

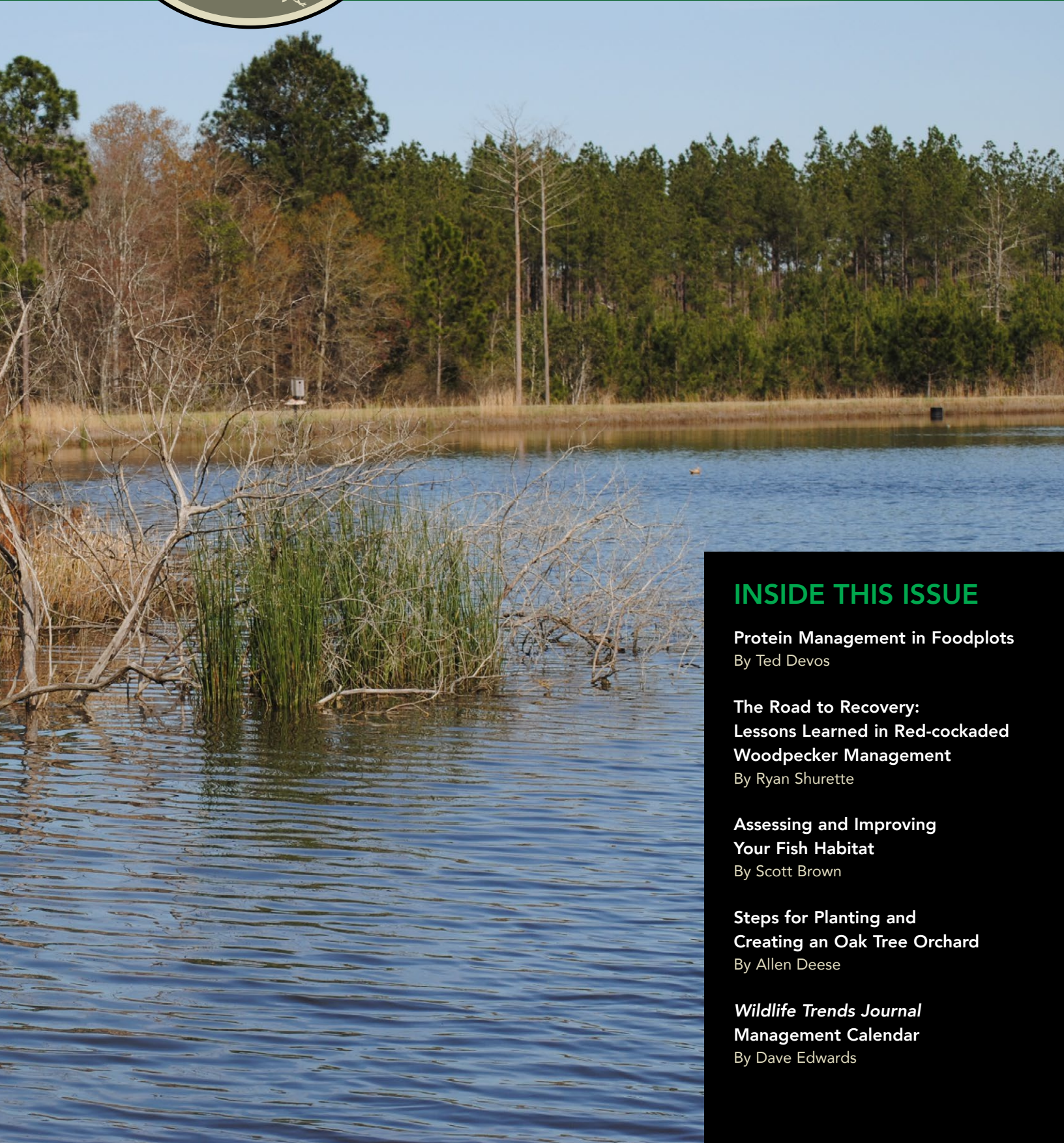


PRACTICAL WILDLIFE MANAGEMENT INFORMATION

# *Wildlife Trends* **JOURNAL**

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## Earl Says...

I was really hoping that the crazy things that went on in 2020 were in the past but so far, I haven't seen much change. And the worst part about it is I have no control over the events.

As of this writing for the January/February issue, most of you still haven't received your November/December issue from last year. Just to let you know, the last issue was delivered to the Post Office in Montgomery, Alabama on December 5th 2020. And the Postal Service has no idea where the magazines are! Frustrated is not a strong enough word for how we are feeling but please accept my apologies for the tardiness of the last issue. I suppose the delay has something to do with Covid issues and Christmas but give me a break.

Thank you all for your patience and support through these crazy times. And hopefully you will have received your last issue before you get this one!



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# Protein Management in Foodplots

By Ted Devos



*Beggarweeds (desmodium) or sticktight are not only high protein browse but excellent in seed production for quail and turkeys.*

**P**rotein, in its many forms, may be the most important nutrient for living animals. Protein is an essential “building block” nutrient and it is not only necessary but protein levels in the diet have significant implications for the health for any wildlife species. Protein is used in nearly all bodily functions and is especially important in developing and repair of muscles, bones, skin, tendons, ligaments, hair and feathers, eyes and other tissues. Of course, other nutrients are important and are necessary for adequate nutrition. For instance, carbohydrates and fats in the diet are important for most wildlife species, especially in winter. Carbs

and fats help maintain body condition during cold weather and can usually be found in winter foods like acorns and corn.

Hunters and wildlife managers are interested in maximizing wildlife health in addition to increasing use and productivity of their plantings in foodplots and fields. Whether the field is planted specifically for wildlife habitat or for increasing wildlife observation, specific plantings can be catered to each scenario. One of the main objectives of planting foodplots is maximizing nutrition for select wildlife species.

Protein requirements vary with the wildlife species and time of year,

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even by sex. Take turkey poults and quail chicks for instance. Newly hatched chicks need 28-30% protein in their diet to build feathers and grow bones and muscle. To meet these requirements, they feed almost exclusively on insects for the first 2 weeks of their life. In this case, protein management for food-plots would take managing fields for maximum insect production instead of worrying about the protein levels in the plants actually growing in the field.

Protein requirements for nesting and laying hens and songbirds are also very high compared to other times of year. Developing and laying eggs takes a huge toll on female birds and their protein intake needs to be high. Deer have varying requirements for protein in their diet depending on the season and sex as well. Does need high protein levels in summer when developing fetuses and milk production is important as well as in the fall when lactating does are tending fawns. Lactation imposes the greatest protein demand on females, as white-tailed deer milk averages 8.2 percent protein. The quantity and quality of milk will likely decrease in females that don't get enough protein during lactation. Fawns and yearlings need high protein diets while growing to fill out muscle and bone structure.

Bucks need high protein when they are developing antlers and building muscle prior to the rut. Hardened antlers of a white-tailed deer are composed of about 45 percent protein. However, body growth and maintenance take precedence over antler growth; thus, if protein availability is low during the spring and summer, males will tend to produce smaller antlers. In general, a diet of 16 percent protein is optimal for

antler development.

Developing good protein sources takes some planning for the manager. In nature, most high protein foods naturally develop during the growing season when most wildlife needs are highest and plants are actively growing. Native legumes and some forbs, as well as insects, tend to be good sources of natural protein and are most abundant in summer. In most cases, high protein plants will be some form of legume. Certain weeds and forbs do provide high protein forage in certain times of year. Also, the most nutritious portion of plants are the actively growing tips of the plants and new leaves, therefore protein is most available in early summer and after rains when plants are actively growing. Seeds of legumes are also typically very high in protein.

So how do we go about increasing the protein density and coverage on our properties available to various species in various forms? There are several ways. One is to plant high protein forage plants in our fields. Another is to encourage the coverage and density in our woodlands. Finally, if insects, rather than plants and seeds are the target protein source, we must manage for brood production.

### **Natural production**

Natural production of legumes and high protein weeds takes several forms. These high quality forage plants can be grown in both woodlands and fields fairly easily provided a few basic conditions are met. Sunlight is the driving factor in plant production and good forage plants are no exception. Native, wild legumes can be encouraged in pine woodlands with regular and aggressive thinning to allow plenty of sunlight into the stand. Once the pine canopy is "opened up" so that

sunlight gets through, completion for sunlight can occur from heavy coverage of shrubs and hardwood saplings. A heavy coverage of sweetgum, for instance, can completely out-compete all good forage plants so these saplings need to be controlled with herbicides.

Herbicides like Imazapyr are good at controlling gums saplings while not damaging legumes, grasses and other weeds.

Regular burning also promotes coverage of legumes and forbs in a pine woodland. Fire helps control coverage of shrubs, removes duff to expose bare ground as well as stimulates legume seeds in the soil to germinate. Even late season fires (June – September) promote legume growth and certainly do a better job of controlling competing vegetation. Burning alone, however, does little to promote vegetation unless pine stands are open enough to get sun to the ground for a substantial portion of the day.

Good, native legumes occurring in woodlands can substantially increase the tonnage of high protein forage available for wildlife. In addition, these legumes produce high quality seeds that are available to turkeys and quail. Some of the more common legumes produced are wild vetch, butterfly pea, wild bean, dollarweed, partridge pea, various lespedezas, desmodiums (beggarweeds), and milk pea. All of these species are highly sought after browse and all rival cultivated soybeans in percent protein. In addition, all produce good seed resources for birds like quail and turkeys. Other high protein forbs are also promoted by thinning and burning woodlands. Common species like ragweed, wild sunflower, smilax vine, blackberries, are not legumes but do provide substantial protein

levels available for wildlife.

The beauty of these natural sources of nutrition for deer and turkeys is that they are not costly and do not require much annual maintenance other than burning. They thrive in unfertilized and high acidity soils as well as alkaline soils of the Blackbelt and are highly adapted to our weather conditions in the South. In addition, they provide a lot of additional benefits such as nesting habitat for turkeys and quail and high quality cover for deer. Occasionally, native grasses may get aggressive in growth and coverage but usually a simple disking is all that is needed to discourage cover of broomstraw and encourage weeds and forbs.

### **Agricultural production**

One of the most common problems managers encounter when attempting to plant legume forage

for wildlife is that not enough acreage is planted to survive browse pressure. Folks who plant summer beans in winter greenfields (typically less than an acre in size) usually fail to establish a stand. In many cases there are neither enough fields nor are they large enough to establish legumes. Commonly, the plants sprout and are browsed to the ground immediately, essentially providing nothing for the wildlife and a waste of money. In these cases, browse tolerant legumes like clovers can be used but these still do not provide enough forage to make a substantial difference. In most cases, fields planted for summer forage legumes need to be 5 or more acres and planted acreage should make up 5% or more of a property to contribute substantially to wildlife nutrition.

There has been a lot of research and development in summer forage

legumes for wildlife. While the agricultural community has spent money developing high seed yield legumes like soybeans for food and oil production, the wildlife community is not as interested in growing actual beans as they are in high forage production in leafy plants that withstand browse pressure.

Companies that focus on wildlife plants work with and develop varieties like soybeans, lab lab, and some peas that strictly focus on maximum forage production for wildlife. Many of these forage varieties are “roundup ready” so that glyphosate can be sprayed directly over the top for weed control, as well as modified for resistance to leaf diseases and nematode problems.

The more common summer leafy legumes planted are soybeans, lab lab, iron clay and cow peas, velvet bean, hairy indigo, joint vetch and



*Smilax and ragweed (top) are heavily browsed forbs and desmodium and lespedeza (bottom) are heavily browsed legumes, all carrying high protein levels.*





*Planting enough acreage to overcome deer browse will allow forage beans to grow tremendous volumes of food.*

alfalfa. All are excellent for forage quantity and quality and each has its benefits and problems. For instance, forage soybeans provide an abundance of high quality, leafy forage but are often browsed so heavily that they don't survive unless planted in large acreages or are fenced in for the first few weeks. Clovers, on the other hand, are quite browse tolerant but don't produce the forage quantity of beans. Alfalfa produces a high quantity of high quality, browse resistant forage but can be a little tricky to grow. While alfalfa may be one of the best quality and most highly selected legumes grown, it can be demanding on pH, soil type, moisture, fertility and, especially, macronutrients.

There are a variety of clovers that, typically, are planted with grains in small winter greenfields and are usually not planted in enough quantity to have a nutritional impact. Common clovers planted

in winter forage mixes are annuals like crimson, arrowleaf, ladino, durana, red, and subterranean. Alsike clover is typically planted in spring. Most clovers provide fair forage production in summer and also make excellent insect production areas. While most are planted in the fall in greenfields, they typically grow very little in winter and are not utilized much until spring when they start actively growing.

Planting large fields of clover for forage and nutrition is different than these small greenfields. Clover fields can be planted and maintained as well with regular mowing and weed control and clovers can often be maintained for years. These fields take a little maintenance but do a good job of providing high protein forage as well as insect production for turkey and quail chicks. These fields are providing nutrition in all but the hottest and driest months of the year. White and Red clovers like the ladi-

nos, durana, patriot, are most often used.

With all forage legume plantings, the idea is to have an actively growing crop through the full summer. Therefore, agricultural practices are used to maximize the growth of the stand. Pre-planting field preparation, pre and post planting herbicides, fertilizer and liming of fields are all used and can get expensive. In most of these cases, growing the crop like an agricultural commodity is in order with a weed free, well maintained and fertilized field.

Some plants can be grown a little more "rough" and weedy and still provide benefits. Mixing beans and low density corn for instance allows two types of crops to be grown at the same time and, while neither will grow optimally, both summer and winter foods are grown in the same field. Mixes like Alyce clover and Aeschynomene (deer vetch), also often have a lot of ragweed





*Planting low density corn with beans will allow both to grow in a field and provide food through summer and fall.*

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growing in them and can make some of the most beautiful deer forage/brood field/insect production areas around.

### **Insect production**

Finally, providing protein for broods simply entails promoting abundant insects in an accessible form. Insects must be available in fields that chicks can get into and run around to catch the bugs. If a field is choked up with pasture grasses (fescue, bahia, Bermuda, ryegrass, etc.), chicks cannot get around and the field is poorly used.

For good access, fields of ragweed, fallow winter greenfields and clover fields as well as burned pineywoods all are excellent insect production areas. To promote ragweed, open fields, 1-3 acres in size, are simply disked in the fall about the same time as greenfields are planted. In most cases this is all that is needed to get a field of ragweed since the seeds are often in the soil ready to grow. If not, the seed is readily available and can be planted. The beauty is that, with occasional disking, the seeds will continue to resprout every year and no addi-

tional input is needed. Fertilizer and liming helps but is usually not necessary. These “fallow” fields not only create some of the best brood fields available, but ragweed grows abundant forage in the 20-25% protein level that deer love to browse.

With an eye on providing an abundance of high protein foods available for your wildlife, you can not only see both a higher number of critters but also healthier wildlife populations.



*A mix of ragweed and partridge pea makes an easy, cheap, perennial field that provides deer browse, insect production for broods of quail and turkeys and excellent cover and seed production.*



# The Road to Recovery: Lessons Learned in Red-cockaded Woodpecker Management

By Ryan Shurette



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*The Red-cockaded woodpecker has been called “the Spotted owl of the East”. Over the past four or five decades this little bird has created quite a stir among landowners, loggers, conservationists, research biologists, and government agencies. Photo: R. Shurette*

The Red-cockaded woodpecker has been called “the Spotted owl of the East”. Over the past four or five decades this little bird has created quite a stir among landowners, loggers, conservationists, research biologists, and government agencies. The controversial context that enshrouds the species is owed largely to the fact that this pernickety bird’s required habitat is also used by humans, mainly for the timber products those forests hold, and that habitat just so happens to be

rare on the landscape. In the not-so-distant past, heated debates (and even the occasional fistfight and arrest) over what tracts could and couldn’t be logged due to the presence of this Endangered Species were fairly common. Nowadays, however, such conflicts are rare. We have all learned a lot about the biology and management of the species, its habitats, and how we can utilize forest products while maintaining the protection of this woodpecker. We have learned how

to effectively grow populations, as well as how to live, recreate, manage, and yes even cut mature timber, alongside these birds. In fact, a large portion of the southeastern region’s timber harvest on federal lands is now actually conducted in the name of Red-cockaded woodpecker management. In order to fully understand the story of, and therefore the management of, the Red-cockaded woodpecker however, we need to step back in time a bit further to look at the natural



history of the bird and the forests it calls home.

When early European explorers encountered the lands that are now the southeastern United States, they saw a much different picture than what we see today. One of the most prevalent features on the landscape at that time was the great and expansive longleaf pine forest system that blanketed the region. Historically, vast expanses of open longleaf pine woodlands spanned from Virginia to East Texas. In 1773 the naturalist William Bartram travelled from Pennsylvania down through the longleaf woodlands of the Southeast and into Florida and Alabama, and he wrote detailed descriptions of these forests' open park-like structure, where a man could see for hundreds of yards across the landscape. Lush, grassy and weedy understories, as well as canebrakes, occupied the woodlands, under the stately and long-standing pine sentinels. These forests were maintained in this open condition by natural and human-initiated fires. The Red-cockaded woodpecker (*Leuconotopicus borealis*) is highly dependent upon these open systems and was a very common species at that time. It is estimated that there were once well over one million family groups. Due to a combination of fire suppression, agricultural clearing, wide-scale logging, development and other factors, the longleaf pine community type quickly began to disappear, and so with it followed the Red-cockaded woodpecker. Today the longleaf forest system occupies only about 3 per cent of its original range, and the majority of the remaining longleaf does not represent the open fire-conditioned qualities of the historic stands. Without periodic fire, longleaf

stands soon develop dense mid-stories composed of hardwoods and other tree species less tolerant of fire. These mid-stories shade out the herbaceous understory and ultimately open habitats will convert to shaded hardwood or mixed hardwood pine stands with little or no herbaceous vegetation. While hardwoods are certainly important to many species, dense mid-story encroachment and disappearance of the herbaceous ground cover adversely affects the Red-cockaded woodpecker, as well as many other kinds of wildlife.

*Wildlife Trends* readers already know that open pine forests are ideal habitats for several other declining wildlife and rare plant species. The Northern bobwhite for example is also often associated with fire-main-

tained longleaf habitats. While quail do not directly rely on longleaf pine trees, the early-successional vegetation that results from the openness of longleaf forests creates ideal quail habitat. A healthy longleaf ecosystem can fulfil all the seasonal requirements of bobwhite quail, including fall and winter cover, abundant seed production, quality nesting habitat, and critical brood-rearing habitat. Although the RCW and bobwhite utilize different parts of this ecosystem, they were historically both tightly associated with it.

As mentioned earlier, besides fire suppression, the radical reduction seen in the area covered by longleaf pine forest systems has been attributed to several factors. European settlement extended



*Historically, open pine forests were maintained by natural and human-initiated fires. The Red-cockaded woodpecker is highly dependent upon these open systems and was a very common species at that time. It is estimated that there were once well over one million family groups. Photo: R. Shurette*





*Fire suppression, which favors the succession of mesophytic hardwoods, continued throughout the twentieth century resulting in the displacement of the fire-maintained longleaf pine ecosystem and contributing to the eventual crash of the RCW. Photo: R. Shurette*

inland from coastal regions and reached the Appalachian foothills around the late eighteenth century. With this expansion came agricultural clearing on all of the more fertile areas by the early 1800's (Williams, 1989). Commercial logging of longleaf was underway by the mid-1700's but was initially limited to tracts along navigable streams (Frost, 1993). Also during this period, and across the entire range, the majority of mature longleaf pines were "boxed" by chopping deep wedges at their bases to extract turpentine and gum. Crude gum was used to produce essential commodities of that time period including pitch, tar, rosin, and turpentine, collectively called naval stores. The naval stores industry

effectively decreased longleaf stands across the Southeast. Steam technologies employed by logging operations allowed the exploitation of virtually all remaining large virgin longleaf tracts by around 1930 (Frost, 1993). Grazing of longleaf seeds and seedlings by feral hogs (*Sus scrofa*) and other open-range livestock, and the absence of fire have been suggested as probable reasons longleaf pine failed to regenerate itself in many areas (Frost 1993). Research has shown that longleaf pine is not only extremely fire tolerant, but it actually requires fire to sustain itself as a system (Peet & Allard, 1993). Fire suppression, which favors the succession of mesophytic tree and shrub species, continued through-

out the twentieth century resulting in the displacement of the fire-maintained longleaf pine ecosystem and the eventual crash of the RCW. And so, by the 1960's and 70's there were only about 4000 groups of the birds left across the entire range.

### **RCW Biology**

At seven inches long, the RCW is a relatively small bird, about the size of a **Northern cardinal** or **Red-winged blackbird**, with black and white barred markings on the back. It looks similar to the Downy woodpecker (*Picoides pubescens*) or **Hairy woodpecker** (*P. villosus*), but it can be distinguished from both of these common species by its large white cheek patch, and its short nasal call. Adult male RCW's have a tiny "spot" of red feathers at the top of each cheek patch, known as a "**cockade**". Females lack this red cockade. However, the sexes of adult birds are otherwise indistinguishable from one another in appearance. Juvenile males have a larger, more noticeable red spot on the top of the head, but they lose this marking as they molt into their adult plumage. Like all woodpeckers, RCW's have stout sharp beaks for foraging in bark and excavating in wood, and short stiff tailfeathers for supporting them as they cling vertically to tree trunks and limbs with their zygodactyl toe arrangement (two facing forward and two facing backward).

RCW's, like only a few other North American birds, have a true cooperative breeding system, where the juvenile males stick around (for several years) to help the adult breeding pair raise subsequent clutches of offspring. Average clutch size is 2 to 5 eggs and incubation time is a very short 10-12 days. The RCW actually has one of the shortest



incubation periods known in the bird world. The young chicks are altricial (blind and helpless) and are fed by the parents and older male siblings. The surviving young usually leave the nest around 25 days after hatching. Female offspring typically disperse from their home cluster during their first autumn or winter, mainly to prevent the risk of genetic inbreeding. The members of the family unit (the breeding pair and the sub-adult males) nest and roost in cavities they excavate in a group of pines. This group of cavity trees is called a **cluster**, and it is this family unit by which the population is often measured. Most managers mark the cavity trees in the cluster with a white paint for protection and to facilitate monitoring. Unlike any other North American woodpecker, RCW's require mature living pines for roosting and nesting, preferably

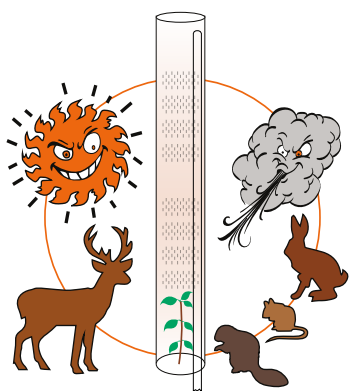
trees older than 80 years with red-heart fungus infection to facilitate cavity excavation. Other woodpeckers use dead and partially decayed snags for creating their roosts and nests, and these can be chipped out relatively quickly. Cavities in tough live pines on the other hand can take several years to excavate and they cost the birds a lot of time and energy to create. The invested effort however, affords the species protection from snakes and other predators. By drilling sap wells around the cavity entrance, the RCW builds a sticky, flowing barrier that lets them sleep and nest inside with some peace of mind. Also, due to an increased predation and access risk by snakes and mammal predators, the RCW does not like hardwood mid-story encroachment in its cluster. Mid-story and vertical vegetative structure (limbs and trees) in the cluster gives avian,

mammalian, and reptilian predators better hunting vantages and potential access up to the cavity. Quality foraging habitat would contain a similar component of pine timber, although younger stand age and some amount of mid-story is usually tolerable. The open park-like conditions of the stands are generally maintained, of course, with the use of frequent prescribed fire. This open spacing of large pines coupled with frequent burning builds a diverse herbaceous understory of grasses, legumes, and forbs that is also an important component of quality RCW habitat.

Although they might occasionally forage on a hardwood species like white oak, RCW's almost exclusively utilize the trunks and limbs of large pines for finding prey. Sometimes small pines (less than 10" DBH) are used but it's not typi-

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cal. They generally prefer large pines for foraging, whether they be longleaf, shortleaf, loblolly, slash, or other. The bulk of the RCW's diet consists of the eggs, larvae, and adult lifeforms of insects and arthropods, including wood roaches, ants, termites, beetles, spiders, and lepidopterans. RCW's use their sharp beaks and long forked tongues to flake and probe pine bark and detect these prey items. Interestingly, the males forage more often in the tops and outer limbs of large pines while females stick to the trunks and large central limbs. This behavior is believed to help reduce competition in the species, especially in winter when insect abundance is much lower. In warmer seasons, bark insect abundance can be very high, especially in habitats that have good weedy and grassy understories. A surprising biomass of insects and other arthropods are produced in lush

herbaceous understories and they then migrate up into the limbs and trunks of the pines, making them accessible to the RCW. Research has shown that pine stands with sparse or no herbaceous ground covers, or with only tough woody shrubs beneath, do not produce the same quality forage habitat as those with grasses and herbaceous forbs for the reasons mentioned above.

### Lesson Learned in RCW Management

One might think that the RCW could simply adapt readily to other kinds of habitats, or to learn to tolerate other kinds of forests. As with many rare species, it just doesn't often work that way. The RCW is genetically wired to search for and make its living in the same open pine ecosystem that was abundant up until the very recent times. When the required habitat is not available it cannot successfully

reproduce or sustain its population. Most often the limiting factor for RCW's is that there simply are not enough old growth trees available for cavity excavation.

The RCW was federally listed as Endangered in 1973 primarily due to this habitat loss. At the time of listing there were an estimated 4000 active clusters. Besides protecting the individual birds, the listing status also afforded the species protection of suitable longleaf pine habitat. Again, the limiting factor in most populations at that time was the scarcity of old mature pines for nesting and roosting cavities. Since tree age itself (or the time it takes for a bird to create a cavity) cannot be rushed, mitigating strategies were experimentally developed in the late 1980's. Drilled cavities were tested with some promising results and then artificial inserts, made from a rectangular



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block of wood, followed shortly thereafter. The artificial wooden insert has a pre-drilled vertical cavity and a smaller slightly angled entrance bore (to mimic the natural cavity pattern of the RCW). These inserts are installed, using a chain-saw to cut and break out a void of roughly the same dimensions, in the pine trunk, typically from 15 to 35 feet high. A diameter of about 14 inches at the insert location is needed to safely climb and install the box. After placement, wooden shims are used to tightly fix the insert into the void and then wood putty is used to flush out the installation. A drawknife is also usually used to scrape the bark from around the insert and make the new cavity visible and more appealing to RCW's looking for a home (the birds also flake the bark smooth as well as creating sap wells to make it hard for climbing snakes to get into the cavity). These artificial nest boxes were first installed on USDA Forest service lands in Texas. Artificial cavities became a widespread tool by the early to mid-1990s. RCW's will use them immediately after their installation and in fact, research has shown that the newer the inserts are, the more apt they are to be used than older ones. From personal experience, this definitely seems to be true. Often wasps, flying squirrels, snakes, and other birds will hole up in inactive cavities also making the effort of reclamation even less desirable to RCW's. Managers of small RCW populations therefore often renew inserts in their recruitment clusters every few years if they do not become occupied on their own.

**Pine timber management** is one of the most important aspects of RCW conservation. While large clear-cuts are pretty much useless



*Unlike any other North American woodpecker, RCWs require mature living pines for roosting and nesting, preferably trees older than 80 years with red-heart fungus infection to facilitate cavity excavation. Excavating a cavity in a tough live pine can take several years and cost a lot of time and energy. Photo: US Fish and Wildlife Service*

to an RCW, dense overstocked pine forests are not ideal either. Basal areas of 40 to 80 square foot per acre in mature timber are about the appropriate range. These open forests would look something like the picture you might think of for good bobwhite habitat. And that picture usually means room for some timber harvest. Thinning, and even shelterwood and patch clear-cut regeneration harvest, has a place in RCW management and recovery, especially where off-site overstory pine species need to be converted to longer-lived and more fire tolerant pine species. In the 1990's and early 2000's it was thought by some that basal areas of 30 to 40 were too low to support healthy RCW populations and growth. However, on most soil types, these sparse woodland and savannah systems are adequate for healthy recruitment, especially if the remaining overstory pines are large. One thing that is important to remember though is when thin-

ning mature pine timber, there will almost certainly be some mortality of the leave trees in the few years post-harvest. So, it is best not to go down to a residual basal area that is too sparse when RCW's are being considered. The amount of habitat needed to sustain a breeding pair can also vary. The RCW Recovery Plan (USFWS) suggests 120 acres of "Good Quality Foraging Habitat" per breeding group as an ideal standard for federal lands and larger tracts, but sometimes an active cluster can do quite well with significantly less, or even half of, this acreage.

Another common wildlife stand improvement tool used in modern RCW management is **hardwood mid-story removal**. Most readers will recognize this as another management technique that is also utilized for quail habitat improvement. Whether performed by a chainsaw crew, or via mechanical means (using a mulcher or other



brush cutting equipment), hardwood mid-story control is effective at reducing the vertical structure in a stand and thereby releasing the herbaceous understory from the seedbank. Physical hardwood mid-story treatments can quickly turn shaded, fire-suppressed habitats into open sunny woodlands if the overstory pine timber component is otherwise in the correct basal area range. Herbicide mid-story treatments are also commonly used by many RCW managers. Brush and low mid-story can be controlled with foliar applications, while larger hardwood mid-story trees are more commonly treated with injection, hack and squirt, cut-surface, or even ground applications of imazapyr or hexazinone. Herbicide-treated stands (where the hardwood mid-story is abundant) can look rough for a few years following the application, but as the herbaceous layer comes online and the stand opens up, fire can clean up the

residual standing snags and stems. Frequent effective fire is the natural alternative for reducing mid-story in RCW stands but sometimes, depending on weather limitations and other factors, it is not enough by itself. On most areas managed for RCW's a fire return interval of 1 to 3 years is ideal and enough to naturally control mid-story encroachment. Stands that have been recently harvested, and especially those with a heavy former component of hardwoods, will probably require more than fire alone. Supplemental control treatments may be required, in conjunction with growing season burning, for a number of years before the hardwood rootstocks are effectively depleted.

### **Hands-On Management Techniques**

Besides conducting habitat management in forest systems across the range, RCW managers (especially

Federal or State agencies) often find themselves actually handling these birds from time to time, and for two main reasons. The first reason to catch and handle a bird is to band it for identification purposes, and the second is to move RCW's from one place to another. RCW's are usually banded by managers (note that capture, banding, or handling RWC's requires a permit from the USFWS) when they are nestlings and ideally at 6 to 9 days old. To correctly band an RCW nestling, a "peeper scope", which is essentially a small video camera that is attached to an extendable pole, is inserted into the entrance of the nest cavity to check for presence of eggs and/or chicks and then to estimate the age of the chicks. Capture of the chicks requires climbing the tree and using a monofilament snare device to gently pull them out so that they can be brought down to the ground and then banded. By banding with



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plastic colored leg bands, individuals of a cohort can be distinguished in the field by sight using binoculars or a spotting scope. Just as with most other birds, a unique metal USFWS band is also used in case individual identification needs to be confirmed or if the bird is captured or found dead at some time in the future. Biologists from the USDA Forest Service are even testing new technologies including RFID microchip scanning methods with “coded” leg bands so that individual birds can be inventoried and monitored while they are roosting inside the cavity tree.

Translocation of juvenile birds from large populations (donor populations) that have at least 100 active clusters to smaller ones (recipient populations), has been another significant piece of the species’ success story. Many historically important forests that lost their RCW populations in recent decades have been repatriated with RCW’s using this technique. By using translocation events, saturated populations can effectively provide recruitment for populations that are new or with critically low (less than 30 active clusters) numbers. Otherwise, many sub-adults may never find a suitable habitat to form a breeding unit. Typically, the practice of RCW translocation is highly coordinated, permitted, and regulated with the USFWS and the recipient agency or landowner. Often, contracted “translocation biologists” are used to monitor the population for many weeks to find “surplus” sub-adult RCW’s that can be trapped and moved to the recipient site without sacrificing the breeding potential in the donor population. The recipient site has strict requirements for habitat readiness and follow-up monitoring. But how do you catch an RCW, espe-



*The members of the family unit (the breeding pair and the sub-adult males) nest and roost in cavities they excavate in a group of pines. This group of cavity trees is called a cluster. Most managers mark the cavity trees in the cluster with a white paint for protection and to facilitate monitoring*  
Photo: R. Shurette

cially the exact one you need? How about several of them in a single evening? It can be a challenge and it is usually a team effort. Since individual RCW’s typically (but not always) have their own roost tree that they return to every evening, managers can generally predict and catch that particular bird out of that tree on the night of the move. First, after monitoring the cluster to find out who’s using which cavity tree, a net and pole are measured and fitted for that particular cavity and left on the ground until the bird comes in around dusk. Shortly after the bird enters the cavity (some biologists wait 5 seconds, some wait 2 minutes) you creep quietly up to the tree and raise the pre-fitted net up on the pole and hopefully the RCW will fly out and drop down into the long net. If not, some scratching and whacking on the tree might do the trick. If still no luck, you might have to climb the tree to coax your bird out into the net. Usually when the bird senses you near the cavity entrance it will fly out into the net.

This, as one might guess, is not a fool-proof scheme. Sometimes the bird squeezes through a crack between the net and tree, sometimes it slips out while you are creeping to the tree, sometimes it doesn’t come back out at all, and sometimes it simply doesn’t come home to its regular roost that night. Again, this practice is only allowed under an Endangered Species permit and conducted by certified personnel only.

### **Regulatory Changes for RCW’s**

Although some private timber companies have had to deal with RCW’s on their lands, either by welcoming them as a rare and unique species to be conserved, or begrudgingly tolerating them, most active clusters today occur on Federal and State lands. Military installations and National Forests, along with state WMAs host the almost all the populations. Private landowners typically don’t have to worry much about attracting nesting RCW’s on their lands. Most





*To mitigate the shortage of old growth pines needed for cavity excavation, artificial nesting cavities (inserts) are installed using a chainsaw to cut and break out a void of roughly the same dimensions in the pine trunk, typically from 15 to 35 feet high. A diameter of about 14 inches at the insert location is needed to safely climb and install the box. Photo: R. Shurette*

private land managers simply either do not own enough acreage of contiguous open mature pine forest, or do not manage their pine timber on a long enough rotation (80-100 years), to attract RCW's. For landowners who do manage for this kind of long-rotation pine timber, the **Safe Harbor Initiative** is a program that provides private landowners assurances that they will not be held legally accountable for future populations of RCW's, should they happen to colonize a tract.

In 2017 the US Fish and Wildlife Service began working on a **Species Status Assessment**



*Managers typically only handle RCW's for two reasons. The first reason is banding for identification purposes, and the second is to move RCW's from one place to another (translocation). RCW's are usually banded by managers when they are nestlings, ideally from 6 to 9 days old. Photo: C. Tindall*

(SSA) for the RCW. This SSA is essentially a comprehensive review of the species' population status and gives the Service guiding information on whether they should keep the species on the Endangered Species list, down-list it to a lesser (Threatened) status, or de-list the species altogether. Based on the recovery of several large populations on military bases and National Forests, and the healthy growth of many non-recovered populations, the Service announced in September of 2020 a proposal to down-list the RCW from Endangered to Threatened. While the species would still be afforded some protection by the Endangered Species Act, the move would theoretically lessen restrictions on both private and public lands currently inhabited by the species. At the

time this article was written, a final decision had not been made on the proposal, and litigation by some environmental groups is pending. However, this proposal is a clear indication of the success and lessons learned regarding RCW management over the past few decades. Managers and agencies now understand that disturbance, including strategic timber harvest, is a key management tool in RCW recovery, and that disincentivizing landowners who want to manage for open pine, with a fear of being liable for RCW colonization, has not been a good thing. Hopefully in future years this species will reach a point where it can be completely de-listed, just like the Bald eagle and Peregrine falcon.

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# Assessing and Improving Your Fish Habitat

By Scott Brown



*Habitat can come in many forms. Here we dropped a tree into the water and then planted rushes and Maiden cane nearby. The tree will eventually decompose, but the vegetation will be there forever. The combination provides various fish species such as largemouth bass, bream and other smaller species habitat to thrive.*

**M**any private lake owners and some lake managers rely too much on the quick fix fish management techniques such as feeding and stocking. Both are essential to create a high-quality fishery, whether it is a bass (largemouth, smallmouth or striped bass hybrid), bluegill/redear or catfish fishery. But in addition, you need good water quality throughout the year and habitat that is beneficial to the species you are managing. In many of my articles I say you must know the biology/life history of the species you are managing to do the best job and be the most successful at managing them. My background is a little different than most pond managers,

as I started my career researching and then managing various species in large, open public water systems, where habitat is probably the most important factor. You cannot change/improve the water chemistry with a treatment, and you cannot over stock forage to accelerate growth. However, you can in some instances manipulate habitat to improve survival of the target species and the species of food the target species relies on to survive and thrive.

When we start with a new client, we assess the water chemistry, fish population (electrofishing is usually the sampling method) and assess and evaluate the physical habitat. Habitat is defined by Wikipedia as

“the array of resources, physical and biotic factors, present in an area that allow the survival and reproduction of a particular species”. For fish this includes water chemistry and the physical habitat such as bottom, vegetation and shoreline and submerged structure both natural and artificial. Today I am talking about the physical habitat excluding water chemistry.

## **Bottom**

Assessing the bottom after the lake is complete and flooded to some is unnecessary because you cannot easily change that, but knowing where structure is and how deep areas are can help with deciding whether you need bottom aeration, where to install fish attractors or



where to fish for certain species certain times of the year. We recommend using or borrowing a new fish finder, which now not only has the ability to detect fish, but also depth and underwater structure. Some can even detect hard bottom verses muck, which is useful if conducting a lake restoration project to calculate the amount of material that will need to be hauled off.

Most desired species such as bream and bass are edge species, so the more irregular the shoreline, the more edge and habitat available for those species. Those species spend most of their time hiding, feeding and reproducing in the **Literal Zone** (area between land and deep water where aquatic vegetation is located). There is a lot more shoreline where it zigzags in and out than a rectangle or circle shaped lake. Even crappie and catfish use the literal zone for either feeding and/or nesting, while spending more time in open deeper water.

For new lake builders, they should consider depth which is usually under or over done for various reasons such as cost, poor estimation of depth after completion or lack of knowledge on how important depth is during summer and winter (depending on where you are located). Some species feed in various depths throughout the year, or during certain stages of their life. During a drought, some of the water needs to be eight feet deep, while no area (unless an aeration system is installed) needs to be greater than 15 feet. Water less than eight feet deep during the hottest part of the year can foster poor water quality with elevated temperatures and low **Dissolved Oxygen** (DO) either

stressing or killing fish. This same scenario can happen with excessively cold water and low DO during winter in northern areas. Water over 15 feet deep in warmer climates becomes stratified, where low DO water is at the bottom and can be for more than half the water column, rendering no fish using these areas when DO is low to a point where it stresses fish or would kill them.

Bottom contour should not be smooth nor should there be isolated deep holes not connected by deep-water trenches. Adding “catfish holes” is acceptable as long as they do not exceed recommended depths and are not just deep holes randomly dug. The water in these areas without connecting trenches to mix with higher oxygenated water become unusable areas by fish due to lack of oxygen. If these areas have connecting trenches and/or bottom aeration, they become additional usable areas by all fish during different times of the year, increasing your lake’s carrying capacity.

Shoreline slope needs to be 4:1 or greater. The reason being, anything less encourages vegetation growth farther out into the lake and can cause problems in the future that requires constant herbicide use or scraping. Some shoreline vegetation is good, but too much too far out from shore can hinder angling and navigation, or create an aesthetic problem of undesirable weeds at or above the water surface. This slope discourages weed growth out from shore, but still promotes fish spawning by bass and bream/panfish. Many new lake owners feel the need to create large shallow shelves or whole lake ends for spawning, but these areas inevitably become problems in ponds with aquatic vegetation, and are not necessary unless your waterbody is large and can afford such areas of space. The slope recommended is a balance of allowing some vegetation to grow, without it being too much. There is nothing wrong with adding steep drop offs once you get away from shore, fish like these for shade, cooler water and ambush locations.



*Here is a combination of good things for quality fish. A feeder amongst various desirable plants that were planted two years ago. When this is performed, make sure you either use short species in front of the feeder, or occasionally trim down the vegetation not to interfere with feed from being thrown.*





*Sometimes, vegetation habitat needs to be reduced or undesirable species removed using mechanical, chemical (herbicides) or biological (grass carp) methods.*



*These bream found newly placed gravel beds to improve spawning habitat in less than a week and started using them immediately.*

Another form of habitat bottom is rocks and gravel. These areas are beneficial for hiding, feeding and/or spawning. Especially in areas where there is a lot of organic material (muck) on the bottom, gravel beds become spawning locations for bass and bream. These are easy to install prior to flooding and can be done with a large Jon boat, jack and plywood platform with an already full waterbody. I have also seen trays 4' X 4' made of 2" X 4" and plywood with approximately 2-3-inch-thick gravel placed in areas with excessive organics and bream begin spawning in less than a week after they were deployed. To deploy

these, it is best to set the frames and add gravel. Otherwise, a large backhoe or small crane is required to swing them out and lower into the water. I recommend river or limestone gravel, but use what is common in your area. Place gravel beds in approximately 3-6 feet deep water. Rocks such as rip-rap provide hiding and feeding areas for small fish feeding on algae, zooplankton and invertebrates including crayfish.

### **Structure**

As stated above, many newer fish finders have the ability to locate underwater structure such as boulders and trees on the bottom.

There are many types of structures made from both artificial and natural materials. Structure can improve quality and increase fish numbers, while providing a location for fish to congregate and make it easier to catch for youth and novice anglers. There are several different manufactures that now offer fish attractors pre-assembled or in kits you put together. I prefer artificial products that are safe for the environment and never need replenishing or replacing. Natural materials (cheaper) come in the form of tree roots, trunks, tops, Christmas trees and boulders. Artificial materials over the years range from tires, concrete, aluminum, iron, pvc and other various plastics. Structure is best placed on the lake bottom prior to filling, but can be added with the lake full of water with a Jon or pontoon boat.

Christmas trees have always been used for structure. They work well for about 3-5 years, but then become ineffective as all the limbs break off and the only thing left is a trunk, concrete block and possibly a float. Christmas tree fish attractors need to be refurbished about every five years. Over time if you continue to add to it, they will become a nice fish attractor of trunks and cinder block. Placing 3-5 in a bunch, suspended 1-2 feet off the bottom is best each time. Again, place these where they will not interfere with boating or swimming activities.

Concrete culverts and pipe also make good habitat for fish and possible spawning areas for Channel catfish. Pipes laid horizontally in groups of three or four create a nice offshore "reef". Another product of concrete used is stacking cinder blocks together so



fish can occupy the holes. Wooden pallets can be wired together and weighted down with a few cinder blocks to make a great fish condo.

Concrete rip-rap, frequently used to stop dam erosion, is also good structure. It can support both prey and predators, small and large, depending how big of rock is used. It can also help create a crawfish forage base by providing hiding areas for crawfish so all are not consumed shortly after stocking. Again, some forage species of minnows and other forage animals will use these areas to nest or attach eggs to. Boulders placed so the stick is above the waterline, then encircled with gravel on the lake bottom, create both great habitat and provide aesthetics.

All the structure above, in addition to providing hiding areas for fish

including catfish and big bass for ambushing food, are gathering places for algae and small plants where invertebrates (insects, worms, crayfish, etc.) gather to feed, which in turn attracts small fish that attract larger fish. Generally, artificial materials take slightly longer for things to start growing on them, but they eventually do get covered in algae and other plant and animal life, and look more natural afterwards.

### **Vegetation**

Assessing aquatic vegetation requires identifying the plant species present and estimating the amount of coverage there is. We recommend on small waterbodies, about 10-20% max coverage of emergent and/or submergent vegetation. In larger ecosystems, a higher percentage can be tolerated, and is beneficial as long as angling

access is not hindered. To get really accurate, using a measuring device and aerial maps to calculate the exact amount of vegetation or to break down by species is feasible, but, not necessary for your objectives.

Plants in and around a waterbody help improve water chemistry. Plants filter suspended dirt particles before they enter your waterbody improving water clarity and reducing the silting-in process. They also put oxygen into the water when living. Once treated with herbicides and die, the decomposing vegetation removes oxygen from the water.

Plants provide hiding areas for fish, and an abundance of fish food forms on plants like algae, which attracts small invertebrates that small and young fish require for

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*This new pond was lined with weighted root balls just offshore. At full pool they were below the surface, providing immediate habitat in a new pond void of vegetation. Since then, Maiden cane and rushes were planted, along with other species naturally coming in.*



*These are artificial habitat sunk along the shore and offshore to provide additional habitat for bass and bream. The tall ones were deployed as two pieces bolted together, placed horizontally out from shore anchored in six feet deep water for both small and large fish, while the short one in the background was anchored in water four feet deep to house many small fish.*

food. Plants also provide nesting habitat for birds, reptiles and amphibians.

If you have a new waterbody you can choose what plant species and where you want them. If you want to improve an existing waterbody, identifying current vegetation and prioritizing species from most to least desirable is recommended. I also dislike exotic (non-native) plant species, but on rare occasions we leave them, only because it is the

only habitat in the lake. But as soon as desirable plant species begin to fill in, the exotics need to be treated with herbicides or mechanically removed. Exotic plants tend to be a problem in that they grow in excess and require more maintenance (equates to money) to keep in check. Not to say there are not native plant species that do the same (i.e., cattails under certain conditions).

There are three types of plants we

deal with **upper shoreline**

(usually on dry ground, but can tolerate being near or in water for short periods of time), **emergent** (part of the plant is underwater and part is above water, but can usually tolerate short dry or being submerged periods) and

**submerged plants** (the entire plant remains below the surface and can rarely survive any time being on dry land and short periods partially exposed). All can contribute to fish and wildlife habitat, reduce erosion, and improve water quality. In many situations we may recommend a combination of two or all three types depending on the waterbody and management objectives.

Planting submerged vegetation is rare unless part of the waterbody is desired to attract waterfowl and then it might be employed. Never transplant Hydrilla. Yes, it does grow fish and attract ducks, but it is expensive to control and can easily be spread to nearby private and public waterbodies. I have never prescribed any floating species, like used in a goldfish pond in the garden, which is where many exotic plant species got their start in this country from water gardens and the aquarium plant industry.

However, floating islands of vegetation have become popular with some pond managers in northern areas and have proven initially to be beneficial. In the South where the growing season is very long, I advise against it.

Manipulating vegetation can be done with mechanical removal, herbicide or with grass carp. Vegetation can also be manipulated with water levels, either naturally or manually yourself. We generally use a combination of two or three techniques depending on the plant species, water chemistry and level



of manipulation we are trying to achieve. If there are a few desirable plants present, adding or spreading those out that are present helps expedite the spread. Certain grasses are good for fish, such as Maiden cane, while torpedograss is not. Maiden cane typically grows slower and is less dense than torpedograss, allowing small and large fish to move freely about while being protected. Torpedograss can get so dense, even small fish cannot use it for cover. They look similar, which is why knowing some aquatic plant identification or your lake manager knowing is important to make the right decisions. Owners that prefer a clean golf course manicured lake are greatly reducing the waterbody's productivity and not getting the most from their fish population in both numbers and size.



*This hawg was sampled out from inside a four-foot diameter cement pipe that was sunk in a lake about seven feet deep. She looked to be very healthy.*

Habitat improvements greatly benefit your fish population. The results are slower than other forms of management such as stocking forage or supplemental feeding, but it is another piece of the puzzle to create the best waterbody possible. I believe all these forms added to your lake will greatly benefit the fish population, but it does take some time, which is also why I believe some do not tend enough to

the physical habitat. Desirable plants do not all show up in one year, but managed correctly, over time they will slowly fill in around your lake and fish will love you for it.

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# Steps for Planting and Creating an Oak Tree Orchard

By Allen Deese –  
The Wildlife Group



**A**s we enter the winter months, planting trees should be on everyone's mind. I tend to get hundreds of questions on best planting dates, production times, and proper planting techniques. These questions are great, but some of the most important aspects of planting and developing oak orchards are overlooked. Why? Most of us are focused on two things, the growth rate and years to acorn production. Both are great questions, but without the proper site, tree care basics, and plenty of sunlight, the first two questions are useless. So, let's start at the beginning.

- Location – choosing the site of your trees will decide the type of oak that you can plant. Dry site, wet site, rocky

acidic soil, or blackbelt alkaline soil, etc., and sunlight are all critical.

- Layout – After choosing the site, deciding on the plant spacing will determine how you intend to care for the trees. If this is a reforestation site, you should plant the trees on 12' x 12' spacing to grow fast and tall, limiting limb structure to produce more towering trunks and shade out competition. But suppose you are looking for a park-like setting with maximum limb structure and acorn production, you will need a 30-50 ft spacing. I would recommend protecting each of these trees with a 5 ft tree tube, fiberglass stake, and

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weed mats. Doing this almost guarantees the survivability of each tree.

- The second part of the layout would be to mark each spot for tree placement, which allows you to know exactly how many trees you will need. It also allows you to be prompt with planting and distribution of the trees after you receive them. (Never let the root system dry out or freeze before planting.)
- Planting- Dig holes more significant than you will need. Even if you are planting seedlings, use a post hole digger or hand auger and dig a large hole. Be sure to break up the edges so you do not have a round hole with hard sides. Leaving hard sides will cause the root system to circle as if it were in a plastic pot. Amend the soil only if needed to fill in voids of clumpy soil that will not pack back into the holes sufficiently. Water the tree in well at planting to settle the soil and remove air pockets.



- **Planting Dates-** The best planting dates, regardless of your location, is October thru March. April is too late, and I don't care if you are in Ohio, Pennsylvania, Illinois, or Montana. Plant as early as possible before spring. Well, my ground is frozen and I can't plant. It's not frozen this entire time, and if you can work your soil, you can plant trees. The ground generally will not stay frozen for four months, so you can find times that you can get trees planted. Plant and then mulch the ground heavy to protect the root system.
- **Protecting your trees-** when planting for reforestation using close spacing, I see no need for plant protection. Plant the seedlings close because the strong will survive, and once they mature, you can thin. If planting for orchard typesetting, I would use tree tubes and all accessories. The tubes protect from wildlife eating and rubbing and will push the tree to grow three times as fast. Trust me on this, you need to use tree tubes.
- **Planting container plants (potted plants) -** all of the above info will be the same except that it is imperative to plant anything coming out of a pot slightly higher than ground level. It would be best to protect the trees from bucks with trunk protective tubes or wire cages.
- **Do not fertilize the trees for the first season.** You may add some Bio-nutrition that contains many organic micro-

organisms that will help balance the soil and add a small amount of nitrogen and potassium.

- Lastly, it would be best to put a lot of effort into caring for the trees in the first year. Most individuals will be very excited about the trees early on, and spring will show a lot of promise along with much-needed rain. But inevitably, it will get hot and dry. Usually, this will be in August, September, and October. The trees will need water at that time, especially any potted tree that you may have planted. Watering can be as simple as placing a five-gallon bucket beside the tree with small pinholes drilled into the bottom and fill with water. Adding the small holes will allow for a slow drip from the bucket so that water will soak in and not run off. Seedling trees planted in tree tubes and weed mats should survive without any added water. Weed mats and mulch will help tremendously with retaining moisture as well as preventing moisture sucking weeds to take over around the tree.

Now that we have moved from the prep and planting, let's look into some of the varieties that would be suitable in different scenarios. Most people will toss around terms like white oak or red oak, but we have at least 90 recognized species of oaks in the United States. The USDA has an excellent field guide for oaks in the eastern U.S. Listing twenty-five of each species with descriptions of each species. I would highly encourage everyone to purchase this

book for field reference.

Choosing species of white oaks for planting will vary because of soils. White oaks will grow in both areas, but you must pick the correct varieties for wet or dry soils. You need to plant Swamp Chestnut Oak, Overcup Oak, Swamp White Oak, Bur Oak, and Durand Oak for flood-prone areas. Keep in mind that these trees can take occasional flooding but cannot grow in the water. A listed description would



*Mature Sawtooth Oak in the fall*





*Mature Live Oak*

read, these trees would prosper in moist, alluvial, well-drained soils and are suitable for lowlands and flood-prone areas. Other white oak species, such as the common White Oak, require an upland site, acidic, well-drained soil. In contrast, the Chinkapin Oak will thrive in calcium-rich high alkaline soils like central Alabama's Blackbelt.

Moving on to the Red oak species, you will find the same scenarios where several species will be prime duck hunting habitat trees. These particular trees can grow in flooded areas and produce smaller acorns easier for ducks to eat. For instance, Nuttall Oaks, Pin Oaks, Willow Oaks, and Water Oaks all can take standing water during the dormant season, which is December thru February. I recommend removing the water if possible before the end of March or earlier. Another thing

to keep in mind is that although White Oaks are more desirable because of the lower tannins, Red Oaks will not rot on the ground or germ quickly as white oaks do. Thus, animals can feed on these much longer in the season and are often viable food well into April/May.

Nuttall Oak (*Quercus texana*) is one of my favorite oaks. This particular tree is listed as a wetland species and thrives in flood-prone areas. It is also the latest dropping acorn tree that I have personally seen in the woods. It will typically produce acorns in 7-10 years and drops them from late December thru February. I have seen some still dropping in March, making this tree a fantastic tree for turkeys as well. Little known to most, this same tree is one of the top landscape trees for residential use

because of its exceptional growth in full sun. I have gotten many calls from customers who have seen the Nuttall Oak growing in a parking lot and were curious about the species. It's an excellent tree for late-season acorn production as well as fantastic fall color.

In summation, oak trees get a bad rep at times because they are marked as slow growers and take so long to produce. Some trees do take a while to produce acorns, but some are pretty quick growers and producers. I'm pretty sure everyone has heard of or planted the Sawtooth and Gobbler Sawtooth Oaks. Both are fast growers and produce acorns in 5-8 years when planted on well-drained sites with slightly acidic soils. They have begun to get a bad rep because they are a non-native species.



Not all of our native species take 20 years plus to produce acorns. Many trees will produce acorns within ten years and sooner. For instance, Chinkapin Oak is a white oak and typically will start to produce acorns in the same time frame as Sawtooth Oaks 5-8 years. Dwarf Chinkapin Oaks will also produce at a very early age of 3-5 years. Live Oaks, believe it or not, are versatile trees that grow in varying soil conditions and bare acorns in the same 5-8-year time frame. It's a great hunting tree for the Southeast and holds its acorns until late November/December here in Alabama. I have Bur Oaks as well as Nuttalls that have bumper crops at ten years of age also. So do not get caught up in all the hype about slow growth and production. Pick a good site and pick matching trees,



*Mature Nuttall Oak*

and put them in the ground. I guarantee you one thing, if you do not plant trees, you will never have acorns nor the shade for yourself or your family to sit.

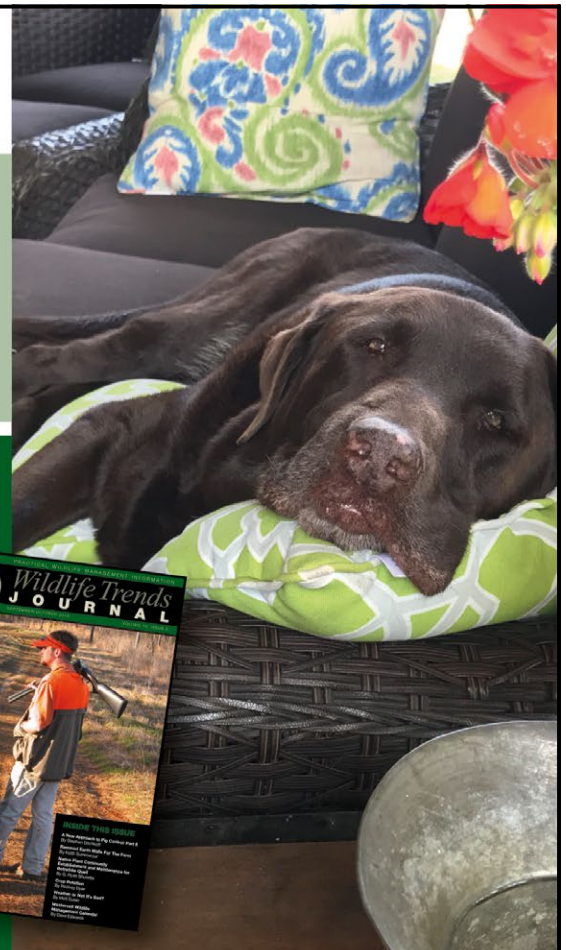
Confucius says that you can see the real character of a man that plants trees, knowing that he will never be able to sit in their shade. The best time to plant a tree was yesterday, and the next best time is today.

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# Wildlife Trends Journal Management Calendar

Dave Edwards



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*Now is the time to "summarize" deer stands*

## **Assess management strategies, review or develop a plan, & prepare for upcoming projects**

Good planning and preparation ensure you will have everything needed and be ready to initiate projects this summer. I heard a saying that has stuck with me over the years that always reminds me to plan – "People don't plan to fail, but often fail to plan". Planning also allows you to prioritize projects, create a budget for the upcoming year, and develop timelines for completion to help you stay on track. Many landowners simply tackle projects as they come up or

as they think of them. This strategy can work, but without planning they may overlook or run out of money before addressing a more needed project. Spring is busy times for us at Tall Tines Wildlife & Hunting Consultants helping landowners develop a plan of action for the coming year to improve the wildlife value and hunting on their property. We conduct what we call "property management assessments". During this consultation we review projects that had been completed the previous year, review harvest data or other information that provides insight to how the wildlife we are trying to manage is

responding to management, re-assess progress towards goals, assess the habitat and property in general to determine its limiting factors, and develop a prioritized list of activities that need to happen to help the landowner achieve their goals. While this is a professional service we provide, it is a process that I feel all landowners should go through each year, whether they hire a professional biologist or not, to keep them on track and moving forward. Which reminds me of another saying – "Don't keep doing the same thing and expect different results". Now (late winter/spring) is the time to assess your manage-



ment program, determine needs for improvements, and develop a plan to address these needs.

### **Deer stand preventative maintenance and “summarizing”**

While it is not a fun job, deer stand maintenance will prolong the life of stands and their accessories and in some cases will prevent tree damage during the growing season. Things such as removing seat cushions, camo wraps, shooting rest padding, and/or actually pulling deer stands out of the woods and storing them out of the weather will significantly increase their life and save money in the long run. Squirrels and Mother Nature can and will ruin a deer stand in as little as one summer. Taking the time to label parts (cushions, wraps, ladder sections, etc.) will help keep loose items “marked” and make reinstallation next fall much quicker and easier. Before storing stands for the summer, I check them for needed repairs, touch them up with paint, and lubricate any moving parts. This helps protect the stands but also allows time for the odors associated with paints and oils to fade before next fall. If you have enclosed shooting houses, take time now to close windows, doors, and make attempts to “seal it up” where needed to keep unwanted pests out. While exterminating a few wasps is easily done next fall, removing 6 months’ worth of owl droppings is another story! If you plan to leave ladders and lock on stands in the woods over the summer be sure to loosen the fasteners, straps, or chains that attach them to the tree to allow room for the tree to grow during summer. You may be amazed at how fast a tree can “absorb” (grow around) a chain! As a side note, while in the area, I often use this time to do a little



*Don't keep doing the same things and expect different results. Assess what is keeping you from reaching your goals and develop an action plan to get there.*

scouting for next hunting season as well.

### **Ensure deer have quality nutrition during late winter through spring green up.**

Late winter through spring green up is a nutritionally stressful period for deer in most regions. Deer have spent much of the fall going through the stresses associated with breeding activities which have worn them down, does are pregnant, much of their quality food sources have dwindled, and energy demands increase with a colder climate. By ensuring deer have access to quality food sources during this period will ensure they enter spring green up in good condition. Doing so gives them a jump start as they enter the spring green up period (one of the highest natural nutritional periods due to an abundance of fresh new growth of plants). As such, deer can use the high nutrition from spring green up for body growth verses maintenance.

Healthy deer entering spring results in bigger antlers, healthier does, increased fawn survival, etc. which is the goal of most deer management programs. Although this is within the February/March management calendar, strategies that ensure quality food sources are available this time of year are the result of management implemented months ago or over time. These strategies may include things such as thinning timber, managing natural habitats, including perennial crops in food plots, and properly managing deer herd conditions. Something that can be done now, however, is providing deer with supplemental feed which can certainly offer deer a quality food source. But before thinking about starting a supplemental feeding program for deer, you need to take care of the “more important” things first (such as items listed above). In other words, you cannot hang shutters if you do not have a house – and you will not grow big





*Managing water levels in duck ponds during the off-season is just as important as doing so during the season.*

bucks and a healthy herd with supplemental feed alone. It is a supplement to other management strategies and activities. However, when done in combination with other core management practices, supplemental feeding can be valuable for deer. Be sure to check your local game laws before providing feed on your property. Many states do not allow supplemental feeding. Ideally, providing supplemental feed throughout the year is best, but supplemental feed will be most used and most valuable for deer in late winter and late summer. These are periods when natural food availability is at its lowest. So, if you have a limited budget and cannot or do not want to feed throughout the year, provide it during the periods deer need it most.

### **Late winter or early spring is a good time to check soil pH and apply lime to food plots if needed**

To check the soil pH, simply collect soil samples and send them to a soil laboratory (see previous Wildlife Trends article on how to properly collect soil samples). Your local

farmers cooperative will often have soil collection bags which normally have directions on how to collect soil samples and where you can send the soil to be tested. Although there are exceptions, most crops grow best in a relatively neutral soil pH of 6.5 – 7.0. Thus, lime is often needed to enhance the soil. Because it can take several months for lime to effectively change the soil pH, checking the soil in late winter or early spring will give lime ample time to amend the soil before the fall planting period. In most cases, incorporating lime during late winter (Jan/Feb) will often amend soil pH in time for summer plantings. Remember, ensuring proper soil pH is often more important than what you plant or how much you fertilize. In fact, proper soil pH is essential for fertilizer to be available to the plants. Although lime can be spread any time of year, applying it at least 4-6 months before planting will allow time for it to properly enhance the soil pH to desirable levels. Lime can be broadcasted directly on top of the soil where rain can work it into the growing zone of the soil, but disking it into

the soil profile will speed the process up and is recommended.

### **Make preparations for spring turkey season**

One of the best ways to ensure you have gobblers in the spring is to manage your property throughout the year to promote quality nesting cover. I have worked with many landowners that had gobblers on their property most of the year, but they disappeared during the spring. After closer inspection, their property didn't have good nesting habitat and the hens had moved to adjacent properties carrying the gobblers with them. Quality nesting habitat is created by maintaining a patch work of early successional habitat throughout your property. Burning, herbicide applications, strip disking, timber harvest, and roadside management strategies are all tools that can help you create quality nesting habitat for turkeys. Besides the key element of creating nesting habitat, creating strutting zones in strategic areas near nesting cover around your property will help put turkeys where you want them to be. February or early March is a good time to create strutting areas. A mower, disk, fire or combination of these are the tools of choice for this task. Fire is my preferred tool if it can be used. Strutting areas are simply areas that have relatively little or open ground cover that will be attractive to turkeys for breeding courtships. I often create these areas between roosting and nesting areas and preferably near a food source such as an old field, chufa patch, or food plot. Areas that often lend themselves well to creating strutting areas are powerlines, thinned pine rows, and roadsides. Lastly, mowing hunter access trails will help you slip into areas to hunt without making a bunch of noise. If these trails go



through thick habitat, don't be surprised if turkeys use the same trails. Speaking of mowing, if you have areas that need mowing before summer arrives, do so before turkeys start nesting.

### **Manage water in duck ponds**

Although duck season may be over, leaving duck ponds flooded will benefit migrating waterfowl by providing energy rich foods for their flight back north. Pond drawdown rate and timing is important and will vary depending on your management strategy (natural moist soil management or agricultural plantings). If you are planting agricultural crops for waterfowl, leaving the pond flooded through early summer will help control weeds. Just be sure to drain the pond early enough to allow adequate drying time before planting time. However, if you are managing for natural moist soil plants, such as in a beaver pond or waterfowl impoundment, you will need to start pond drawdown in the spring to allow desirable native moist soil plants to germinate and grow. Slow drawdowns (over a 2–3-week period) are often desired because they will result in diverse emergent wetland species and invertebrate composition. Quick drawdowns result in decreased plant species diversity and are often composed of undesirable species. If you are managing a GTR (Green Tree Reservoir or flooded hardwood area), use a slow draw down process but ensure water is off the area before spring green up to protect/ enhance growth of oaks in the GTR. Some oaks, particularly the more desirable ones for generating duck food, do not do well if left flooded after they begin growing leaves in the spring.

### **Trap and remove predators**

Hunters are quick to blame predators such as raccoons, opossum, skunks, coyotes, fox, or bobcats where populations of game wildlife are declining. However, in most cases the cause for game species population decline is often the result of reduced reproductive performance or survival of their young due to poor habitat and/or harvest management strategies. That is, it's foolish to blame predators for poor quality deer hunting if your deer herd is "crashing" as a result of being overpopulated and is experiencing poor fawn production due to poor overall herd health. Or blame predators for a declining turkey population if you are not managing or providing quality nesting and brood rearing habitat to promote good poult survival. So before initiating efforts to remove predators, consider habitat quality and/or strategies you are applying to improve it. If habitat quality is not good, your time and money may be best spent managing habitat verses predator control. Having said this,

on properties where habitat quality is generally good, intense localized predator control can increase survival/recruitment rates of species such as rabbits, quail, turkeys, and deer. Intense is the key word here. Simply throwing a few traps out on the weekends will not have much effect on predator populations. Having a significant impact will require intense trapping over a period of time that results in many predators being removed. It is also worth noting that predator populations can rebound quickly. Similar to the response of a deer herd after an aggressive harvest, a reduced predator population with less competition for quality resources will have increased reproductive rates. Thus, trapping efforts need to be applied every year to be most effective and produce the best results.

### **Now is the time to scout for next hunting season**

How many times have you heard (or said to yourself) "Those dang deer know when deer season starts – we've been seeing them all summer and now they have gone into



*Ensure proper soil pH is more important than what you plant. This is a great example of the difference in food plot growth in amended vs. non-amended soil. Proper soil pH resulted in much stronger and healthier crops in this plot.*





*Providing deer with high quality supplemental feed during winter will help them recover from the rigors of the rut and winter allowing them to enter spring in much better condition.*



*Now is the time to scout for deer sign and identify new deer stand locations*

lock down”? Deer do not have deer season on their calendar. Hunters are their alarm clock. It happens every year and we have all been guilty of it. The woods have been quiet with no humans walking

around, no ATV’s, no chainsaws, no trucks or tractors, no loud voices or other odd noises and then a month (or week) before the season the woods are inundated with LOTS of these unnatural disturbances – Hunters busting through the woods doing lots of things associated with preparations for hunting season. This is the alarm clock that triggers deer to alter movements to avoid these disturbances and potential dangers. All these things are described by two words – disturbance and pressure. I have spent most of my career helping hunters manage for better deer and better hunting. Generally speaking, growing “big bucks” is relatively easy when hunters follow management recommendations. However, getting these bucks in front of hunters is often the most challenging task I have. One thing that I have learned and have seen play out time and time again is that

hunting pressure (which is a culmination of all the unnatural disturbances described above) plays a significant role in hunting success. So, if you want to see and harvest more deer (i.e., improve your deer hunting experiences) intensively manage hunting pressure (and other disturbances) on the property you hunt. One of the best ways to reduce pressure is to be ready well before hunting season. Late winter, or just after hunting season, is one of the best times to learn more about your property, find areas that could be improved, and figure out how deer or other wildlife use your property. Learning these things will help you maximize the value and use of your property. As I have mentioned in past calendars, February and March is my favorite time to learn how deer use a property and strategize on new stand locations. Because deer have been exposed to a great deal of hunting pressure over the past few months, they are using areas that they are most comfortable in and feel safe. If you find out where they are “hiding” now, you will know where to find them next season once the hunting pressure builds and deer seem to disappear. During this time of year, buck sign such as trails, rubs and scrapes is still fresh. Erecting or relocating stands now reduces that amount of “pressure” you will need to apply just before deer season and allows deer to get used to seeing them over the summer. Although you will have to touch them up before the season starts next year, late winter is also a good time to trim shooting lanes around deer stands. Having done all this in late winter, you will significantly reduce pressure just before the season starts next year which will enhance your opportunities to see and harvest the big bucks you’ve worked so hard to grow.





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