



# Wildlife Trends

## JOURNAL

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## Earl Says...

Sometimes you see something so simple and say to yourself, “Why didn’t I think of that”? That’s what happened to me recently when I read a version of Pete Young’s article about using pallets to build a hunting blind in *Great Days Outdoors* magazine.

I mean what a great idea to use old, discarded pallets that are readily available for the asking to build a durable ground blind? That’s when I contacted him and he was more than happy to share his ideas with us in this issue with his article, *The Pallet Blind*. Excuse me for being so excited about this simple idea but everybody I’ve shown this to has had the same reaction as I did. Some of you may have doing this for years and it may be very popular in some areas but I thought I had to share this idea with you.

Another great article you’ll notice in this issue is about repelling deer. We’ve all fallen victim to over-browsing by deer before our soybeans, cow peas, etc. have a chance to get established. The idea for this article came to me last year from a new subscriber and landowner looking for solutions to this problem. We always welcome your input on new articles for the future as well as any pictures and/or success stories you’ve had managing your property. And as always, thank you for subscribing with us.

Andy Whitaker  
Publisher/Editor



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Cover photo by Andy Whitaker

# Keeping Deer Out – Mission Impossible?

By Jeremy Meares

Jeremy Meares is a wildlife biologist and hunting lease manager for Westervelt Wildlife Services. He manages over 220,000 acres of industrial timberland in central and west Alabama and is involved in wildlife consulting. Jeremy received both his B.S. and M.S. from the University of Georgia specializing in deer management.



*Milorganite® applied to newly emerged soybeans. Depending on weather and deer densities, this treatment allows plants to become established before being subjected to full browsing pressure. Photo credit Tim Teel.*

In this day and time, I think most deer hunters and managers recognize the value of properly managing food plots. We plant food plots to provide added nutrition during stress periods but also as an attractant to facilitate harvest. But what if you don't want deer to eat what you plant, at least initially? Cue the Mission Impossible theme music. This is especially true when planting warm season food plots. These crops are extremely vulnerable to over-browsing prior to becoming established, especially on smaller acreages. We want to maximize the effectiveness of these crops and provide the most nutritional value possible during the summer stress period. Conversely, you may have areas you want to discourage deer from using altogether, such as pastures, Christmas tree farms, nurseries, and agricultural fields. Repellents are generally classified as systematic/contact delivery or as area delivery. Other methods are exclusion based, like fencing. Repellents rely on fear, pain, taste, or conditional avoidance to

discourage browsing (Conover 2002). This article will review options on the market as well as their effectiveness and relative costs.

## **Area Delivery**

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### **Milorganite®**

In 1913, Wisconsin passed an act to create a sewage commission tasked with preventing contamination of local waterways from human sewage. During this same time, a chemist in England was conducting experiments focusing on the

purification of wastewater containing biosludge from human sewage. The Milwaukee Sewage Commission later adopted this process in 1919. Following this decision, the first large-scale wastewater treatment facility was constructed near Lake Michigan with the purpose of producing clean water from water containing human sewage. A problem resulting from this project was the difficulty in disposing large amounts of biosolids, which was a product of the purification process. To solve this problem, the Milwaukee Metropolitan Sewerage

District began working with the University of Wisconsin's College of Agriculture to determine the value of the biosolid sludge as a fertilizer product. After investigating its value with field crops, researchers focused on the use of this product as an organic fertilizer for residential lawns. Researchers concluded the processed biosolid sludge was an effective, slow-release fertilizer that could be safely applied to a variety of plants.

Milorganite® is a product commonly used to protect warm season food plots and gardens and also for soil amend-



*Milorganite® is usually readily available in 50 lb. bags (usually about \$12-\$15/bag) through most farmers cooperatives. However, some cooperatives may be able to get it in the larger 1,000-2,000 lb. bags. Using a lime/fertilizer buggy or tractor spreader will be the most efficient way of applying this product on a large scale. Photo credit Tim Teel.*

ment purposes rather than fertilizer due to its low nitrogen-phosphorus-potassium content (6-2-0). This product is produced from heat-dried microbes that have digested organic material in wastewater. Milorganite® is manufactured by the Milwaukee Metropolitan Sewerage District. The water is treated with microbes to digest nutrients. After the water is cleaned, it returns to Lake

Michigan. The microbes are then dried and become Milorganite® fertilizers.

In research conducted at The University of Georgia, Stephens et al. (2005) evaluated the effectiveness of Milorganite® in temporarily repelling deer from food plots and ornamental plantings. Their findings showed that approximately 240 lbs./acre of Milorganite® applied as soybean plants

emerged from the seedbed reduced deer browsing for approximately 30 days.

However, browsing increased over the intervals of 6, 12, 20, and 30 days post treatment. Extreme weather conditions, high deer densities, and low resource availability may reduce the effectiveness as a repellent. Depending on conditions, a follow up treatment around day 14 may be needed to further reduce browse



*Sulfur-based repellents containing decaying animal proteins have shown to be more effective in repelling deer than those based on taste or conditioned avoidance.*

pressure and allow plants to become established. Similar results were seen when used on ornamental plantings.

Milorganite® is usually readily available in 50 lb. bags (usually about \$12-\$15/bag) through most farmers cooperatives. However, some cooperatives may be able to get it in the larger 1,000-2,000 lb. bags. Using a lime/fertilizer buggy or tractor spreader will be the most efficient way of spreading this product on a large scale. If you are trying to reduce browsing on a few small plots (<0.5 acre) or ornamental areas, Milorganite® can be purchased by the bag at most large home improvement stores for approximately \$15/bag (covers 2,500 ft<sup>2</sup>). There are two different sizes of Milorganite – Classic and Greens Grade. The difference in the two is the Greens Grade is usually more expensive and has a lower size guide number (finer), which is the average diameter (mm). For food plot purposes, the Classic will be more cost-effective. A similar product called Poconite® is produced in Sumter County, South Carolina. It is marketed locally as well as throughout the Southeast.

These biosolid type fertilizers offer a window of protection for newly planted food plots allowing plants to become established before being subjected to full browsing pressure. If you have areas you want to keep deer out of for a longer period of time, there are other products on the market claiming to protect plants up to three to four months during the growing season and up to six months during the winter.

## **Contact Delivery**

### **Spray Type Repellents**

There are literally dozens of odor and taste-based repellent products on the market today varying greatly in cost. Most of these products are applied directly to the plants or to rope/tape staked out around the edge of food plots. Common active ingredients in these repellents are sulfur-based compounds, capsaicin, allyl isothiocyanate,

and ammonia. The sulfur-based ingredients such as predator urine, meat proteins, or garlic are thought to illicit a fear response in deer. Sulfur-based odors seem to indicate predator activity in an area. Capsaicin is derived from chili peppers and is a common ingredient in hot sauce. Allyl isothiocyanate produces the bitter taste of mustard, radish, and wasabi. Repellents with these ingredients are designed to cause pain or irritation to the eyes, nose, or mouth, thus repelling deer from attempting to browse the plants you are trying to protect.

These products are either applied directly to the plant or to a tape surrounding the perimeter of the area you want to protect. Trent et al. (2001) tested the efficacy of 20 commercially available deer repellents on black-tailed deer over an 18 week period. These products elicited responses based on fear, conditioned avoidance, pain, and taste. Their findings showed that, in general, topical repellents were more successful than area repellents. In addition, the fear-inducing repellents performed better than the other types. Eight of the nine top performers emitted some type of sulfurous odor with the most effective repellents containing decaying animal proteins. Based on their findings, the sulfur-based repellents nearly eliminate browsing for four weeks while providing good protection for up to 12 weeks in some cases. Repellents depending on pain-induced avoidance are generally ineffective because concentrations are too low. Taste repellents (bitting agents, capsaicin) were also proven ineffective. Repellents dependent upon conditioned avoidance have limited efficacy because animals must be trained to avoid these areas. These type repellents likely will not be effective on transitory or migratory animals. Factors found to affect the efficacy of a repellent are: density and mobility of the problem animals, availability of alternative foods, palatability of treated plants, and weather condi-

tions. Predicting the efficacy of repellents in the field based on empirical data can be difficult. Also, as we can all probably attest to, anecdotal or testimonial evidence is even less reliable.

## **Mechanical Deterrents**

Mechanical deterrents repel animals by causing a reaction through the senses of sight, hearing, and touch. There are a wide variety of devices that fall into this category. A common sight-based deterrent is flashing lights. Basically, the thought behind this method is that deer will be spooked by a barrage of flashing lights. Some of the flashing light systems are equipped with motion sensors. A second type of mechanical deterrent utilizes sound/motion to keep deer out. These devices produce loud noises triggered by a timer or motion sensor. Some of these systems also include rotating sprinklers. The effectiveness of these systems is generally short lived as deer quickly become accustomed to the noise, especially in more urban settings. Another drawback to noise-based systems is disturbing neighboring landowners with loud sirens.

## **Exclusion/Fencing**

Just like the repellents/deterrents listed above, there are several exclusion-based options for keeping deer out. Fencing likely provides the most protection of anything on the market as long as it is installed to the proper specifications to keep deer out. When it comes to protecting food plots, any fencing options would need to be non-permanent to allow deer to begin browsing the plots once the plants are established.

Polypropylene deer fence is one fencing option. It is a 2" by 2" mesh consisting of a strong plastic polymer that is resistant to environmental extremes, physical force, and chewing. Break strength usually for the poly fence can range from 600 lbs. – 900+ lbs. Poly fence is lightweight and easy to install, even at heights of six to eight feet. It is

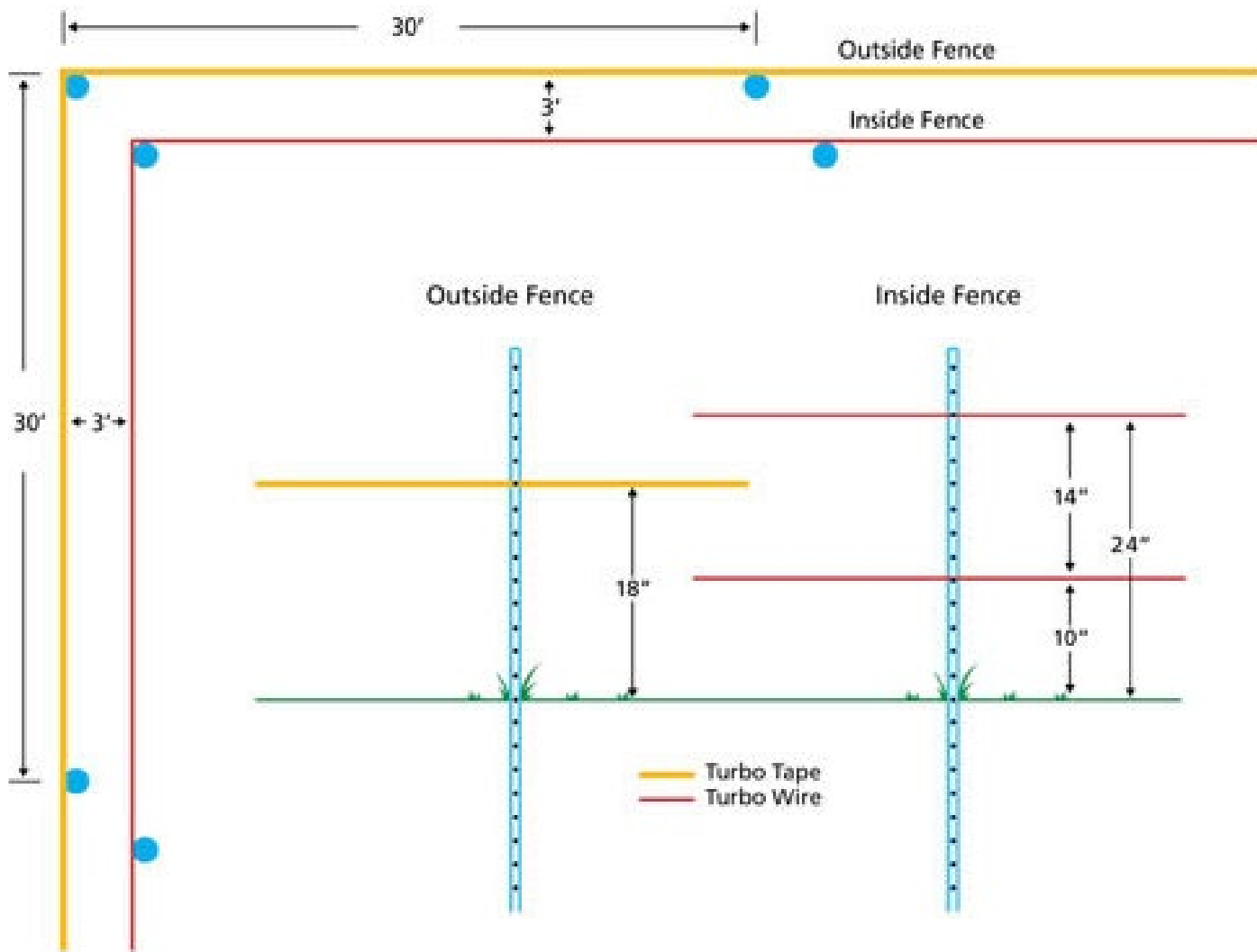


*Polypropylene deer fence is a 2" by 2" mesh consisting of a plastic polymer that is resistant to environmental extremes. Break strength for the poly fence ranges from 600 lbs. – 900+ lbs. Photo taken from [www.treeprotection.com](http://www.treeprotection.com)*

staked into the ground to reduce digging/rooting at the bottom, and tall enough to deter jumping. To consistently exclude deer from an area using standard fencing, a fence height of 7.5' to 8' is required. In areas with high hog populations the bottom of the fencing may be compromised through continual rooting. One system on the market now is the Plot D-Fence System™. This system is reversible in that the plastic fencing is installed to prevent deer from browsing the plots. Once the plants are established enough to withstand browse pressure, the fence is unhooked from the ground stakes, the bottom zip ties are cut, and the bottom can be lifted to the top and again secured with zip ties allowing deer access to the plot. However, this system will not keep hogs out if they are prevalent in your area. Depending on the system, the cost for plastic fencing systems will generally run \$1,000-\$1,500/acre for the fence material, posts, and other components.

The other fencing option for protecting food plots is an electric fence. The two commercial leaders in this area are Gallagher™ and Non-Typical™ Wildlife Solutions. These systems are very portable and reusable. The basic setup for both products is an outside fence set at a height of 18" then a two-strand inside fence with the first strand at 10" and the second 14" above the first (total height 24"). This design creates a depth perception problem for deer. If livestock or hogs are present, this fence design allows the flexibility of removing the outside fence and changing the wire configuration of the inside fence to allow deer in but not hogs or livestock. With just a single row of electric wire or tape, a deer would have no problem jumping over it. The dual perimeter forces the deer to get close to the outer tape to determine if they want to jump both fences or go under the tape. As a deer approaches the outer tape, it makes contact and is shocked, thus discouraging them from trying to enter the food plot again. The





*The basic setup for an electric fence is having an outside fence set at 18", then a two-strand inside fence with the first strand at 10" and the second 14" above the first (total height 24"). Photo taken from [www.gallagherusa.com](http://www.gallagherusa.com).*

fence should be installed and operable prior to germination to ensure plants are exposed to the least amount of browsing possible during this extremely vulnerable stage. A deer browsing the top of a newly emerged soybean plant can easily damage or kill the plant altogether, while a deer taking 2" off of a fully mature soybean plant will have little impact on the plant itself. At this stage, we want the deer eating them! To determine how many yards of fencing materials are required, walk the outer perimeter of the food plot and try to take strides about a yard apart, this will make it easier to calculate the amount of perimeter fencing needed. Using a handheld GPS unit will result in a far more accurate measurement. Costs for installing electric fencing systems will

also range \$1,000-\$1,500 per acre. Food plot protection kits are offered by both Gallagher™ and Non-Typical™ Wildlife Solutions.

An electric fence system is by no means a failsafe. Most electric fence problems are attributed to one of two things; inadequate grounding or vegetation contact with the wires. Your grounding system must have good soil conductivity to work. In some cases, an additional ground rod is necessary to provide good conductivity. Vegetation coming in contact with the "hot wires" causes a short in the system and drains the battery faster than normal.

### **Home Remedies**

Home remedies may be an option if you are trying to protect a small home

garden or ornamental plantings. Their effectiveness is likely short-lived but not well documented. The more common home remedy choices for deer repellents are human hair, soap, and mothballs.

Human hair should be placed in mesh bags or socks and suspended from the plants you want to protect or strung along the perimeter of garden/cultivated areas. Usually each bag will contain roughly a hand full of hair and is secured two to three feet off the ground and at a spacing of about every three feet. The bags will likely need to be replaced several times during the growing season. While you may get some strange looks when you ask for it, hair can usually be easily obtained from barbershops or beauty salons. Never thought I would include the words beauty salon in a deer

management article but I did.

If bagging up other people's hair does not appeal to you, soap is another alternative. Usually a small, hotel-sized soap suspended from a tree about four feet off the ground is effective at protecting a three foot area. Drill a small hole in the bar of soap, tie a string or fishing line through the hole, and suspend from a tree limb. Placing the bar of soap in a nylon sock is another alternative. Any scented soap will probably work, but deer may actually be deterred more by the animal fats used in making the soap rather than the actual perfume scents. Some have reported melting soap in water and spraying over plant leaves has been somewhat effective.

Mothballs are another common home

remedy for deterring deer. Much like using human hair, the mothballs are put in a mesh bag and suspended or broadcast on the ground as an area repellent. Mothballs should be replaced as they evaporate and their effectiveness is questionable due to the scent rapidly dissipating outdoors. Household ammonia is a general wildlife repellent as mentioned above and may be an alternative. Homeowners can saturate rags with ammonia and place them in empty milk jugs with cutout holes. These jugs are then hung around the perimeter of a garden or orchard.

### **Other Alternatives**

Managing deer numbers should be the first place a hunter or manager starts if

quality food plots cannot be established due to heavy browsing. If deer densities are too high, the best planting option out there is lead! Getting the population in balance with the existing habitat is important for reasons other than being able to maintain quality food plots. Once you have a handle on deer density, managers may want to take a look at the size of the existing food plots they are trying to manage. Having the ability to create or enlarge existing food plots to a size deer cannot decimate the crops planted in a matter of days is something that can help with browse pressure, especially with warm season plots. In areas with balanced deer populations, food plots two acres or larger in size are usually sufficient to withstand browsing pres-



*The dual perimeter forces deer to get close to the outer tape to determine if they want to jump both fences or go under the tape.  
Photo taken from [www.gallagherusa.com](http://www.gallagherusa.com).*

sure on warm season plots. Managers want to pump as much high-quality nutrition into their deer herds as possible and having a solid food plot program is an important piece to the puzzle.

Depending on deer density and weather conditions, a product like Milorganite® may provide sufficient protection on larger plots until you want deer actively feeding in your plots. During summers with heavy rainfall, like we have been experiencing throughout the Southeast this year, the window of protection Milorganite® offers may be significantly reduced and a follow-up treatment may be needed. However, if you are trying to protect smaller plots, have a high deer density, or want more control over when deer browse your plots, some type of exclusion fencing will likely be your best option. In areas with high hog populations, an electric fence system will provide the most protection and can be adjusted to allow deer in and keep the hogs out.

For keeping deer out of ornamental settings, sulfur-based odor repellents may provide sufficient protection but will require repeated applications. Depending on the situation (homeowner's association covenants, etc.), fencing may be the best option for reliably keeping deer out.

There is likely nothing that will work 100% of the time but some of these options may help reduce the damage and keep it at an acceptable level.

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# The Pallet Blind: A Great Hunting Blind – Practically Free

By Pete Young

Pete Young is a freelance writer, photographer and videographer with Tall Horn Productions, LLC. Contact him at [pyoung1958@att.net](mailto:pyoung1958@att.net)



**T**he popularity of hunting from ground blinds has grown tremendously in the last few years. When placed in the right strategic location, a ground blind can offer the most exciting close encounters with deer and other game that a hunter could hope for, especially when the blind is left in place for a long period of time allowing the animals to get used to seeing it. I set up a dog house style pop-up blind in what I thought would be a good spot early one deer season, then left it alone and never went to it until the next season. The first morning I hunted it the following season I had a bobcat walk by within 20 feet, a young six-point buck slowly grazing by at about 20 feet and later a very nice eight-point buck working a scrape about 60 yards away. None of the critters knew I was sitting there.

The downside of leaving a portable blind in place for a long time is the effects Mother Nature has on it. Later that year after that memorable hunt I had in my blind,

it started falling apart (literally) at the seams from overexposure to sunlight, wind and rain. But I was so pleased with the success of my earlier hunt out of it that I decided to investigate the possibilities of a more permanent ground blind, and that's how I came up with my version of the pallet blind.

The pallet blind is just that – a blind made from shipping pallets. Most of us are certainly interested in saving a few dollars on hunting equipment whenever possible and pallets are usually free for the asking. In fact, most businesses are happy to have someone haul them away. Just be sure to ask permission to take them and never assume they are free for the taking when you see them sitting there. Some businesses reuse them or

may have them promised to another person. But I assure you there are plenty of free ones out there if you're willing to do a little legwork to find them. Once you find them all you will need is a way to haul them to your hunting camp, a few hand tools and the slightest little bit of knowledge in carpentry and you are good to go.

The one man – full height blind consists of six pallets, two 2x2 corner strips and a handful of wood screws. I also recommend finding a few scraps of treated 2x4 blocking to set it on so that the untreated wood is not sitting directly on the ground. The best plan is to have all your pieces cut and ready to assemble prior to going into the woods with it. Then all you need is a cordless

screwdriver and you can erect the blind at your hunting spot in less than 10 minutes.

Once the blind is erected it is time to use your imagination. Remember, it is a blind made out of wood... You can do virtually anything with it. You need a bow hanger? Screw in a hook wherever you want. You need a shelf or two? Screw in some shelves. You want a roof on it? Get a couple of wood slats and a scrap piece of tarp. You want to make it warmer and keep the wind off of you? Staple roofing felt around the inside or outside of it and wrap it with camo burlap. Screw some leafy branches to it or pine limbs. Erect it on an elevated platform and now you have a shooting house instead of a ground blind. Add



*Here is an example of a one man half-height blind. This works well on an elevated platform where you don't need as much concealment. Wrap it in burlap and screw a few leafy branches to it and you'll be amazed at how well it blends with natural surroundings.*



another stack of 2 pallets to the front side and now you've got a two man blind. Be creative and have fun. The sky is the limit and you'll have a really nice, almost free, hunting blind that will last a long, long time.

One tip that will make this easier and faster for you is to get six pallets that are all the same. Once you go in search of free pallets you'll quickly find out that there are several different sizes and configurations, but you can come up with six of the same after a little searching. And even if you don't find six matching pallets you can still make it work with a little creative cutting and shimming.

If you'd like to have a free copy of these instructions as well as instructions for two other variations of the pallet blind, the two man – full height blind and the half height pallet blind, e-mail me at [pyoung1958@att.net](mailto:pyoung1958@att.net) and I will be happy to e-mail them to you.

*Here is the full height version of the one man blind. Simply screw three more pallets on top, with the shooting windows already cut out.*



*Some hunters, like my dad – at 82 years old, are much happier hunting from the ground.*



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# The Effects of Drought and Flood on Lakes

By Scott Brown

Scott Brown has 30 years experience in researching and managing natural resources throughout the Southeast. Scott founded Southern Sportsman Aquatics & Land Management in 2007 and now has clients from Texas to Florida. Scott can be reached at [scott@southernsportsmanaquatic-sandland.com](mailto:scott@southernsportsmanaquatic-sandland.com) or (214) 383-3223.



*This shallow area would be greatly improved from exposing and drying the bottom sediment during a period of drought. If feasible, scraping or digging out some of the material would improve the area even more.*

**M**any lake and pond owners experience extreme droughts and/or floods on their waterbodies at some point. If these events are rare, consider yourself lucky and use them to your management advantage as they can improve water chemistry, soil, vegetation and the fish populations.

## **Effects of Drought**

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Droughts generally seem to happen more frequently these days than flooding. Whether the result of a natural fall and rise or man-made event (drawdown), a drought can facilitate many positive benefits when spaced 8-12 years apart. Like anything, when droughts occur too often, or for too long a period of time, it can be detrimental to a waterbody.

Generally water chemistry will remain stable until too many fish are crowded for



too long. As water levels decrease, the waterbody becomes smaller and shallower. The slope, bottom contour, bottom sediment composition and how many fish are present, all dictate if any water chemistry issues will occur. The more fish confined, the more Dissolved Oxygen required. Other parameters can be elevated such as ammonia and nitrogen levels from concentrated fish waste or sediment. Ponds with abnormally high salt content along the coast can experience higher salinity as water evaporates and salt is left behind.

As the waterbody gets shallower, both shoreline and submerged vegetation can increase. As water recedes, aquatic plants high on the bank will start to die and terrestrial plants may begin to grow. If the drought occurs in the fall, this growth will be much slower or nonexistent depending on temperatures over the winter.

The fish population will definitely change during extreme droughts. Bigger fish (predators like largemouth bass, catfish and big panfish) experience a growth spurt as forage is pulled out of shoreline habitat and exposed. As a result, prey numbers decline faster during a drought. If the drought lasts too long, predators can deplete forage numbers to a level where the forage fish cannot repopulate. Eventually the predator's growth rates slow even more than before the drought conditions, due to lack of food. Another issue with drought is fish diseases can become more of an issue as individuals may become crowded and readily pass bacteria or viruses to one another more frequently. These fish population dynamic changes can affect species diversity in your waterbody.

### **What Can Be Done During and After a Drought to Restore or Improve Your Lake?**

One of the first things recommended is to inspect the dam, outflow structure and emergency overflow while water is down. If during a drought you notice a green area of vegetation anywhere on the

back side of the dam amongst lots of pale or brown vegetation, this may indicate there is a leak. If repairs to any of these are needed, make arrangements to do the work to alleviate having to do a draw-down in the near future.

Remember, if you decide to do a repair, a procedure to keep the water down must be readily handy or put in place in case rains come and begin filling your pond.

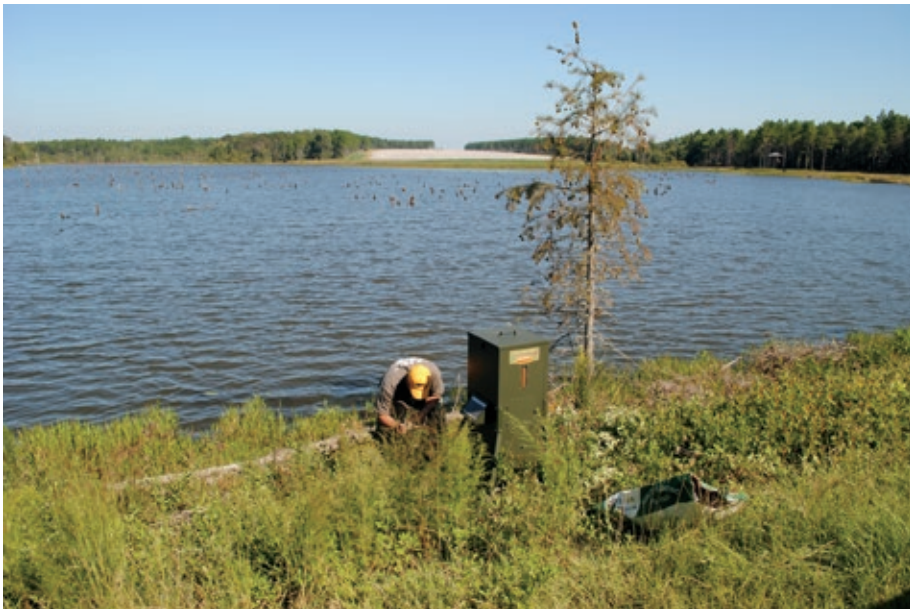
Low water is a great time to improve slopes and remove organic material (muck) that has built up along the shore from decomposing vegetation. A good slope deters excess vegetation growth. It

allows some plants to grow, but doesn't allow them to grow too far into the lake. If Hydrilla or other nuisance submerged vegetation is present, lightly scraping the lake bottom where present removes tubers and seeds to prevent them from coming back when refilling occurs.

Repair or install a dock or pier. It is much easier to conduct this work yourself if you can stand on the bottom and work as opposed to working from a boat, especially when installing pylons. Remember, the water is down, so place the dock height above average water height. Place in an area where a boat



*This photo shows how vegetation dies and grows as water drops and rises.*



*This lake was down for so long, the bare shoreline filled in with vegetation and feeders had to be moved closer to the water. As it refilled, the feeders were moved back up the shoreline to original locations.*

can be pulled up to it, a feeder placed on it, and people can jump off into deep water to swim if you wish.

Depending on the time of year, treating excess aquatic vegetation may be necessary or beneficial. Again, some plants are good, but the more shallow

areas there are, the more submerged vegetation may grow. As water recedes, the upland plants (weeds) will make their way down the old dry lake bed. These can be left to grow, as they will become a big part in the re-flooded food chain of the waterbody. If a treatment

with Floridone (Sonar) is being considered, treating during a drought reduces the amount of herbicide required and can greatly reduce treatment costs.

If the drought lasts an extended period of time, removing more bass and bream/panfish prescribed will be necessary to alleviate predation on forage species. The time refilling begins is the time to consider evaluating and restocking. If the event was extensive, whether you observed a fish kill or not, it's a good idea to get an electrofishing survey conducted as it refills. Not just to see numbers present and how robust or skinny your largemouth bass are, but to identify forage species, sizes present and estimate their numbers. This will help you determine if restocking any species is necessary. Ideally, if the fish start spawning and the pond gradually refills to where large post-spawn areas of high quality habitat of flooded shoreline vegetation rich in forage for fry and fingerling fish is present, restocking most species may not be necessary. This decision needs to be made with a



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professional fishery biologist who has experience in these situations. Just stocking to be stocking doesn't improve the fishery and it uses funds from your budget that can be used elsewhere. You may need to stock a species as a temporary improvement until the desired species and numbers can be acquired from a hatchery or naturally repopulates.

Not allowing back-to-back extreme low water levels is feasible by landowners who can utilize wells to maintain lake levels. However, every 10 years or so, refrain from keeping it full and allow nature to do its work to improve your lake. If a lake is being used for irrigation and filled with well water and pumped onto agricultural crops, be sure to gradually add and remove water. If water transfer is too great, a fish kill can occur from too much well water.

**Effects of Flood**

Occasional floods are also good for lakes, as long as fish are not lost or new species of fish or plants are not introduced from nearby waterbodies. An occasional flood can reduce submerged and shoreline vegetation. It can increase acreage and quality habitat which increases all fish numbers, particularly forage species.

Water chemistry initially will decline during a flood. Either organics are washed in or, as the water rises and floods nearby uplands, the dead or dying vegetation

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*Electrofishing during high water gives unrealistic results, because the fish have a lot more acreage, more habitat to hide, and are more disbursed. When electrofishing is done during high water, results are lower than actual numbers.*

will lower DO levels. When flooding occurs quickly, stress or a fish kill can occur. If it happens slowly over time, things will remain stable. Water washing in from nearby swamps or pine forests may begin to drop Ph (become more acidic) and needs to be checked sometime after the event. Turbidity (muddy water) can also increase during flooding depending on bare ground surrounding and upstream of the waterbody, and from water washing in dirt from shoreline erosion. Temporary muddy water does not negatively impact fish. Once the event is over, if muddy water persists, things can be done to reduce turbidity and increase visibility.

Soil may be added to your lake to reduce water depths in certain areas if erosion is an issue. At the emergency outflow, soil may be eroded and washed downstream. Organics from nearby agriculture practices can both reduce pond depth and increase poor water quality after a high water event. An

extreme event can damage the dam or cause it to fail, in which water and soil can be transferred downstream, along with organics if the lake had any.

As water rises, upland plants may begin to die off and aquatic plants in the original lake bed die from deep water, but may begin growing in the new shallows of flooded areas. Floods generally last shorter periods of time than droughts, so aquatic and/or shoreline vegetation may not be affected at all.

As stated earlier, fish are exposed to new high quality habitat for hiding and feeding if shorelines are not manicured. If the water stays up for an extended period, fry and fingerlings will benefit from the added feeding and loafing areas. However, during excessive flooding, fish can be lost downstream as they swim or wash over the dam. Also, fish from surrounding rivers, lakes and creeks can wash in and get trapped in your waterbody. Some may not be welcomed (undesirable species) and cause issues in the future.

### **What Can Be Done During and After a Flood to Restore or Improve Your Lake?**

The most important thing to monitor during a flood event is the dam, if your lake has one. Inspect it periodically looking for leaks on the backside near the top and bottom. Make sure the outflow doesn't get clogged with debris and clean as necessary. Do not cover outflow with a screen or fencing as it will clog even faster. Watch the emergency overflow and look for erosion. Should the dam look like it may fail, opening any valves, adding a pump run by a tractor or using a trash pump or siphon to get additional water out may alleviate pressure on the dam. Consider any landowners downstream who may need to be notified prior to a dam breaking. Feeders, aeration or fountain pumps should be monitored and moved to higher ground to prevent water damage if necessary.

During periods of excessively high water, watch for escaping fish through the outflow or over the dam. If an

excessive number of fish are observed washing downstream, restocking certain species or all species may be necessary. Fish entering the lake from nearby waterbodies can be observed in an electrofishing survey after the event is over.

If during a flood you witness fish at the surface and/or dying, the only thing that can be done is adding aeration. Aeration can be done with large surface aerators run by tractor or electricity. These agitate the water vigorously and raise dissolved oxygen levels to create areas where fish can congregate until the DO throughout the lake rises naturally. These are common at fish hatcheries, but do work for temporary low DO fixes in a time of emergency. We have heard of commercial hatcheries loaning or leasing them out to landowners in an emergency. If the lake is too large, it probably will not help and you must let nature run its course and deal with the population change after the event.

Once the water recedes to normal levels, check water chemistry. Recheck water chemistry in a month or two to document any changes and see if the parameters stabilize and return to previous readings. Things should return to

previous levels, but if the Ph does not, applying lime may be necessary. Usually only Ph is affected long term from flooding, especially in the Southeast, or where a liming program has been initiated prior to a flood event. Turbidity should subside after the event and water clarity should return once surrounding shoreline vegetation fills in where erosion occurred.

Long term flooding may affect surrounding upland trees. They may become stressed and even lose leaves during or after the event. However, do not cut down any trees that lost their leaves until they have had a chance to go through the following year green-up period. If after the following spring they do not get leaves, they can be considered dead and removed.

Continue to survey the vegetation after a severe flood. It is not uncommon for undesirable plant species to be fragmented (broken up) or uprooted from a nearby waterbody or upstream and transplanted in your lake after the water recedes. Particularly, plants like Hydrilla and other submerged aquatic vegetation that can transplant from pieces breaking off and re-rooting else-

where. As soon as any exotic or undesirable species are identified, treat with herbicide or mechanically remove.

Have an electrofishing survey conducted once water levels return to normal. The electrofishing survey will help determine what new species of fish are present, and the numbers and sizes of remaining fish. Stocking may be required. Grass carp are particularly susceptible to swimming/flowing out of a waterbody during a flood.

If mostly undesirable fish species remain, starting the fish population over may be a necessity. A professional should be consulted to assess the fish population and possibly apply Rotenone (fish toxicant) and create a stocking strategy. This is a rarity, but is required on occasions.

A rare flood or drought event is good for a waterbody. Waterbodies that never fluctuate develop water chemistry, sediment and vegetation issues more often than ones that experience occasional fluctuation. Drought and flooding that occurs too often is detrimental to waterbodies and never allows them to reach their full potential, since they are always trying to recover.



*Species such as warmouth, redear sunfish and bluegill will benefit from an occasional drought or flood, as will largemouth bass that feed on those species.*

# Items to Consider Before Conducting a Prescribed Burn

By Steven Smith

Steven Smith is a Certified Wildlife Biologist® and serves as a Wildlife and Fisheries Consultant for The Samuel Roberts Noble Foundation, Inc. assisting land managers in Oklahoma and Texas. Steven received a B.S. in Wildlife and Fisheries Ecology and a M.S. in Rangeland Ecology and Management from Oklahoma State University.

All photos taken by Steven Smith.



*Creating a bare soil fireguard to enhance the effectiveness of the mowed fireguard.*

**F**ire is an important part of the ecological process that helped shape much of the southeast and central United States. Fire caused by lightning and Native Americans helped create the ecosystem we currently live in. The native plants and wildlife that live in these areas have evolved with fire. Unfortunately, fire has been removed from the system, allowing many areas to become undesirable for wildlife species such as white-tailed deer and northern bobwhite, and even decreasing the quality of livestock grazing. Land managers can use prescribed burning to improve many of these areas. However, there are several topics that land managers must think about before implementing a prescribed burn on their property.

## Goals

---

The first step in preparing for a prescribed burn is to determine the goal for the

burn. Common goals for a prescribed burn include improving wildlife habitat, brush management, improving the quality of forage for livestock, timber management and fuel reduction for wildfire suppression. The goal(s) of the burn will dictate the time of year the burn is conducted, how intense the burn needs to be, grazing management of the burn unit, and what fuel load is needed to complete the burn successfully.

### **Written prescribed burn plan**

A written prescribed burn plan should be prepared before igniting the burn. A written prescribed burn plan assists a land manager to organize the burn and may help reduce their liability if the fire escapes the burn unit. A written prescribed burn plan forces a land manager to walk through every step of the burn. This also allows them to spend extra time thinking about the individual components of a prescribed burn. Common components include

goals of the burn, driving directions to and legal description of the burn unit, topography within the burn unit, equipment list, labor requirements, neighbors and local authorities to contact before igniting the burn, ignition plan for the burn, fuel loads in the burn unit, prescribed weather, smoke management, sensitive areas in and out of the burn unit, contingency plan if the fire escapes, mop-up after the burn, and post burn management of the burn unit.

### **Fuel loads**

Fuel loads can be defined as the amount of dead and growing plant material that carry a fire across a burn unit. Fuel loads are divided into two categories: fine and coarse fuels. Fine fuels are necessary for carrying the fire. Fine fuels are typically grasses, leaves, pine needles and other herbaceous plant material. Coarse fuels consist of sticks, logs and slash. Excessively coarse or volatile fuel loads, such as many large

eastern red-cedars and greenbrier, may require a very skilled burn crew, very wide fireguards and extra fire suppression equipment. Adequate fuel loads are necessary to achieve certain goals. If the goal is a complete burn across a unit, continuous fine fuels of at least 1,500 pounds per acre are necessary. If brush control is a primary goal, 3,000 pounds per acre or more may be needed. Sufficient fuel loads allow a burn to occur under more diverse weather conditions. If the burn unit is grazed, it may need to be deferred from grazing for several months to allow the fuel load to increase.

### **Fireguards**

Fireguards (or Fire Breaks) are used to confine the fire and define the perimeter of the burn unit. The type of fireguard used is determined by fuel loads adjacent to the perimeter of the burn unit, topography and soil type. If the fireguard is inadequate or poorly



*Using black lines to increase the blackened area in preparation for igniting the head fire.*

prepared, there is a chance of the fire escaping.

Bare soil fireguards are one of the safest types of fireguards to use. This type of fireguard does an excellent job stopping backfires and flank fires. To prepare a bare soil fireguard, remove all the vegetation leaving just bare soil. This can be done with a bull dozer, disk, plow, roto-tiller, blade or fire plow. This type of fireguard should not be used on ground susceptible to erosion. The advantage of a bare soil fireguard is there is no fuel in the fireguard for the fire to creep across and they require little to no water to ignite from. The disadvantage is the area can erode, vehicles can have difficulty traveling on them after a rain and invasive species such as sericea lespedeza can establish in them.

Mowed fireguards or hayed fields are useful in areas subject to erosion or in areas where extreme soil disturbance is not desirable, such as in native rangeland that is in excellent condition. They also provide a firm base for firefighting vehicles to travel on after a rain. Using

these types of fireguards can slow the ignition process because fire can move across them, thus requiring water and a crew to operate the sprayers and monitor the fireguard. The key to these fireguards is the shorter the grass, the less fire intensity and less likelihood of the fire crossing the fireguard. Ideally, mowed fireguards should be a minimum of 12 feet wide.

Roads such as dirt, gravel, paved or two-track roads serve as excellent fireguards. Roads are useful because there is typically little to no preparation. Like bare soil fireguards, roads do an excellent job of stopping backfires and flank fires. The major drawback of using roads for fireguards is the burn unit is defined by the road not by the goals, leaving little flexibility in the shape of the burn unit.

Green fireguards utilize green vegetation to reduce the fire intensity. Like mowed fireguards, they are useful in areas subject to erosion. Green fireguards are typically able to be driven on shortly after a rain without causing damage to the area or getting stuck. For

dormant season burns, green fireguards are usually comprised of annual cool season grasses such as bromes, clovers or winter crops. These fireguards are managed with timely mowing in mid to late June, late August, and mid to late fall, soon after the first killing freeze. Ideally, green fireguards should be a minimum of 12 feet wide.

Natural features including creeks, rivers, ponds, lakes, cliffs, bluffs and gullies can serve as fireguards. These typically require little preparation. However, like using roads, the burn unit is defined by the feature not by the goals, leaving little flexibility in the shape of the burn unit. The primary negative to using natural features as fireguards is gaining access to and containing any escape fire that occurs across the feature.

Black lines are created by igniting narrow strip fires inside the primary fireguard along the backfire and flank fire sides of the burn unit. In most prescribed burns, these strip fires are the first fires to be ignited creating black lines. The black lines are used to widen

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the existing fireguard, increasing its ability to prevent escape fires and contain the main fire. Using black lines can be labor intensive.

## Weather

Important weather considerations include wind speed, air temperature and relative humidity. Ideally, the burn boss must know what the forecasted weather will be 12 hours before the burn, for each hour during the burn and 12 hours after the burn. The burn boss should print out the forecasted weather condition from the National Weather Service, <http://www.weather.gov/>, or another reliable weather forecasting website, prior to initial ignition on the day of the burn, as well as actual weather conditions during the burn, and attach it to the burn plan.

Wind is the driving force that steers a fire and determines its speed. Wind is affected by topography and temperatures. Wind speed influences the rate of spread and fire intensity. It does this by increasing available oxygen and bending



Screen shot of the hourly forecast for Birmingham, AL on August 9, 2013. This chart gives many different weather variables necessary for conducting a prescribed burn.

the flames, which preheat unburned fuel downwind of the fire. Wind also aids in the movement of firebrands or embers. Most prescribed burns are conducted with winds from 5 to 15 miles per hour, which includes surface winds and gusts;

however, an experienced crew with good fireguards can burn with winds up to 20 miles per hour. The burn should not be initiated when actual surface winds are above the prescribed wind speed during the ignition phase and at least one hour



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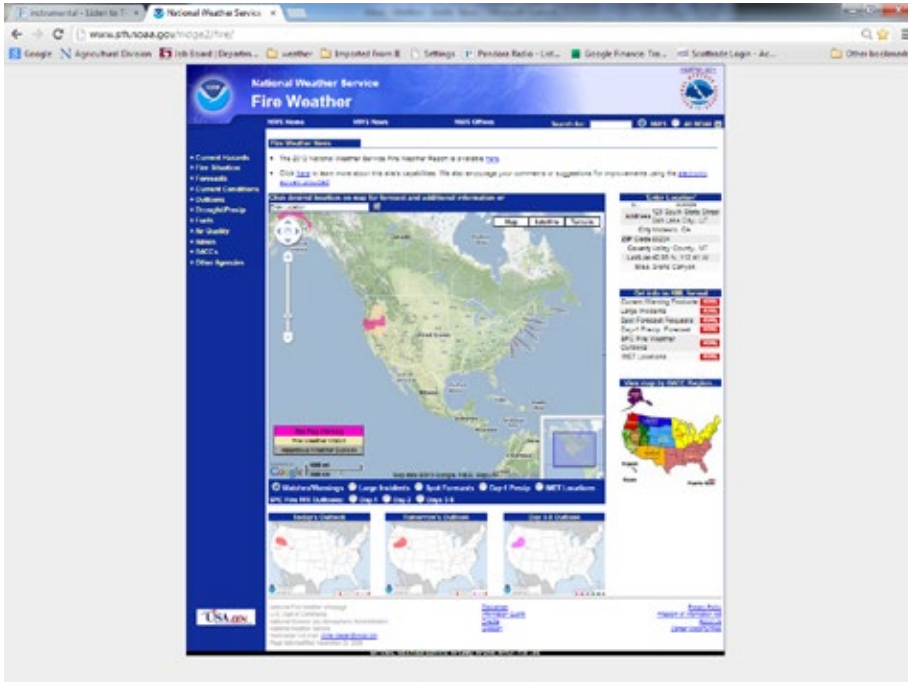
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after when the burn is expected to be completed. The burn should not be initiated when actual surface winds are light and variable or forecasted to be light

and variable during the ignition phase. Light and variable winds cannot be relied on to safely direct a fire. These winds can cause smoke and fire whirls,

similar to dust devils but made of smoke and fire, respectively.

Air temperature directly affects the ease of fuel ignition and indirectly affects fire behavior, wind, rate of fire spread, fuel moisture and atmospheric stability. The main thing to remember about air temperature during a burn is its impact on relative humidity. For every 20°F increase in air temperature, relative humidity decreases by 50 percent. If a burn is started at 40°F and 60 percent relative humidity and later the air temperature rises to 60°F, relative humidity will drop to 30 percent. Most prescribed burns are conducted from 25 to 60 percent relative humidity. A fire should not be ignited when relative humidity drops below 20 percent because the difficulty of controlling a fire and the chance of spot fires occurring increases greatly. Air temperature can also play a major role in smoke dispersion. At night, temperature inversions can trap smoke in low-lying areas.



*The National Weather Service Fire Weather website is a useful tool to forecast fire behavior and smoke dispersion.*



*Smoke management must be included in a prescribed burn plan.*



*This is a 250 gallon sprayer equipped with a broadcast spray nozzle in the back and a hand wand/gun. It is used to spray pastures and fence lines as well as during prescribed burns.*

These inversions are created by cold dense air near the ground not mixing with warmer air above which traps smoke near the ground.

### **Smoke management**

Many land managers who conduct prescribed burns forget that they are responsible for the smoke just as well as the fire. Smoke management has become an increasingly important part of prescribed burning. Before conducting a prescribed burn, sensitive areas such as houses, roads, schools, hospitals, communities, airports, oil and gas structures, or other smoke sensitive areas must be identified downwind from the burn unit. For most burns, identifying sensitive areas within 3 miles of the burn unit is sufficient. Determine any sensitive areas within a 45 degree angle from the burn unit for each wind direction that could possibly be used to burn..

Knowing how the smoke will disperse during and after the burn is also important. Ideally, a prescribed burn is conducted on a day when the smoke rises quickly and disperses several thousand feet above the burn unit. It is recommended to burn under good to excellent atmospheric mixing conditions. However, burns can be conducted when smoke mixing heights are forecasted to be greater than 2,000 feet, smoke mixing conditions are fair or better, and the smoke/fire category day is 3-5 during the ignition phase to one hour after when the burn is expected to be completed when there are not any smoke sensitive areas close to the prescribed burn. A fire category day is a method used to predict smoke dispersion. This method uses mixing heights and transport wind speed to determine the category day, in which there are five categories. They are 1 (poor), 2 (fair), 3 (good), 4 (very good) and 5 (excellent).

Avoid burning with a category day less than 3 (good). The burn boss should print out atmospheric mixing condition forecasts from the National Weather Service Fire Weather, <http://www.srh.noaa.gov/ridge2/fire/>, or another reliable fire and smoke dispersion website, prior to initial ignition on the day of the burn, and attach it to the burn plan.

### **Topography**

The lay of the land influences fire behavior. If a burn unit is relatively level, topography is not a major factor. If a burn unit has hills, gullies, creeks or bottomlands, fire will behave differently across the different areas. The most important thing to remember about topography's effect on fire is that fire increases in intensity when burning uphill. When igniting along fireguards, remember to burn downhill. Many accidents occur when people or equipment are positioned ahead of a fire running uphill.

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Vegetation can change with topography, such as a creek bottom dominated by tall fescue or a sparsely vegetated rocky hilltop. A fire might not carry through these areas and may need to be reignited on the other side.

### Equipment

Lack of equipment is often a reason given for why land managers do not use prescribed burning as a land management tool. Many land managers think they need specialized equipment to conduct a prescribed burn. This is simply not the case. Many items can serve dual purposes. For example, a sprayer equipped with a hand wand/gun that can be used to spray fields can also be used during a prescribed burn. The equipment needed will ultimately be determined by the fireguards, fuel loads and overall complexity of the burn. The minimum equipment for a prescribed burn consists of a minimum of two power driven sprayers, water hose to fill sprayer tank, one drip torch filled with premixed fuel, one fire rake or garden rake, matches, a chain saw with chain saw bar oil and premixed chain saw fuel, cell phones and drinking water. Always have one more power driven sprayer onsite than is planned to be used, because mechanical problems can and do occur. It is hard to stop a head fire with a shovel and rake.

### Experience and labor

Lack of experience and labor is also a common reason for why many land managers do not implement prescribed burning. Learning how to conduct a prescribed burn is not something a land manager can learn in several evening seminars. Seminars, workshops and field days are excellent events to learn about prescribed burning and why to conduct burns; however, there is no better experience than carrying a drip torch or running a sprayer while feeling the heat, smelling the smoke and listening to the fire. Find an experienced prescribed burn boss who has conducted many successful burns and volunteer to help them. Helping others is an excellent method to develop relationships. These relationships can be as simple as neighbors helping neighbors or used to form prescribed burn associations. These relationships can also be used to pull equipment together for prescribed burning or other land management practices. An experienced burn boss is the best tool on a prescribed burn.

### Contingency plans

Having a contingency plan for escaped fires and other challenging issues in place before the burn begins is necessary to make sure each crew member under-

stands their roll while being safe. Each individual needs to know what action to take in the event of an escaped fire or mechanical problem with a sprayer. Their actions can make the difference between a small spot fire or wildfire.

### **Mop-up**

Mop-up is the process of moving burning or smoking fuels away from the fireguard after the main burn is complete and it is safe to enter the burn unit. This is a process many land managers forget to do and then the results end up on the evening news. This process is crucial to ensuring that the fire does not escape after the crew leaves the burn unit. Any fuels that are still burning or smoldering on or near the ground within 20 yards of the fireguard should be monitored until fully consumed, extinguished or moved at least 20 yards into the burn unit. Items to pay special attend to are Roman candles/snags, logs, cow pies and grass thatch next to the fireguard. Roman candles are standing live or dead trees that are burning from the inside out. Roman candles work in the same method a chimney does. Air enters the bottom of the tree, fanning the fire in the center and then exiting the tree somewhere above the entrance. This exit can range just above the ground to the top of the main trunk of the tree, potentially being more than 30 feet in the air. The reason Roman candles are a major concern near the fireguard is due to their ability to throw firebrands across the fireguard. If a Roman candle is not able to be extinguished with water, the tree may need to be cut down. Use extreme caution when cutting down a Roman candle because there are often dead limbs that could fall, injuring anyone under the tree.

Logs next to the fireguard are a concern because depending on their size and weather conditions, they could burn for many days after the main burn is complete. If livestock have grazed the burn unit in the recent past, make sure

to move or extinguish any cow pies/chips still smoking or burning. Remember, these are processed grasses and forbs that can and will burn. Pioneers burned buffalo chips as a source of warmth and for cooking meals when crossing the Great Plains. If the fireguards were mowed, look for grass thatch that could still be burning. Thatch typically burns very slowly, producing just a little smoke.

### **Laws and regulations**

Know what is required of you as a prescribed burner. Determine what local authorities need to be contacted, what permits or plans need to be submitted

and to whom, and time in which to notify necessary adjacent landowners. Each state is different. Contact the local Natural Resources Conservation Service, cooperative extension service, forestry service or wildlife department for this information.

### **Conclusion**

Prescribed burning is an important part of the ecosystem. It is often viewed as a tool but it is part of the natural process. Land managers must consider the topics mentioned above before implementing a prescribed burn to increase their knowledge and safety while decreasing their liability.



*Roman candle burning 15 feet from the fireguard. The tree had the ability to throw firebrands across the fireguard, thus it was cut down.*

# Planting Chestnuts for Wildlife

By Allen Deese

Allen Deese is the Marketing and Sales Manager for The Wildlife Group Nursery. Contact him at 800-221-9703 or [allen@wildlifegroup.com](mailto:allen@wildlifegroup.com) or check out their website at [www.wildlifegroup.com](http://www.wildlifegroup.com).



*Here is an open burr from a Chinese Chestnut tree just before drop. These nuts are a favorite snack for deer, turkey and many other wildlife species. To see more detailed videos on chestnuts go to [www.wildlifegroup.com](http://www.wildlifegroup.com) and click on the Facebook page icon.*

**T**he American Chestnut once ranged from North Florida to Main and west to the Ohio Valley and was one of if not the most important trees in the eastern United States. These trees provided strong wood for fence posts, furniture, homes and many other uses. The chestnuts themselves were also a very important food source for humans and livestock, as well as wildlife. The American Chestnut was at the very center of the way of life in early America.

In 1904 the chestnut blight (*Chryphonectria parasitica*) was introduced to the U.S by mear coincidence. Asian Chestnuts were brought here for a project at the Bronx Zoological Park in New York City. By 1940 the blight had spread throughout the entire range of the American Chestnut, slowly destroying the once beautiful and bountiful forests and changing the eastern forest forever. The American Chestnut had matured and thrived in a blight-free environment and had never built any immu-

nity to the fungus. Once introduced to the native range of the great trees it moved at a staggering pace, wiping out the eastern forest.

So here we are today talking about the return of the American Chestnut. Landowners and land managers are always seeking new ways to attract deer and other wildlife but who would've thought that a four legged critter could cause such a stir? But that's all you hear or read about lately in various hunting magazines and mentioned on many hunting shows. Everyone is talking about planting chestnuts these days. What's all the rage and is planting them worth your time and money? I'll let you decide. Here are a few facts for your consideration:

- Chestnuts are a high energy wildlife food source high in starch, sugar and low in fats.
- They produce every year, typically the fifth year after planting and sometimes sooner. How? They bloom late, typically in May when all frost dates have passed.
- Most are huge producers. Those that are not huge producers produce larger chestnuts.
- Nearly all wildlife, as well as humans, love chestnuts. But once the deer find them, good luck trying to harvest your fair share!
- Most, if not all chestnuts drop in September. So the theory that deer will walk through white oaks to eat

chestnuts is a futile discussion. Or should I say it is for me because all the white oaks I've seen drop in late October /November. If you would like to test this theory plant some AU Buck III & IV.

- Chestnuts rot and dry out rapidly on the ground so huge numbers of nuts don't mean they will be palatable longer into the season.
- Chestnuts prefer a well-drained upland soil with a Ph of 5.0-6.5
- The best conditions for nut production include a warm, long growing season and a relatively mild winter.
- Fertilization is important for young trees. Apply one pound of 10-10-10 fertilizer each spring, increasing the



*Here is a 13 year old Chinese Chestnut.*

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rate each year by a pound until 15 years of age.

- Contrary to some reports, chestnuts are not fast growers, typically taking two to three years to get well-rooted and to show some real signs of aggressive growth. During this time it is normal to see some minor nut production. My advice would be to remove any burs the first couple of years to allow the tree to exert all of its energy into new root development and growth.
- Chestnuts naturally hybridize so crossing many varieties is beneficial. Seedling Chinese Chestnut trees do a great job of pollinating and will give other varieties an extended bloom. Improper pollination will mean fewer nuts and many under-developed nuts.

Below are a few of the different varieties of chestnuts commercially available:

- American Chestnut - Susceptible to blight, small sweet nuts
- Chinese Chestnut – Blight resistant, large volume producers grown from seed. The nuts will vary in size and taste. 15 year old trees average 150 pounds of nuts. Drop date September through early October.
- European Chestnut - Susceptible to blight. Many cultivars are bland and bitter.
- Japanese Chestnut - Small and spreading, blight resistant, large poor tasting nuts.

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*A variety of nuts produced by Chestnut trees.*

- Dunstan Chestnut - Blight resistant, large nut but not a large volume producer. Stout growing tree with taller, more pronounced trunk. Timber value a plus. Drop date September through early October.
- AU Buck II – Blight resistant , heavy producer, large nut, grafted variety. Large crops annually. Drops mid-September thru mid-October. In 2006, the original 15 year old AU Buck II tree produced 282 pounds of nuts.
- AU Buck III – Blight resistant,

heavy crop annually, medium sized nut, grafted. Drop date late September through October.

- AU Buck IV – Blight resistant, large nut, medium producer, grafted. Latest dropping chestnut typically starting around October 10th and lasting well into November.

Several other cultivars are available. I have just touched on a few. Do yourself and the wildlife on your property a favor and plant some chestnuts this season. Also, I strongly urge everyone to visit

[www.acf.org](http://www.acf.org) and become a member of The American Chestnut Foundation. Restoring our native trees should be everyone's top priority. So make that call today and help make a difference.

### **References**

*University of Florida IFAS Extension*

*American Chestnut Foundation*

*W. Alfred Dozier, Jr.*

*U.S. Patent Office*

# Wildlife Trends Journal Management Calendar

By Dave Edwards

October/November 2013

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 General Manager for Cabin Bluff Lodge and President of Tall Tines Wildlife & Hunting Consultants, Inc. Contact him at [Dave.Edwards@CabinBluff.com](mailto:Dave.Edwards@CabinBluff.com) or 912-464-9328.



## **Create a wind map for all deer stands**

Most hunters know that deer have an exceptional sense of smell. Once a deer's nose detects one hint of danger, the game is often over for a hunter. Producers of consumer deer scents and human odor eliminators have capitalized on this and have become a multi-million dollar industry. There are not many deer hunters out there who haven't bought at least one bottle of doe-in-heat urine!

Unfortunately, there are many hunters out there that think if they spray down with human odor remover, dab on some deer urine, and wear their "scent concealment suit" that they do not need to pay attention to the wind. Regardless of scent free efforts, my experience has been that if a deer gets downwind, chances are very high that it will detect me. This is not to say that these efforts are fruitless. One of the best ways I have found to assist in "scent management"

*Successful food plots are the result of good planning, properly amending the soil and seed bed, and timing the actual planting when soil moisture is favorable.*

and help minimize hunting pressure on a property is to create a wind chart for all hunting stands to help hunters make good decisions on where to hunt. A wind chart is simply a table that lists wind directions across the top (e.g., N, NW, NE, S, SE, etc.) then lists the stands along the left column. In the row for each stand a checkmark is placed in each of the winds this stand can be hunted. On flat land, this task is relatively simple. The true wind direction is rela-

tively constant across the landscape. However, on properties with rolling or steep topography, the true wind direction is often disturbed altering its direction by hills, bluffs, valleys, etc. When this happens, the wind direction at a particular deer stand may be 180 degrees from that of another stand somewhere else on the property. In this situation, the best method of determining which wind is best for specific deer stands is to visit stands on various true wind directions and record how it is reacting at that stand. Once complete, a wind chart makes deciding where to hunt easier and can significantly improve hunting experiences and success.

### **Install honeysuckle management units for additional quality browse.**

A honeysuckle management unit is the technical name for a managed honeysuckle patch. By managed I mean it is fertilized and kept free of undesirable weeds. If you have ample honeysuckle patches on your property, select a few to concentrate your management efforts. Manage the same patches throughout the year. Ideally, these patches will be in locations near hunting stands. Some landowners create honeysuckle patches in their food plots by planting a staggered line of one-gallon containerized honeysuckle plants. One trick that I often recommend is to create a wire fence tent to place over the patch. Because of the added fertilizer and care, these patches are very palatable and deer will literally eat the plants to the ground. The wire tent only allows deer to eat portions of the honeysuckle that grow outside of the “tent” which saves the plant. Make sure to use wire fence with a small enough mesh to prevent deer from being able to eat inside the tent (~ 3” fencing works well).

### **Clean and service walk-in cooler**

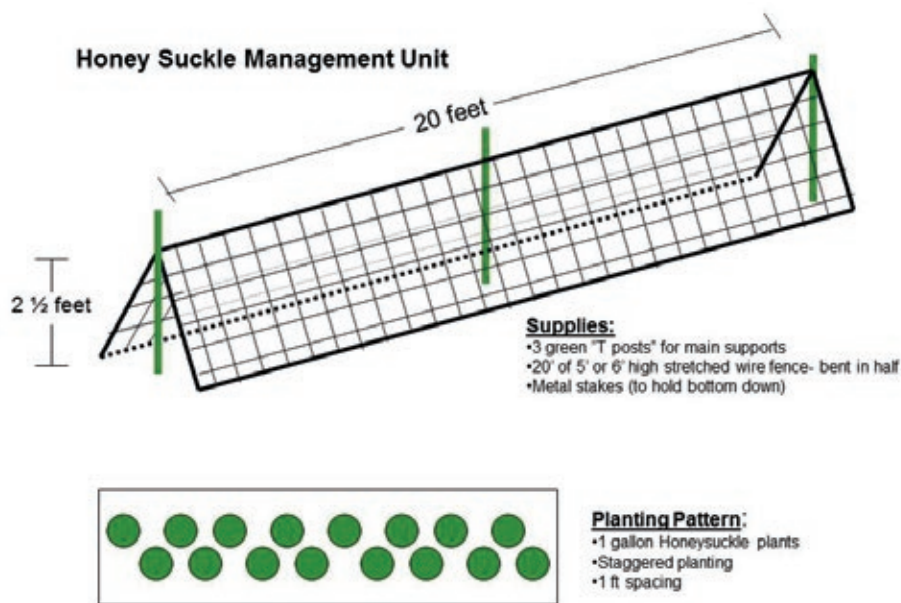
This is a task that is often overlooked until the first deer is harvested, then to find out that it is not working. If you are

fortunate enough to have one, servicing and preparing the walk in cooler should be on your pre-season task list. As with any area where food is stored, the interior of a walk-in cooler should be sanitized regularly. This includes the floor, walls, racks, meat hooks, etc. A plastic 2 gallon hand-held pump up sprayer is a great tool to apply disinfectants. Drains should be inspected, cleaned, and disinfected as well. Be sure to inspect weather stripping along the door and threshold. Air leaks due to the door not sealing well can reduce the life of the com-

pressor as it has to run more often to cool the air. Lastly, give the cooler a good test run. Turn it on and let it run a day or two to make sure all is well and that the thermostat works.

### **Keep disturbance on property to a minimum**

While there are many things that need to be done on a hunting property during early fall (like activities included in this calendar), making attempts to minimize disturbance on the property before and during hunting season will result in bet-



*Example of a well managed honeysuckle tent. The wire tent has prevented deer from over-browsing the plants.*

ter hunting experiences. Disturbances may include activities such as 4-wheeling, joyriding, full-scale scouting missions, hunting stand preparations, repeated checking of dove fields or duck ponds, heavy equipment operations, and general noise/disturbance while on the property. As you would expect, most wildlife respond negatively to excessive disturbance. If you are actively managing your property there are things you must do that will add “disturbance”. But if you want to maximize hunting experiences, make efforts to minimize the impact of these disturbances.

### **Coordinate food plot planting with good soil moisture**

Generally speaking, October through early November are the best months to plant fall food plots in the Southeast. The goal is to plant when conditions are favorable for maximum seed germination and plant growth. Don't fall into the trap of planting too early.

Unfortunately, many landowners and hunters plant in early-mid September. Some hunters, particularly hunting clubs, even pick a specific weekend that food plots will be planted well ahead of time and do not have a clue what the soil conditions will be like...but they plant anyway because “that's when we plant every year”. This is often a very dry period across the Southeast which will lead to food plot failure. If planted in September and you are lucky enough to receive adequate rainfall, food plots may grow rapidly which will result in over mature (i.e., high/tall) food plots by the time hunting season arrives. This is very common when an abundance of acorns are present (which seems to be the case this year in many areas of the Southeast) because the deer use of food plots is limited, allowing them to grow. There is also a higher chance of army worm problems if temperatures are still warm. In most areas of the Southeast more consistent rainfall events begin in

October as cold fronts move south. Planting “later” (meaning in October-November) will also result in young, tender food plots that are very attractive to deer and other wildlife during hunting season. Very young and growing food plots are attractive to deer. When planted under the right conditions (adequate soil moisture), plots germinate quickly and deer will begin using them within two weeks after planting. My point is to not feel rushed to get seed in the ground and focus on planting under favorable conditions. There have been several articles related to food plots and planting strategies in past issues of *Wildlife Trends*. Refer to these articles for more detailed information.

### **Build and install enclosures on your food plots.**

Enclosures are simply small fenced structures that are placed on food plots to observe or monitor deer use of the plot and food plot success. The enlo-

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sure does not have to be big, just enough to prevent deer from eating a small area of the food plot. In general, enclosures are nothing more than a short length of 4 foot hog-wire fence that is “rolled” and fastened with either wire or zip-ties to create a tube with a 2-3’ diameter opening. The enclosure can then be placed on a food plot and fastened to a stake. Enclosures are particularly helpful if you have a high deer density. I’ve often seen food plots in areas with a high deer density appear as though the plants never germinated. The landowner or land manager is beating himself up because he is thinking that he did not plant the food plot correctly, or that the particular seed mix he planted isn’t growing well on his property. The fact is that deer have literally eaten the plot to the ground before it had a chance to grow (in this case, I would consider installing more food plots or, depending on your goals, planting lead to reduce the herd!). A food plot enclosure will help answer these questions.

### **Hold a preseason meeting with your hunting club or people that hunt your property to discuss the progress of the deer management program and harvest strategies planned for the upcoming season.**

Holding a preseason meeting to discuss the deer management program and deer harvest plans for the upcoming season will ensure everyone is on the same page before the season kicks off and hunters head to the woods. Hopefully, you have been collecting harvest, hunter, and population data regarding the deer herd. Use this information to assess the status of the deer herd and how the herd has or is responding to your management strategies. A preseason meeting is a great time to review this information, make harvest decisions for the upcoming season, and share with the group of hunters using the property. As a biologist, I often present this information to hunt-

ing clubs or landowners with recommendations for the upcoming season. These meetings are most effective if held just prior to hunting season to ensure the information is fresh on hunter’s minds. This is also a great time to review general rules for hunting, discuss housekeeping items around the camp and property, and develop management and/or maintenance project lists. I often see these meetings tied into a work day or work weekend at the property.

### **Conduct a camera survey to assess the status of your deer herd.**

Monitoring the status of your deer herd is the backbone to the success of your program. Collecting and recording harvest data (weights, measurements, ages, etc), hunter observation data (number, sex, and quality of deer you see while hunting), as well as population surveys provide information about the deer herd that will allow you to make sound deer management decisions and adjustments in strategies where needed to accomplish your goals. Without this information you are simply guessing. If you are like me, you spend way too much time, money, and energy managing your property to just guess on how many and which deer to harvest this season. I want to know. Conducting a camera survey is the best tool available to assess the status of your deer herd (number of deer, buck quality, fawn recruitment, etc) and make buck harvest decisions before you head to the woods. The best times of the year to conduct a deer survey is when natural food availability is at its lowest which is generally late summer/early fall and late winter before spring green up. Most managers conduct fall surveys (September through early November) because they also use the photographs to make buck harvest decisions before hunting season. We generally try to conduct our surveys soon after bucks shed velvet but before the majority of

acorns start to drop.

Regardless of whether you conduct a full scale survey or simply use cameras to scout, photographs from trail cameras are a great tool to assess buck quality and make buck harvest decisions before the moment of truth in a deer stand. I have seen many young bucks with great potential make it another year because they were placed on a “do not shoot” list. If you are using the trail camera photographs to make buck harvest decisions, late summer or early fall is when you need to deploy them.

### **Use deer hunting observations to help you better manage the deer herd and assess hunting strategies.**

Quality deer management involves more than producing quality bucks. It should create quality hunting experiences as well. Collecting hunter observation data (where hunters record the number of deer and quality of deer they see while hunting) allows you to monitor the hunting quality of the property. Adjustments in management strategies can be implemented accordingly to promote quality hunting. Additionally, hunter observation data is a great (and cheap) method to help assess some parameters of the deer herd. Although a camera census is, by far, the most accurate way to collect information regarding the deer herd, trends in population parameters such as the adult sex ratio, buck quality, and fawn recruitment can be monitored with hunter observation data. However, for this data to be meaningful, it must be collected accurately each year to track trends in the data. Hunter observation data is also a good way to assess hunting strategy success. When recording this information hunters generally record when and where they were hunting (e.g., PM-food plot, AM-woods, AM-clear cut, etc.) and what they saw. When the data is analyzed, it provides insight as to which hunting methods and which areas are most productive for the property. For

example, through hunter observation data collected throughout the season, you may find that hunters saw more mature bucks per hunt in thinned pine stands in the morning verses the afternoon. Thus, you can adjust your hunting strategies to enhance the productivity of your hunting time.

### **Flood duck ponds to “full pool” by early-mid November.**

Monitor water levels in duck ponds as fall arrives. Many of us in the Southeast have been fortunate and have gotten abundant rains so far (some of us got too much!). However, too much water too early can be bad for growing duck pond crops/plants. Water control structures allow managers to regulate water levels and are valuable tools when a rain event such as a tropical storm comes through. Once your crop matures, allow ponds to slowly flood to

“full pool” as November approaches. Ideal water depths for dabbling ducks such as mallards, gadwalls, wood ducks, etc. is 12-18” with pockets of 4”-6” depths. The reason to have ponds flooded 2-4 weeks before the hunting season opens is to give ducks a chance to find your ponds and get used to using them. Flooding too early (more than a month before the season) may result in seed deterioration resulting in less food later during hunting season. For good hunting throughout the season, do not over-hunt your duck pond and allow a “rest” period between hunts. If you have several duck ponds, designate one as a “no hunt area” to provide a place for ducks to loaf. This will keep them on your property.

### **Make final equipment preparations for duck season.**

By early November, flooding strate-

gies on managed duck ponds should be well underway. Teal are generally the first to arrive in September followed by the fall migration of other waterfowl. In most areas the general duck season opens in November. There is nothing worse than looking forward to the first duck hunt and before daylight of opening morning realizing that your waders have dry rotted or that your duck blind is full of fire ants! Make preparations now to ensure you are ready to have a fun and successful hunt. While everyone’s situation is different, a few items I recommend checking include waders or rubber boots, boats (lots of things to check here), paddles or push poles, lights, decoys and rigging, obstacles along paths to and from duck hunting blinds, the blinds themselves, platforms for dogs, and shotguns...to name a few. Trust me; I say all these things from experience!



*Duck ponds should be flooded by mid-November*



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