Alabama and when I drive the country roads, I see cattle grazing in large pastures. There are large populations of white-tailed deer in these areas, yet I seldom see deer feeding alongside the cows. During the winter, when perennial grasses are dormant most farmers aren't planting a winter crop but instead, they put out bales of hay for their cattle. Yet deer, are not seen grazing on the hay bales.





This is a perennial food plot. It's only sprayed and mowed yearly. It hasn't been planted in 4 years when this picture was taken.

In the same fields, I don't see cattle grazing in areas with a lot of "weeds", also known as forbs as cattle tend to avoid them. They are not eating the milkweed, ragweed, tree leaves, and other forbs or browse species. Yet, I watch deer selecting forbs and browse much more than the grasses that cows prefer. Deer don't even touch the

best bahia grass hay I put out for the horse!

Consider the Seed Cycle

Throwing a little bit of this seed, a lot of that seed, and some of those seeds in a big cyclone spreader is a very common method to planting food plots. Disk the soil, spread the seed, and disk again. It's the common Labor Day hunting club food plot planting tradition. This is a tried-and-true method for many people. However, if one takes a little more time to learn the difference amongst seeds, they could make a custom mix, save money by not purchasing pre-mixed bags, and provide a food source with much better biomass, productivity, and attractiveness.

Annual plants finish their entire growing season in one year. Most garden vegetables and some fruits, like tomatoes, are considered annuals. From the day the seed is planted, it will grow, flower, produce fruit, and die. Wheat, oats, and rye are the most common annual cereal grains used in wildlife food plots. Some clovers like crimson and Yuchi arrow leaf along with brassicas like turnips and rape are also annuals.

Biennials are forages that take 2 years to complete. The leaves, roots, and stems develop in the first year in these plants and do not fully develop. The plant remains small and lower to the ground. Heavy grazing during this time can hurt the plant from fully maturing the second season. The following spring the plant starts to "bolt", make flowers and produce seeds. There are very few biennials marketed for winter food plot forages.

The last seed type is the perennial. The preliminary distinction between an annual and perennial is how long the plant survives. As mentioned earlier, annuals complete their full cycle from plant to perennial forages for winter seed in one year. A perennial, however, takes three years or more. If you plant perennials and care for them correctly, they can grow for years. They may slow growth during stressful times such as extreme cold

or heat but can usually withstand these changes and thrive. Some clover types, alfalfa, and chicory are your more common perennial forages recommended for winter wildlife food plots.

Shopping all the different varieties of forages recommended for winter food plots can be a mind-boggling task and consulting with 10 different "experts" will result in 10 different opinions. Some are basing suggestions on how many deer were seen in what plot, if any bucks were seen, or how tall the vegetation is. Budget also dictates what is purchased and how many acres are planted. What was deemed "successful" or a "failure" in the past, often results in drawing conclusions that certain seeds are not good without really knowing the cause.

The Seed Cycle and Digestive System Are Aligned

Cereal grains account for most forages planted in wildlife food plots. They include a wide variety of plants that are members of the Gramineae family grown for their hard seeds or kernels. They are readily available and 100 - 200 lbs.

to the acre can provide a nice food plot. Cereal grains are easy to broadcast or drill. Hunting clubs without all the high dollar equipment and a few tractors can plant some nice food plots to hunt over with minimal issues.

Cereal grains are annual monocots which have leaves that are narrow and elongated with parallel venation. In monocots both the surfaces of the leaves are like the same coloration. Corn, rice, sorghum, and millets are other varieties of annual monocots are planted by wildlife biologists and land managers. Grasses grow from the coloration of the colorati

managers. Grasses grow from the base, also known as the crown, which is where the most tender and nutritious part of the plant is found. One university study showed that when these grasses are 4" or taller deer tend to avoid them because they are too fibrous to digest. The study recommended that if a cereal grain food plot gets to this height, mow it to 2 inches or lower so the more tender part of

the plant is available.

Of all the "cereal grains" wheat, oats, and grain rye are the three most common for winter food plots and preferred by the concentrated selective white-tail deer. Another, triticale, is a hybrid of wheat and rye but is a little less common possibly because of cost. Cereal grains have a recommended seed planting depth of 1.5 inches which makes it easy to cover with a disk and drag. Seeding rates vary from 120 lbs. to 200 lbs. to the acre



depending on whether you're drilling or broadcasting.

Most plants in the woods that deer love to "browse" on are dicots. Legumes and brassicas, which are dicots, are two other common groups of forages used to spice up that winter wildlife food plot. Leaves of the dicot plants have veins that form a branched pattern, unlike monocots, in which they run parallel. Leaf venation is also different between monocots and dicots. Dicot leaves usually have a 'netted' vein pattern with a central mid-rib and little veins that head to the sides. Their leaves usually form much more randomly all over the plant.

Clovers are considered extremely digestible and are the most common legume used in winter food plots. Deer frequent clover fields consistently indicating clover is a preferred food source. Some clovers are annuals while most of the other common ones are perennials. Seeding rates vary from a few lbs. to 20 lbs. or more to the acre. The seeds are small. Therefore, it can be difficult to spread them with

cyclone spreaders. Also, coverage depth is usually half an inch or less. This shallow cover can make planting clover difficult as running a disk through it could put much of the seed too deep in the ground for it to immerge. As a result, inoculants may need to be added to the seed before spreading.

Brassicas are plants in the Brassicaceae family. Cabbage, mustard, turnips and other cruciferous vegetables are in this family. Anyone with a garden where deer are prevalent has walked out one morning to pick a mess of turnips, collard greens, cabbage, broccoli and mustard green to find out that the deer decided that they want to fill their rumen first. After the first frost, you either succumb to the nightly raids or install the electric fence or some other deterrent. Brassicas, like clovers, have a protein content which deer need. Forage analysis of some varieties showed 22% to 26% protein content. Like clovers, brassica seed is extremely small and can be difficult to spread and cover without proper equipment.

When It's Time to Plant

Before planting any food plot, the first thing to do is get a soil samples. The soil sample results will tell you the pH, and the amount of nitrogen, phosphorus, and potassium to maximize the forage's potential. It will also give you the cation exchange capacity which will determine the best way to fertilize.

Another important factor to consider is plot location. In addition to soil type, does it drain well or hold water? How big is the plot? How much sunlight will the forages get? The answers to these questions will be the guide to choosing what seed is best adapted to that environment. If a seed that is adapted to well drained loam is planted in

heavy clay forage, production will be limited and may not produce much biomass. Don't plant a seed that isn't adapted to the soil.

As stated above, cereal grains, brassicas, and legumes comprise most seeds used in winter food plots. One can either purchase commercial mixes or purchase seeds individually and mix them in the field. I've found purchasing seeds separately can save money, but it doesn't save time. For someone planting a few acres, getting a premixed commercial bag might save enough time to justify it. There are companies that put different blends in with huge bucks on the package just to get you to spend the bucks in your pocket. Some state laws require companies to include the seeds and germination rates of them.

Commercial mixes can save time, but make sure the seeding depth for all the included seeds is the same. If a mix includes cereal grains, brassicas, and clovers then some of the seeds will be covered too shallow or deep. Birds will consume any wheat, oats, and rye that don't get covered the recommended 1.5 inches deep while clover or brassicas that are covered to that depth may germinate but not break the surface of the soil. I suggest never using mixes with seeds that require varying seed depths.

Different forages flourish in certain environments. Your wheat, oats, and rye have a wide range of planting conditions and can be productive in most areas. I've read studies where deer preferred one grain over another; but be careful because your deer are not their deer. Oats may take cold weather better than rye. Rye may tolerate wetter conditions than wheat. Wheat is cheaper and readily available. No matter what cereal grain

you choose, deer do not digest it well and needs forbs and browse to fill the rumen.

Legumes and brassicas come in a multitude of varieties. To say one is better than another is a neverending debate. Use white clovers, no, red clover, no, ladino. Which is the best turnip variety? Daikon radishes are a new fad. How does kale or mustard perform as a forage? Deer in one place may destroy a turnip patch while deer 4 miles away won't go near it.

There are plenty of planting charts online explaining the planting recommendations for all these agricultural crops used to attract the elusive white-tailed deer. Whatever forages you choose to plant, make sure there is a variety. Include cereal grains, brassicas, and legumes. Use different percentages of brassicas, legumes, and grains in plots one acre or less. Plant the grains first and cover then top sow the other seeds and drag or cultipack. In larger fields, try planting each variety separately so you can see what the deer like to feed on. For very small fields try one variety and check results.

Planting food plots cost time and money, the reward being an enjoyable hunting experience. A deer is a ruminant, but don't prefer the same vegetation as others. Although grasses provide a simple food source that will grow in most places with minimum effort, the ruminant deer prefers browse, forbs and mast instead. My approach is to plant the smorgasbord, a little of everything because when something isn't prime, something else is. Determining the best forage for your plot is a mini scientific experiment, but when taken the time to do the research, the results can be

Tactics for Drought Resiliency



By Matt Petersen

Matt Petersen is Wildlife Manager and owner of Petersen's Wildlife Management. Contact him at petersenswildlife@yahoo.com.

hot topic this summer has been the drought that has been prevalent across a large part of the Southeast. I have taken a tremendous amount of calls from folks that are concerned about their perennial clover plots being "burned up" to the point that they look like they've been treated with herbicide. I've also gotten an above average amount of calls and texts about plots failing completely and folks looking to replant their spring plots or make a plan to plant the failed plantings in the fall. I would attribute this uptick in failed plantings and struggling perennial plots to the dry conditions we've had in the past couple of months. In my area of north central North

Carolina, we had a fairly wet May that made it hard for lots of farmers and food plotters alike to get their spring crops/plots planted. This wet May allowed our perennial clover plots and fall annual plots to thrive but kept most of our spring plantings from being planted in the earlier part of May (when soil temperatures are warm enough to plant and we traditionally plant spring plots) and pushed most plantings toward the end of May and into June. Right around the end of May the rain stopped and most of the farms I manage went for a 4-6-week period with no measurable rain. When you coupled this with many upper 80's and 90° days, it became very dry quickly.

What we've seen in this situation is the perennial clover plots began to really dry up and dramatically reduce production after three weeks of heat and no rain (this will vary, and we'll touch on it later). The fall annual plots did a great job of providing forage (depending on the blend) into June due to the May rains, but rapidly dried out once the hot and dry conditions of June set in. Annual spring planted grain crops such as corn and soybeans had a great start if they were planted early and capitalized on the wet spring, but quickly used up the banked moisture and in many places browned out and stunted, which will greatly reduce their yield in the fall. Forage crops such as





A field of drought-tolerant red clover, thriving even though it had been 4 weeks without rain and many days of 90°+ temperatures.

soybeans., cow peas, sunflowers, etc. that were planted in the earlier portion of May jumped with the early rain and had great germination, but their growth slowed in the drought, leaving most soybeans/pea fields 6"-10" in height and being hammered by deer browse pressure in that young vulnerable stage of growth. Most sunflowers are knee to waist high and are making small baseball softball size heads, but if they had had adequate moisture would have yielded double the seed on the same ground. The worst case, though, were plantings that got planted in the later part of May and received minimal rain, if any at all. Some of these plots germinated just to face that 4-6-week period of little to no rain with scorching heat and full sun. Most of these plots are smoked and needed replanting this summer or will need a fall planting in the

earlier planting window in September. As I sit here writing this, I'm watching the rain hit my porch and can almost hear the sigh of the plants and all living things rejoicing over the rain, including me. Even with this recent rain though, we are still in a drought locally and for the past few weeks I have seen the farms I manage in various stages of drought and have noticed how some are much more resilient in hot and dry times than others. We'll discuss some of the trends I've noticed over the past few weeks and discuss tactics on how to make your property more resilient in times of drought and extreme heat.

Managing for Wildlife-Beneficial Native Plants

The number one trend I've seen on my farms the past few weeks is that native plants are much more drought tolerant than planted forages. The farms that I work that make sure to set aside acreage to propagate and manage these natives still have plenty of wildlife food and cover even though it's dry and food plots are struggling. I've noticed plants such as goldenrod, ragweed (common ragweed is most prevalent in my area), pokeweed, asters, Spanish needles, partridge peas, and various briar species thriving, even under heavy drought conditions, and deer and other wildlife consuming them heavily. Most of these species also offer great cover for young fawns, poults, and small game that need the security cover as they forage. They also tend to host great populations of insects that poults and other ground birds need to fill their high requirement for protein that helps them grow rapidly. I also noted that the native plants such as the ones

listed above that had been producing the most forage and cover are the natives that are in an "old field" or a full sun setting versus a thinned timber stand of pines or oaks. I'm attributing this to the trees competing heavily for the limited moisture in the ground as well as the tree's' ability to capture dew and trace amounts of rainfall before it reaches the ground, allowing the understory plants to utilize it. The plants in the open "old field" setting don't have to compete with the tree's canopy and large root system for moisture and were handling the dry conditions better than their counterparts in the thinned timber stand. Something else I noticed is the second year burned stands (meaning burns that took place two years ago) versus stands that were burnt this past January/February/March seemed to be handling the dry conditions much better than the recent burns. I attribute this to the plants in the 2-year-old stands being more mature and having larger root systems under them, allowing them to collect more moisture around them and deeper into the soil profile versus the younger plants in the newer burns. I also noticed that the older burns had plants in them that were mature enough to form a canopy so that they shaded the ground for the most part. Any soybean or corn farmer knows that once a crop forms a canopy, it can hold moisture under it much better by limiting the sun's ability to bake on the dirt, heaving it up and evaporating the water in it. I'm betting this would also be the case in these native plant communities as well. I also noticed that the stump sprouts or mineral stumps, as MSU calls them, were thriving in the drought and being hammered by deer. These stump sprouts are hardwood trees that have been mechanically set back (cut by a blade, broken off

by another tree falling on them, etc.) or by prescribed fire that kills the top growth of the tree causing the injured tree to respond with lots of young tender shoots and leaves at ground level and well within deer reach. For me the obvious reason for the tree's ability to sustain itself in dry times and still produce forage through its new growth is the fact that it has a large root system and very little top growth due to its injury above ground, allowing it to allocate lots of moisture and nutrients from its roots and continue to produce top growth even in drought. The stump sprouts/mineral sprouts are very high in protein and minerals are also highly desirable browse for deer and other wildlife. The creation of them (bear with me, I know I've mentioned this before) is like killing two birds with one stone for a wildlife manager. We select undesirable timber and wildlife trees (mainly) such as gum, maple, ash, elm, and other hardwoods and cut them at deer-accessible heights and allow them to sprout back, producing lots of forage, while at the same time opening up the canopy to allow sunlight to reach the forest floor and produce new

for a wildlife manager. We select undesirable timber and wildlife trees (mainly) such as gum, maple, ash, elm, and other hardwoods and cut them at deer-accessible heights and allow them to sprout back, producing lots of forage, while at the same time opening up the canopy to allow sunlight to reach the forest floor and produce new

growth. Taking the time to create these stump sprouts either through cutting them mechanically with a chainsaw or mulcher or setting them back with fire is an excellent way to provide high quality forage in a drought. The same benefits can be realized from the propagation of native plants on your property and allowing areas to be colonized by wildlife-beneficial plants and managed by fire is an easy way to ensure you have quality forage even during dry times.

Food Plot Tactics

A great way to hedge your bets, if you will, when it comes to betting that you'll have enough forage in your food plots all year to allow wildlife to thrive is selecting many diverse species in your plots. This doesn't necessarily mean that you have to plant all of those highly diverse species in the same field at the same time (although it could) but more often than not that you plant various species in different fields/plots on the farm that are best suited for each species depending on soil type, moisture levels, amount of sunlight received, etc. This will allow each plant species to be placed in the best conditions to



A field of native forbs, mainly comprised of goldenrod, thriving and being browsed heavily. This field was a second year burn and, when the picture was taken, had not received rain in 37 days.





The sunflowers pictured here had very little rain after planting and, at the time of this picture, had had no rain in 28 days. The rye thatch from the previous crop helped to conserve the little soil moisture the sunflowers did receive, allowing them to produce a crop even under drought conditions.

allow it to thrive, making it more resilient in extreme weather conditions versus if it was planted in a lesser quality site.

A good example of this is as following for a central NC fall planting. In my larger sunnier fields that tend to be drier in the summer, I would plant a soil health blend in the fall comprised of various wildlife beneficial plants that make lots of biomass, that will produce lots

of organic matter in the spring, and create lots of dead plant material that will "armor" or cover the soil to conserve soil moisture think a blend of cereal rve, wheat, oats, various annual clovers, brassicas, etc. The following spring I would plant drought-tolerant annual crops such as corn, soybeans, legume mixes such as cow peas, Sunn hemp, sunflowers, etc. that can handle full sun fields and drier times better. With the help from the fall planting armoring the soil, the spring planting can quickly pick up the production and forage left off by the fall crop and carry the load until the following fall. When you consider the fall crop is planted in September in central NC and typically thrives until late May when it matures or is terminated and can be replanted at the same time, if not before depending on the spring planting, then the spring planting takes over, providing forage until the following fall...it's a great system that only leaves a few weeks to a month gap in forage depending on conditions on the same plot. I'll often pick a smaller field, say 2 acres or less, that still can be a drier sight, but not as large as annual fields that are nearly full sun. In this plot, I like to plant a mix of annual clovers, alfalfa, chicory, and beardless wheat. This mix is planted in September in central North Carolina and is made-up of red clover, alfalfa, berseem clover, arrow leaf clover, crimson clover, chicory, and wheat. These species mixed together will mature and dominate the plot at different times of the year, allowing for continuous forage production from fall to fall in one planting. Species such as arrow leaf clover, red clover, alfalfa, and chicory can thrive in the hot and dry and are highly sought after by deer regardless of conditions. When you add in that the wheat is left to make seed that is consumed

by deer and other game in the summer, you get a very droughttolerant blend that can produce lots of quality forage in summer stress. On the same farm I would look for small shady sites or bottom land areas that border rivers, creeks or ponds that have a high-water table and hold moisture well. If these areas are available, I'll select these sites for perennial clover plots. Perennial Clover can thrive even during extreme droughts if they are located in these low lying or shady areas that retain moisture well. If the site is a true bottom land or high-water table area, I select large leaf annual clovers such as the various Ladino varieties or Dutch clovers. If it's a slightly drier site, I'll select Durana and red clovers that are more drought tolerant. On nearly all my clover plantings I mix in chicory to further aerate the soil with its long taproot and for its ability to wick up moisture and thrive in drought due to the same feature. By selecting the proper species and matching them to the correct site that will allow them to thrive, promoting diversity in your species and considering the proper ratio of each of these plantings to incorporate in your food plot system on your farm you can create drought resiliency in your food plot offerings.

Water Holes

Creating water holes for wildlife is a great way to be sure that animals that live on the property are never very far from open water. Where I see these water holes being utilized the most is when they are located on areas of the farm where natural water sources are few and far between or that dry up very quickly in drought. These areas tend to be places that have rocky or sandy soils that don't hold water well, areas of high ground where water runs off quickly, and/or areas that





Water holes of the natural and unnatural variety alike are a great addition to areas of the farm where water doesn't collect and persist on its own.

naturally don't have an abundance of rivers streams or ponds to keep wildlife with multiple options for water. In areas with clay soils or other heavy soils that hold water we often dig small natural water sources that require no liner or tub to capture the water to prevent it from leaching into the soil. Most of these water holes are smaller than a modest in-ground pool and can be dug fairly quickly with a small excavator or skid steer. My favorite design is to build the water hole like the common swimming pool, with at least one end being the shallow end with a beach-like ramp that leads into the deeper side. Leaving at least one side shallow allows for easy access of the water hole for all sizes of game, from birds through bears, and entices animals to walk in and out of the water source. In times of hot and dry. The water level will often be a few feet down from ground level, but the ramp will allow easy access to the water regardless of how low it drops. In central NC. I've never seen a water hole that was 10' deep go completely dry, so that's what we shoot for when we are digging the deep end of our natural water

sources. As mentioned earlier, some soil types will require unnatural items such as tubs or liners to ensure they hold water. I've used tubs of various sizes with great results and have even had customers report that they've had some success with plastic kiddie pools. When I'm burying my tubs, I personally like to be sure the bottom of the tub is level in the hole...this way it can hold more water and also has less risk of washing out of the hole. If possible, I also try to place the uphill side of the tub's lip slightly above ground, but low enough where it can capture runoff and stay full throughout the year. Placing a decent size stick into the tub is also a good idea to be sure that small animals can find their way out of the hole and don't end up dying in there. Also, I would steer away from the color blue in my water hole liner or tub. Although I've had customers report seeing deer use the blue kiddie pools, I've had just as many report deer seeming to realize that the bright blue color is unnatural and steering clear of it. Tubs and liners that are black, grey, or brown have all worked well for

me and the deer seemed to take to them instantly. Regardless of what method you use, be sure that water isn't a limiting factor in areas of your farm during drought.

A Drought Success Story

The spring and summer of 2023 was a tough one at my home farm in central NC. We started out with a very wet late winter and early fall, but by the time turkey season got into full swing in mid-April, the rains stopped. We had very little rain in the month of April at my place and no measurable rain until the last week of May. Many of the farms I manage in the counties surrounding my place were similarly dry, but some were lucky enough to pick up some scattered storms. I planted every farm I could that had moist soil and eventually got my farm in the third week of June. We had a few rains in June and July, but most all of our plantings looked poor from the late planting date and hot weather mixed with lack of rain. By mid-August, the majority of our perennial Clover plots looked brown and dead and the annual spring plots were a foot tall and being browsed heavily by deer. What became very clear to us this past year is that we had a newly created perennial clover plot that was situated along a large creek that runs through part of the farm that was greatly outproducing all the other plots. The water table in this plot was so high that we often have a hard time working on it at all in the wetter times of the year and it can be subject to flooding in the winter. We often have to frost seed or over seed the plot heavily in late winter to help thicken it up from plant loss due to flooding or just waterlogged soil. I often had told my good friends who own the farm this plot is on that I was ready to give up on it and manage it for native plants



Stump sprouts, such as the maple in this picture, are very resistant to drought due to their large root systems and are very nutritious and attractive to deer.

with fire or plant an annual on it and let it go. We stuck with perennial Clover, and we're lucky that we did because the bottom plot was shining in the extreme drought. It was green and growing, attracting all types of game and especially deer to it at all times of day and night. The deer in particular were so limited in good forage in the drought that they were hammering the bottom plot. That same year, we had a great 4-year-old that we were looking forward to hunting in the fall. This buck had received the name "broke buck" after he damaged his rack in velvet during his 3-year-old summer and appeared to have every tine on his clean 10-point rack clipped above the base with a set of loppers. Regardless of how he got the injury, it kept us from knowing how good of a 3-year-old he was and likely allowed him to get a pass from the neighbors, letting him reach our harvest threshold of 4 years old. As the surrounding natu-

ral forage took a hit from the drought and crops as well as planted plots browning up, the "broke buck" became a regular in the lush bottom clover plot. To our surprise, he had exploded with antler growth sporting a mainframe 10-point rack with kickers and exceptional mass. We knew this buck would likely go 160"+ and we also knew that he tended to shift across the road, right as he shed his velvet in early September. This activity looked to coincide with Labor Day weekend and just a few days before central NC's bow opener. In years past this deer would be gone just before opening day and return right around the end of December to spend the whole next year

until September when he would repeat the process. In '23 though the surrounding landscape was so dry that the bottom clover plot was shining with its high-water table and lush forage. The "broke buck" must have liked it so much that he hung around and met his end the first week of bow season thanks to this plot. He ended up grossing 163" and was an awesome buck for any region of the country. By searching out these bottom land areas with higher water tables or abilities to hold moisture and pairing them with plants that thrive under those conditions such as perennial clovers, you can replicate these results on your property. Having a green food source in that drought last year was like having a winning lottery ticket and ultimately led to an amazing buck that likely would have moved on had it not been for that food source.

Taking time to plan out areas to propagate and manage the growth and succession of wildlife-beneficial native plants, selecting the proper food plot species, and pairing it with the right conditions so it can thrive in drought, making sure you have diverse plantings that include plants that can thrive in hot and dry conditions as well as creating water sources are a few great tactics to help your farm to remain viable and resilient, even when facing drought. Utilize some of these tactics in your management program and next time it gets hot and dry, you'll be glad you did!

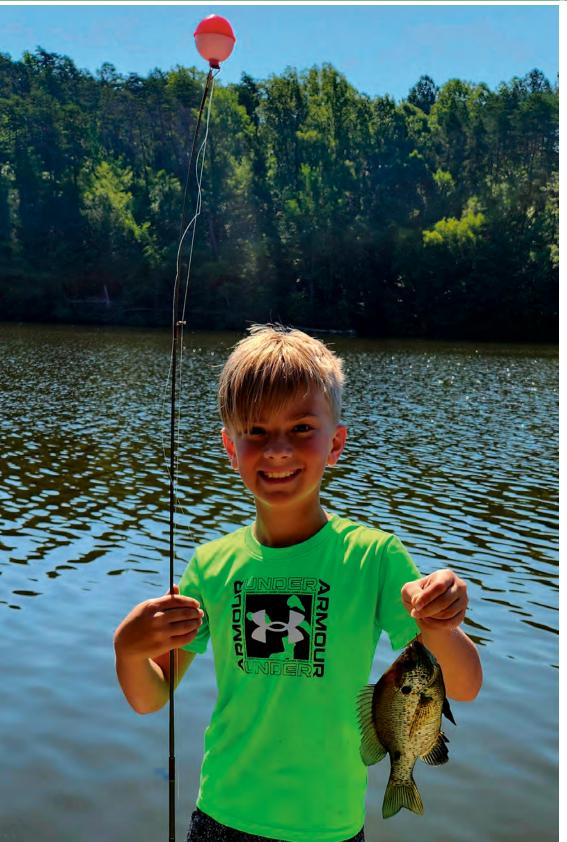




Drought tolerant plants, such as chicory, should be utilized in drought prone sites on your farm.

Most Common Lake Management Mistakes

By Scott Brown



Scott Brown is a Biologist and regular contributor to Wildlife Trends Journal with over 35 years experience in research and managing natural resources throughout the Southeast. Scott founded Southern Sportsman Aquatics & Land Management in 2007 and now has clients from Texas to Florida and into the Carolinas. Contact him at tazmanlabs1@gmail.com or 336-941-9056.

A well-balanced fish population will have an abundance of several desirable species for all levels of angling experience. There is nothing quite like catching your first fish!

Not digging a pond deep enough when building new or during restoration

When building a new pond or restoring (digging or dredging out muck/organics) from an old waterbody, remember there will be some erosion prior to refilling, and growing and dying of aquatic vegetation in future years. Too often lake owners new and old try and save a few dollars by not removing enough material for it

to last several decades or even longer into the future before needing to be re-dug. Digging so it is between 8 and 12 feet deep during drought is the best depth for longevity and water chemistry. Anything shallower than 6 feet during a drought can have water chemistry issues without bottom aeration like low dissolved oxygen (DO) and elevated temperature issues. Warm clear water six feet deep can also create vegetation and filamentous algae issues. Anything deeper than 12 feet without bottom aeration will be a waste, and not used by fish due to the lack of dissolved oxygen near the bottom. Once you stop digging, the lake starts filling in with sediment immediately as the water comes in, so dig a little deeper than desired and plant grass to compensate and prevent silting in during the filling process.

Not creating a steep enough slope to prevent aquatic weed growth

Creating a 3:1 or steeper slope to prevent aquatic vegetation from growing too far out into the lake is advised. People want to create a lot of largemouth bass and bream spawning area and usually make those flat and shallow, which promotes unwanted aquatic vegetation growth requiring extensive herbicide use and/or the stocking of grass carp. This is to help you in the future keep management costs down and headaches at a minimum. There will still be plenty of spawning area around the lake for bream and largemouth bass.

Not having pH checked and adjusting with lime treatments before starting a fertilization program

Once a lake construction or restoration is completed, or you are the new lake owner, having basic water chemistry parameters checked is advised. This will help in the future with understanding your water chemistry and plant and fish management decisions. You especially want to have the pH checked if you want to start a fertilization program. Too often we see new lake owners enthusiastic, but bypassing this step and their fertilization program doesn't work, shoreline and submerged plants get out of control quickly, without the water turning green.

Stopping a fertilization program mid growing season

Once the pH is raised to acceptable levels (6.0-9.0) and a fertilization program is started in the late winter/early spring, it needs to be performed the entire growing season. Often, we see landowners not checking water visibility often enough, but continue to occasionally fertilize throughout the year, while water never turns back green, but undesirable plants grow and get out of control, requiring expensive herbicide applications. Check water visibility with a standard Secchi Disk. Desirable visibility is 18-36 inches. If it is greater, add fertilizer as directed on packaging. If less than 18 inches visibility, do not add fertilizer and wait for water to clear some before adding more. Add only the amount per acre that is on the packaging or prescribed by your lake manager.



Many lake owners do not collect baseline water chemistry data, which is the foundation for a high-quality waterbody and fish population. Some limiting factors for fish growth and survival are found in water chemistry results.

This is not a "more is better" situation.

Waiting too long to spray weeds

Once aquatic weeds are noticed, properly identify them and create a management plan. If the plant is exotic it needs to be delt with immediately. If it is native, identify whether it is invasive or not. If invasive, it may need to be treated immediately or watched closely depending on the species, the location in the lake, water depth it is in, and the need for the habitat. It may be a situation where the plant is exotic and/or invasive, but no other habitat exists so it is temporarily left until more desirable habitat/plants establish naturally or from plantings. We frequently receive requests to come treat with herbicide, only



Having forage that top predators can consume is critical to growing big bass. The threadfin shad are consumed by all size bass. The mid-range gizzard shad are consumed by bass four-to-nine pounds. The large gizzard shad up to two pounds, are consumed by the largemouth bass weighing over 10 pounds.

after the landowner/manager did not know the plant species present and it grew very aggressively in a short period of time requiring multiple, expensive visits. Some plants only need weeks to become a big issue, while others need months or may never become an issue.

Treating too large of areas in summer with herbicides

The quickest way to create a fish kill is by treating too much area of vegetation with herbicides in the middle of summer. Lake owners or managers let vegetation go, or do not see it in spring, until it is too late to treat all of it. But they treat it all at once anyway. The dying vegetation draws dissolved oxygen from the water during the decomposition process and the fish become stressed or may die from their actions. Treating 1/4-1/3 of the lake is advisable when the majority of the lake is covered with the problem vegetation. Space treatments out 1-2 weeks apart. If you do not visit the property much and find almost 100% coverage of something, it may be necessary to wait and treat in the fall and again next spring to assure you do not kill fish. Most herbicides prescribed for aquatic vegetation are not toxic to fish (a couple are toxic in extreme

application rates). Most (99%) of fish kills that occur from herbicide use is from a drop in DO caused by dead plants.

Using the wrong herbicide by missidentifying the plant or using nonaquatic labeled herbicide in water

Some landowners want to cut corners with herbicide costs and use a less effective herbicide, or use a non-aquatic labeled herbicide to save money. Know the plant species you are dealing with and know the herbicides you want to use. Just because you want to use an herbicide, does not mean it will be the correct or best herbicide for your situation. Know good herbicide mixes and save yourself time and money by only needing one treatment, as opposed to several less than excellent treatments to accomplish your goals. The herbicide Diuran (also known as Karmex and Direx) has become popular with private lake owners, it is very cheap compared to most aquatic herbicides and kills lots of terrestrial and aquatic plants. However, it is not labeled for aquatic use and has a wide range of negative impacts on the environment including killing fish and giving humans cancer. There are better options to control lake weeds.

Not conducting a supplemental feeding program for forage

One of the biggest improvements a lake owner can make is starting a supplemental fish feeding program. Offering supplemental feed to forage species such as bluegill, golden shiners, etc. helps create more forage for largemouth bass, and/or grow bigger bream to be harvested for the frying pan.

How to Properly Feed Fish: Set the automatic fish feeders to go off twice per day (mid-morning and mid-afternoon) when water temperatures are 55-70o F. Feed four times per day; twice in the AM and the same in the PM when water temperatures are between 70o and 850 F. During extremely hot weather (water temperatures above 850 F) feed just before or after sunrise, and just before or after sunset, when fish will be most active. During cold weather (water temperature below 550 F) do not feed if fish stop coming or feed all sinking feed once per day during the afternoon (warmest part of the day) in 4-6 feet deep water. Feed dispensed on the bottom of the deepest part of the lake in the winter or summer may not be consumed. If all feed dispensed is not consumed within 15-20 minutes, reduce time dispensed to reduce waste. Most feeding attracts fish, so feeding times throughout the day need to remain the same for long periods of time so the fish will be nearby when the feed is dispensed to ensure most is consumed and waste is reduced. Feeder locations can be points to sight evaluate bream and shiner populations while fish are at the surface consuming floating feed. We recommend feeding with various sized pellets and floating and sinking mixed in one bag. There are various brands of feed on the

market, whichever you choose, make sure it has a minimum of 30% protein. Both Purina and Sportsmen's Choice offer mixed sizes and floating with sinking feed in the same bag. Be sure the feed is fresh, and not moldy, certain feed molds can be toxic to fish.

Stocking largemouth bass or crappie into a waterbody that is too small

Almost everyone that owns a pond wants largemouth bass to catch. If the pond is too small, it is almost impossible to grow big bass. The rule of thumb is, if it is smaller than one acre, leave largemouth bass out. Many people stock them anyway and then realize their pond is overrun with 8-10-inch bass. Bass multiply whether they are healthy, robust or not, so you keep removing them and they just keep coming in a pond less than one acre. If you have a reproducing population in a pond less than one acre, keep every bass you catch under 12 inches. A few hatcheries now offer female only largemouth bass, which is an alternative, as long as no males are released or brought in with the females (saw it happen). Another sportfish alternative is to stock Striped Bass Hybrids, that also do not reproduce.

Black crappie are another prolific reproducer, but require even more acreage. The rule of thumb is do not stock crappie into waterbodies less than 10 acres. We have seen them do well in a few rare five-acre ponds, but those had the perfect habitat and the forage base is kept up along with a lot of harvesting. There are black crappie hybrids that do not reproduce or reproduce at a much slower rate, and could be added if desired. Both these species require a lot of forage to grow, which is the limiting factor in small waterbody scenarios and why it is

recommended not to stock. It can become so bad, a complete re-do, with a rotenone (fish poison) application and restocking is the only solution.

Adding larger predators to an existing low forage fish population

Many lake owners want to add quality fish to their already existing largemouth bass population by bringing big fish in from a nearby lake, river or buddy's lake. Most of the time, the waterbody being stocked already has a depleted forage population. Introducing more large predators into a waterbody that does not have the appropriate food just increases the already slow growing unhealthy population. Know what is there before trying this, you most likely are making a bad situation worse.

Not removing enough small largemouth bass

This is the number one mistake made by lake owners managing for quality or trophy largemouth bass. They either don't think it needs to be done, or do not like taking the time to fish, catch and remove small bass. The fewer mouths to

feed, the faster the remaining ones grow. This bottle neck is usually around 10-14 inches, this is also when the male's growth slows down considerably, while the female growth continues at a fast pace (if forage is available) and continue to grow toward double digits. Intermediate forage (1-3 inches) becomes scarce or nonexistent and the bass in this size range struggle to eat enough to grow through and start feeding on forage 4 inches and larger, which is usually abundant in a stunted bass population. Even performing and improving all the other variables in your waterbody, including supplemental feeding and forage stocking, the bass will remain stunted in this size range. Some small largemouth bass removal is required, it may 10, 20 or 30 per acre per year, depending on the productivity of your waterbody.

Not having enough forage for the predators' sizes present

For largemouth bass to grow at accelerated rates and for good numbers to reach the larger size group of 22 inches plus, they need abundant forage during their entire life span from three days old to their death of old age. That means, an abundance of forage from



Having abundant properly sized forage for largemouth bass from day three until they reach double digits is imperative for them to reach their full growth potential and size their genetics will allow. Smaller bass need smaller forage, and larger bass prefer and grow better on larger forage.



Treat nuisance vegetation early in the growing season to prevent losing control and maybe having to wait until fall to treat with herbicides. This photo was taken during electrofishing, that's why there is a bluegill on top of the dead water hyacinths, a non-native invasive plant.



Installing automatic fish feeders and conducting a supplemental feeding program increases the lake's carrying capacity, grows some bream to larger sizes than without, and provides more forage for largemouth bass.

microscopic organisms (phytoplankton and zooplankton) to forage fish eight inches and bigger, needs to be present in high numbers year after year. This forage needs to be there either through natural reproduction and survival, or with supplemental forage stocking. Forage stocking can be with bluegill, golden shiners,

threadfin shad, perch, tilapia, trout and/or crawfish.

Stocking threadfin shad in clearwater lakes

Shad have always been associated with a quality bass fishery. Several research papers and articles have been written documenting the benefits from threadfin shad, and some managers feel gizzard shad also benefit big bass. The first question we ask is, do you get a natural or man-made algae bloom (green water) every growing season? If not, these fish have nothing to eat, as they live off the planktonic algae and zooplankton in green water. Stocking them in clear water will result in them dying, not reproducing, and only being beneficial to bass for a short period of time. Another note is they are expensive, so stocking them without doing your homework is unadvisable. In the Deep South it is unadvis-

able to stock gizzard shad, as they grow too fast, and many will get larger than big bass can consume, eventually overpopulating and causing problems. Where winters are longer, gizzard shad growth is slower and more beneficial to big bass as beneficial forage for more years. Threadfin shad can become

stressed and die if water temperatures get below 440 F. There are lake owners that stock threadfin shad annually, knowing they will perish and have to restock again next year. If this is in your budget and you know it up front, it will help largemouth bass, crappie and striped bass hybrids grow.

Over Stocking grass carp or stocking to control algae

This has become a big problem in recent years in the private lake management industry. Landowners think, "the more the better." Know what plants grass carp prefer to eat and what plants you have causing issues. Grass carp are a lake management tool, but if misused, they can cause catastrophic issues when over stocked. Using herbicides first and then adding a lowrate grass carp stocking will help maintain a nuisance plant is a much better plan than stocking a large number of grass carp to reduce plants. Herbicides can be species specific, while grass carp are not. Their introduction needs to be assessed prior, to make sure they are the right solution. Grass carp are not a good filamentous algae control tool. The grass carp's flaws are they get larger and consume more after stocking to about 20 pounds, then they start eating less, and they are extremely difficult to remove if they are overstocked. Grass carp also may consume large amounts of fish feed if desirable plants are not present.

Not having patience

I wrote an entire article on patience in lake management. We always find that corner cutting, step skipping ways create other issues, and rarely get you to your goals faster. Sometimes it just makes things go even slower or back tracking is required and time is lost. Managing lakes is tricky, and Mother Nature

can only be sped up so much before it backfires. Knowing the limits and how natural resources work is a must, otherwise you get nowhere fast.

Thinking everything is great and not continuing to manage the lake

Once you get everything the way you want it, water chemistry is good during all four seasons, plenty of habitat, fish coming to fish feeders, and nice largemouth bass, bream, catfish, or whatever your desired species being caught regularly, you cannot just stop managing for a few years. The fertilization program needs to be kept up, check pH annually, weeds always need monitored and treated as needed, fish feeders adjusted as needed according to water temperatures and fish visiting each feeding session, and watch for forage, continue removing little bass, cut bass stomachs open to see what they are eating, check largemouth



Grass carp are a good vegetation management tool when used properly. Too often, they are overstocked and create more problems in the future after the target plants are gone.

bass Relative Weights to make sure they stay high, because if they are falling, forage is becoming depleted.

Not regularly or even occasionally having your lake assessed and management plan created by a professional fisheries biologist

This is the best way to avoid the previously mentioned mistakes. Also having an occasional electrofishing survey conducted allows you to see the entire fish population, not just what you only catch on hook-and-line. Talk to neighbors, interview potential lake managers prior to hiring. We have many clients that used to use other companies, which means they weren't happy and/or did not trust their last choice. A good manger is looking out for your waterbody's best interest, not to make a buck. Cousin Eddy or your brother in-law does not know as much from the internet as a good professional fisheries biologist with a good educational foundation and lots of experience. No two lakes are the same, the more experience your manager has, the better. A good lake or land manager needs to be



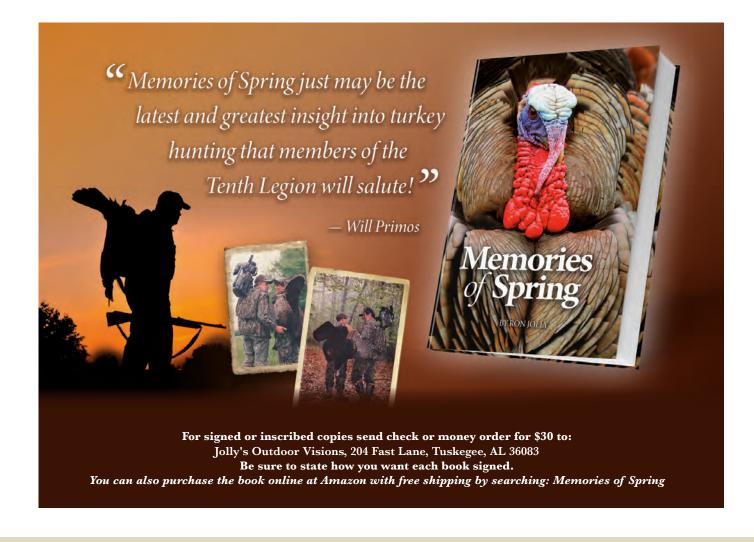
Quality fish do not come easy, a lot of work and money may be required to reach your goals. Minimizing mistakes along the way will save you time, money and reduce headaches in the future.

unbiassed and tell you the truth, offering multiple solutions with variable costs for each to solve your problems and improve your waterbody. I have been told on numerous occasions my honesty is greatly appreciated. It is not uncommon to talk a landowner into not spending money because his request will not benefit or it is the wrong time of year. Sometimes, by the time action could be taken, the problem has dissipated or gone completely away (vegetation, water chemistry). Don't hire a fisheries manager that only tells you what he thinks you want to hear. Not all good solutions are the most expensive action, and some solutions are for you to do nothing and wait it out. You do not want to solve one problem with action, but create four more problems in the near future. Remember, for every action, there is a reaction.

I have covered a lot of mistakes that are made during lake management, and there are many more less common I did not cover, but knowing mistakes made in the past can help you avoid them and be more successful in the future.

Many landowners bypass electrofishing, but it is a snapshot of the fish population and lets managers know exactly what is going on, and from their experience, will know what to do to help you reach your goals.







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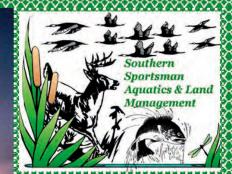


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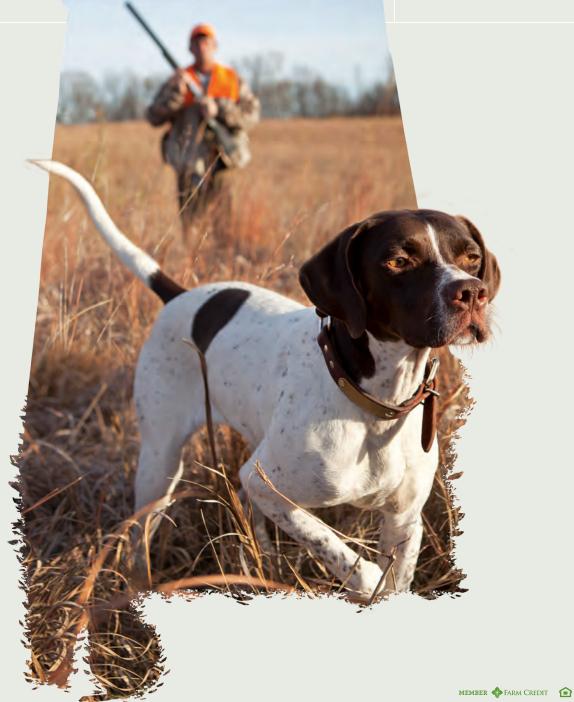
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Wildlife Trends Journal Management Calendar



By Dave Edwards

Dave Edwards is a certified wildlife biologist and regular contributor to *Wildlife Trends Journal* and other hunting/wildlife publications. Dave was honored as QDMA's 2007 Deer Manager of the Year and nominated in 2011 as Alabama Wildlife Federation's Wildlife Conservationist of the Year. Dave is President of Tall Tines Wildlife & Hunting Consultants, Inc. Contact him at TallTinesConsulting@gmail. com or 912-464-9328.

Take time to condition hunting dogs well before hunting season.

Check, repair, and prepare deer stands for hunting season

↑ Thile the best time of year to re-locate or place new deer stands on your property is in late winter after the deer season has ended or very early spring (before green-up), late summer or early fall is when you need to revisit these stands to tighten them back up, inspect for loose nuts/bolts, rotten or loose wood, or any other safety hazards. Just before hunting season is a good time to check the shooting rails and padding, replace pull-up ropes, and trim shooting lanes where needed in preparation for the upcoming hunting season. However, do not overdo the shooting lanes, which is a common mistake I see hunters make. Small openings are all that is normally needed to

identify and shoot deer, particularly for bow hunting stands. Because we have so many deer stands on the property I hunt, we have started using flagging as a way of communicating that each stand is safe. That is, once a stand is checked, tightened, etc, we simply tie a piece of colored flagging on the base of the stand or the ladder. We use a different color each year. For example, this year we are using blue flagging. So, if you get to a stand this fall that does not have a piece of blue flagging on it, you know that it has not been through "final inspection" this year and to use caution if you use it.

Service tractors, ATVs, and other mechanical tools.

Because early fall is a busy period for equipment use such as tractors, ATVs, and chainsaws, late summer is a great time to perform routine maintenance, repairs, or service. I recommend developing a maintenance sheet that includes all your equipment and keeping service records. This will ensure that equipment is taken care of and will be in good working order for the fall activities such as food plot planting and preparing your property for hunting season. Don't forget tractor implements such as grain drills, mowers, or harrows. We even keep a maintenance sheet for small tools like weedeaters and pressure washers. I have learned that preventative maintenance (done before something breaks) saves time and money.



Take time now to prepare the skinning shed for the upcoming season.

Prepare skinning shed for deer data collection

Deer season is right around the corner. Collecting information from deer harvested on your property can provide valuable insight into the status of your herd and the progress of your management strategies and assist in making harvest decisions that will improve the deer herd and, ultimately, the hunting. Ensuring your skinning shed is fully stocked and ready should be an annual pre-season activity. At a minimum, you should collect age (jawbone), weight, antler measurements, and reproductive data. Supplies needed include jawbone extraction tool, pruning loppers, wire basket to air-dry/store jawbones, sharp knives, permanent markers, pencils, weight scale, gambrel/rope for hanging deer, flexible measuring tape, instructions on how to collect and store harvest data (recommended if more than one person will be collecting the data), and harvest data sheets to record the information collected. General preparations may include sharpening and lubricating, pruning loppers, calibrating weight scales, inspecting and/or replacing rope or cables used to hang deer, ensuring the water source works properly, and stocking/organizing the data collection area. The Quality Deer Management Association (QDMA) or Forestry Suppliers are great places to purchase supplies to collect harvest data, including harvest data sheets. Collecting and analyzing harvest data is often the backbone of a successful deer management program.

Mow access lanes through quail hunting areas

Generally speaking, areas that are being managed for quail hunting are disturbed regularly by fire, disking, and/or applications of herbicide to control undesirable vegetation to promote quality quail habitat. Consequently, the understory habitat in these areas seldom grows taller than 3 feet. However, even with such low-growing vegetation, navigating and hunting these areas with bird dogs and other hunters (particularly kids) can be challeng-

ing due to the relatively thick nature of this vegetation. While prescribed fire, disking, and herbicide applications are best suited for creating quail habitat, mowing can be used to increase the huntability of the habitat. That is, mowing access trails through quail habitat will allow easier access for hunting. How and where you mow trails is a personal preference. Some people like straight line/checkerboard mowing, which results in a systematic appearance and makes it easier for hunters to figure out where other mowed lanes are while working dogs. While it depends on the situation, I prefer randomly mowed lanes that wind through the habitat. This strategy results in a more natural look. Regardless of your method, mowing these trails just before the growing season ends (late summer) will allow the vegetation to grow a little before the hunting season/dormant season arrives. I generally try to time this mowing when I feel there are 2 to 3 weeks left of the growing season. The result will be trails that are easily walked but do not appear as though they were just mowed, providing a more natural/aesthetic look within the quail hunting areas.

Condition and train hunting dogs

Each September, thousands of hunters and their dogs go afield and begin their hunting season. In many parts of the United States, particularly in the southeast, September is the opening month for dove and early teal season, with shooting preserve quail season starting in October in many areas. In the Southeast, where temperatures in the nineties are not uncommon, all hunting dog owners need to condition their four-legged friends beforehand and be familiar with the dangers a working dog can face in these conditions.

Many professional gun dog trainers recommend a warm weather training regiment of an hour in the morning and another in the evening. Run your dog and work on retrieving drills, building slowly as you go. Just as when you are starting a fitness program, workouts should start out slow and easy. Make the workouts fun, and if needed, take frequent rest and water breaks. As in any training process, you want to increase the duration gradually as the dog increases his endurance and becomes accustomed to the heat.

The onset of heat-related problems can be subtle, so it is important to watch your dog while training or hunting in warm weather. The types of common heat-related problems that may be encountered while training and hunting are: Heat stress, Heat exhaustion and Heat stroke. If your dog is not performing at his normal level, slow in reacting to your commands, panting, or simply lays down and does not want to get up, get him/ her out of the sun and into a shaded area, allow him to rest and give him water in small quantities frequently. If a waterhole is nearby, encourage the dog to get in it to cool its body temperature. We often provide our dogs with Gatorade or Pedialyte, which helps replace electrolytes - similar to a drained athlete.

Manage dove fields in preparation for the upcoming season

With much experience planting and managing dove fields over the years, I've found that the most successful ones have a few things in common. First, they have an abundance of food (seeds). Dove are primarily seed eaters and consume very little insect matter or green forage. Among the various seeds available to dove, grass seeds and

grains comprise most of their diets. Secondly, the seeds must be readily available to the dove. Dove prefer to feed on the ground in open cover where they can watch for approaching predators. Dove have short legs and are not strong scratchers (like turkeys) so they avoid areas with dense ground cover and rough vegetation. Finally, the field must be located in an area used by dove – similar to a flyway for waterfowl.

Although it can be done, August is a little late to begin thinking about planting a dove field unless you are in the deep south and preparing for the last phase of the season. However, the most commonly planted crops for attracting dove include various millets, sunflowers, wheat, sorghums and other small grains. Assuming you have a good crop growing that will mature as the season approaches, let's discuss a few ways to ensure the seed is readily available and will attract the most dove possible. First, let me caution you to check local baiting laws. Most states allow crop manipulation so that seeds grown on that particular field are available to dove. Here are a few strategies I use when possible. First, always keep disked strips of bare ground through the field. As mentioned, dove like clean/bare ground to land in and easily walk around.

They also use these strips to pick up grit (small pebbles and sand) used in their digestive system. Freshen these strips up through the growing period and hunting season as needed. A week or so before the season, I burn

A few other tips

- Top-sowing or broadcasting without covering the seed is not considered a normal agricultural practice and is illegal in most states.
- Dove prefer to land in clear areas. Maintaining disked bare ground strips will ensure easy access for dove (and hunters).
- Plant dove field with a variety of plantings that will have varying maturation dates (e.g. browntop millet, Japanese millet, and sunflowers). This will ensure continued attraction throughout the season.
- Too much shooting pressure will cause dove to move to other areas. Limit shooting to 1 hunt per week.
- Manipulating portions of the field by mowing, chopping, burning, or disking a week or so prior to hunting will help expose seeds to attract dove to the field.
- When planting the field, sowing handfuls of Egyptian wheat at potential "stand locations" can create great cover for hunters. However, this needs to be done at planting time.



Maintaining strips of bare ground within a field is very attractive for dove.

sections of the field to remove the vegetative cover of the crop and expose the seed on bare ground. If crops are mature but still green, apply an application of glyphosate (Round Up) a week or so before burning to brown the crop ensuring it will burn clean. I often use the bare dirt disked strips as firebreaks - so think these through before installing them earlier in the process. Plan how much of the field to burn according to your anticipated hunting schedule. For example, if you plan to have one "blowout" hunt when the season opens, prepare and burn the entire field (or whatever is needed). However, if you plan to hunt through the various phases of the season, save some of the field to burn later, just before hunts are scheduled.

If you have existing perennial clover plots, mow and fertilize them in early fall

Although a great food source for deer over the past several months, perennial clover generally looks its worst in late summer due to heat and often very dry summer periods. However, as fall approaches with



Late summer can be a stressful period for perennial clover. As cooler weather arrives, boost its growth by mowing and fertilizing clover plots.

cooler temperatures and rainfall from the first few cool fronts, the clover should start recovering from the stress associated with heat and drought. Mowing and fertilizing your clover plots after a couple of fall rains will boost it and ensure good growth through the fall. When mowing, avoid cutting the clover too low. Just above the clover plants is good (clipping the flowers and other weeds). Also, do not use a fertilizer with nitrogen. Clover is a legume that makes its own nitrogen. Adding nitrogen will only feed undesirable grasses and weeds. If spots in existing clover plots has faded for any reason, you can revitalize those areas by broadcasting additional clover seeds. This simple step is an effective way to restore the clover growth in those areas.

Check and lubricate gates & locks

Servicing gates and locks is often overlooked, but it is something that needs to be done at least annually. Unattended or poorly working gates can pose unnecessary safety hazards. The first order of business when servicing a gate, particularly one that is not used often, is to inspect for and eradicate wasps and their nests. Nothing can put a damper on a day in the woods like getting stung by a wasp at the gate! Next, ensure the gate functions properly. Is it easily opened and swinging level? Are the hinges in good working order? Make notes of parts needed to make repairs if you do not have them handy. To reduce the chances of running into a "no-shoulders" (snake), ensure the gate is free of tall weeds and vines by weedeating or using herbicide (recommended) to remove vegetation. Lastly, inspect and oil the lock, locking mechanism, and hinges of the gate. Lastly, ensure posted signs are in good condition and are clearly visible. Don't hesitate to

replace old posted signs as newer signs send a message that the property is being used.

Build duck blinds now – so they can weather in

August or early September is a good time to inspect duck blinds and "re-camo" them to ensure they are ready for the upcoming season. Before initiating flooding, check duck blind structures and make any repairs or modifications needed. Because blinds are located in wet, muddy environments, rotten wood is a common problem and will need to be replaced occasionally. If your blinds are camouflaged using vegetation, now is a good time to "re-camo" or "re-brush" the blind. A newly brushed-in blind made during the season on a pond that ducks have been using will stick out like an elephant in your living room. Before flooding occurs, it is also a good idea to install stakes or something else to identify obstacles to avoid when accessing the blind. Obstacles to avoid may include stumps, stump holes, logs, deep beaver or alligator runs, etc. You will be thankful these are marked when you are wading to the blind in freezing weather before daylight.

Install trail cameras to capture photos of deer

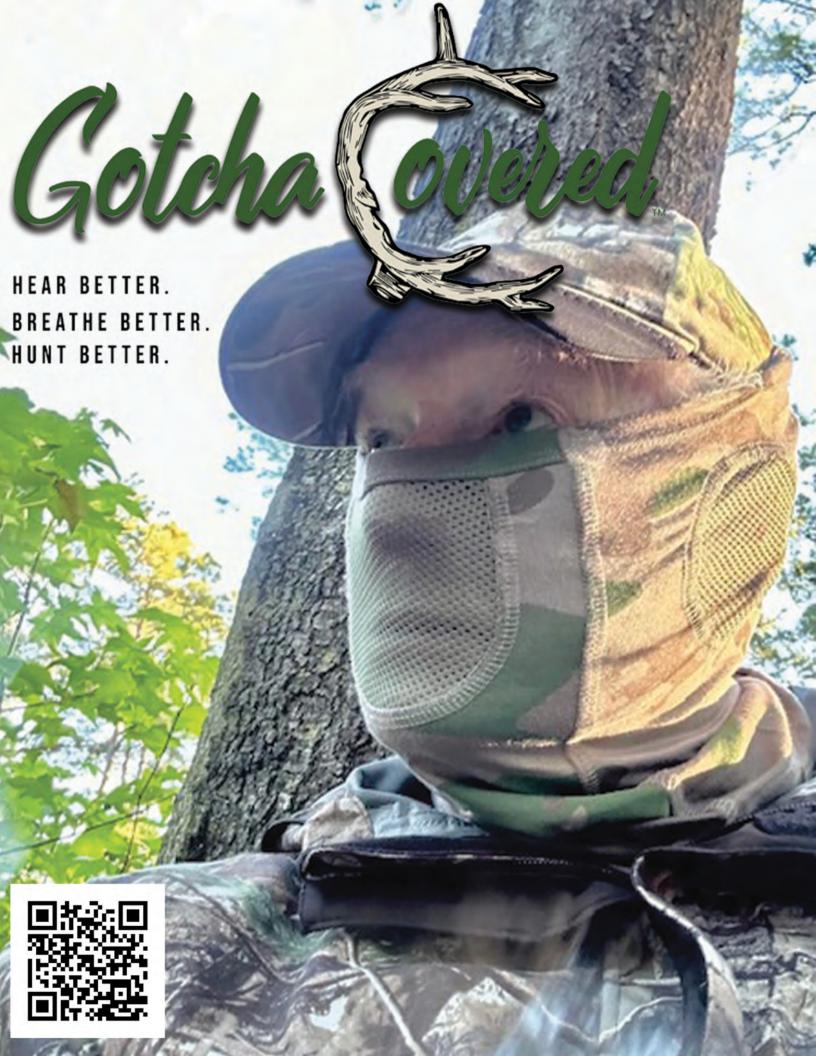
Depending on where your property is located within the whitetail's range, antler hardening (shedding of velvet) has already occurred or will shortly. Late August or early September is a great time to begin installing trail cameras around your property to capture photos of bucks. During this period, bucks are congregated in loose bachelor groups, allowing you to photograph multiple bucks together. Where to place the cameras depends on local food sources and deer activity. In most cases, feeders are a great place to hang cameras. However, mineral

Naturally, most hunters are anxious and excited to plug the SD card into a computer and run through the photos to see what kind of bucks they have, which is what I do. However, take time afterward to do a little analysis of the photos. By counting the number of bucks and does in the photographs, you can get an idea of the existing adult sex ratio, which will help you make harvest decisions. Estimating the age of the bucks you photographed will shed light on the buck age structure. Obviously, a full-scale camera survey will provide the most accurate and comprehensive information about the deer herd, but "random" trail camera photos certainly have a story to tell and can help you better understand the status of the deer herd on your property. All of this allows you to make better management decisions that lead to desired results.



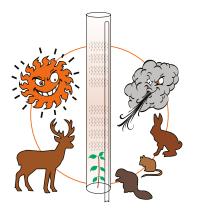
Late summer and early fall are great times to deploy trail cameras to capture photos of bucks using your property.





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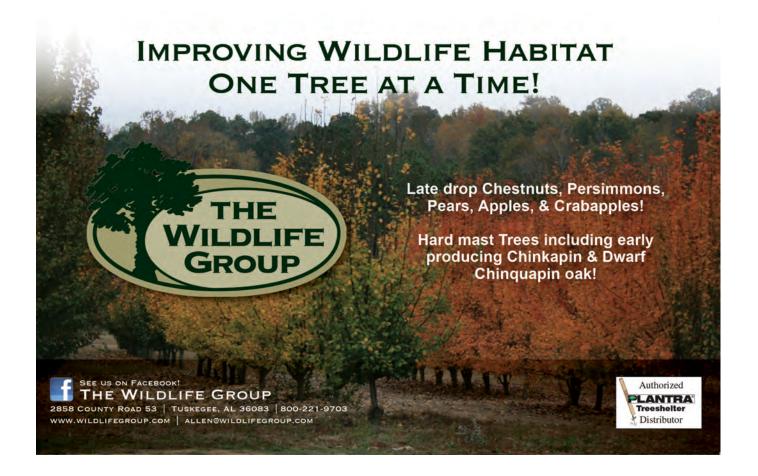
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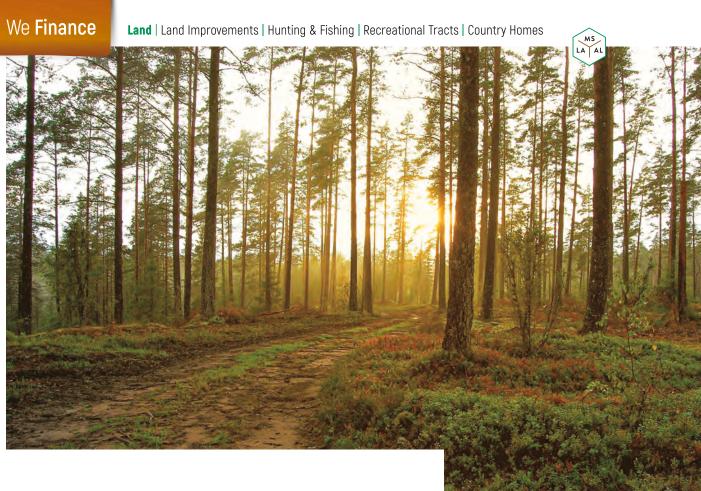
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