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Earl Says...

Finally, deer season is upon us and the weather has gotten right for some movement. I know the rut hits us all in the Southeast at different times but there's nothing more exciting than seeing those elusive bucks chasing around for love.

Here in south Alabama the rut seems to go in and out, mostly mid-January through the first part of February. All that hard work and patience can pay off in a matter of minutes but it's all worth it.

I hope you all have a successful deer season as well as a wonderful Christmas and a Happy New Year!





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Confronting Strangers on Your Land

By Keith Gauldin



The Northern Snakehead represents just one of the many exotic invasive fish species that have established in the United States from foreign waters.

andowners and managers are **⊿**often concerned about any trespassers on their property, typically of the two-legged variety. However, land managers who are serious about improving their properties must also be aware of another type of trespasser: exotic invasive species. This broad descriptor refers to those species that were not historically found in the region but have since been introduced to an area (either purposefully or accidentally), and are sufficiently prolific and selfspreading to impose a detriment to native plant and animal species. While some can cause significant ecological and economic harm following their introduction, others only just persist in the landscape. These non-native invaders may have once been welcome as an

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agent for agricultural gains, biological control, or ornamental aesthetics. However, their resiliency and resistance to local controls now cause imbalances or disruptions to native ecosystems and their cons outweigh any earlier perceived pros.

I recently left the kudzu-blanketed state of Alabama to visit Maryland and recreationally fish for the **Northern Snakehead**. This piscine predator is native to Africa and Asia and has recently been dubbed "Chesapeake Channa" to make its appearance on local menus more palatable. While in Maryland, I asked my resident father-in-law, with my wife by his side on the couch, if he ever caught them years ago when fishing in the rivers and estuaries of Chesapeake Bay. In unison, my wife and her Wildlife Biologist Keith Gauldin has spent the last 30+ years managing renewable natural resources through employment with state and federal wildlife agencies and as a selfemployed consultant. He resides with his wife, Marianne, on rustic farmland in rural Alabama. Gauldin's writings have been published in previous issues of Wildlife Trends Journal.

father quickly exclaimed: "THEY WEREN'T HERE!". But the Chesapeake, certainly has changed now. These fish feed largely on other fish, and also consume anything else that will fit into their maw, to include birds, mammals, reptiles, and the region's beloved blue crab. With few predators of its own, the Northern snakehead is highly fruitful: with mature females

dropping up to 15,000 eggs up to five times per year. The toothy snakehead then guards its brood, which eventually grow into aggressive eating machines that replicate successfully despite fluctuations in salinity and temperature. In fact, they can even forgo submersion and survive about four days out of water. My brother-in-law found one "walking" across the street from one flooded ditch to another. The potential impact that an interloper like the snakehead has on the community of native species is apparent to anyone who has a basic understanding of predator/prey relationships and ecosystem balance. Unfortunately, control measures of this fish have been basically reduced to leaving it to the recreational fishermen to remove them. I tried to do my part to remove as many as I could from its foreign habitat and can attest that the snakehead's confirmed positive attribute is its delectable meat - no matter what you call it.

There's only so much one man can do to tackle the snakehead problem, so back to Alabama and back to the **kudzu**: another invader from the orient. Just as I was an outsider learning about Maryland's Snakehead, a recent visit from a Maryland family member sparked the question: "WHAT IS THAT?" As we drove past a roadside of native trees and shrubs draped in a choking net of kudzu. In the late nineteenth century, quick-growing kudzu (there are many species of kudzu), was being used as a decorative shade plant for southern homesteads. Its purple flower clusters give off a light neutral scent, reminiscent of Pez candy, during late summer. During the early 1900's, kudzu was touted in the southern United States for its value as livestock forage and erosion control. Giveaways and government incentives up to \$8/acre encouraged

farmers to plant kudzu, and by 1946, approximately 3 million acres of southern farmland had been planted in the stuff. Absent of significant disease and insect threats, and reveling in the mild and wet climate, it was vividly apparent that introducing kudzu wasn't such a good idea by the early 1950's. In 1953, and by order of the United States Department of Agriculture, kudzu was no longer allowed as a permissible cover plant under government programs. It is now considered a noxious weed in multiple states and its effects are apparent along my daily commute: native trees and other plants in a silent and futile struggle for sunlight as they drown beneath kudzu's meandering wires. Its strangling vines reach endlessly for more, and are beaten back only by inhospitable substrate such as pavement and stymied only temporarily by frosts. If you have a little bit of kudzu, get rid of it. If you have a lot of kudzu, get rid of it. Whatever kudzu problem you have now will invariably only get worse, and the time and expense for its management will become ever higher.

Cogon grass is another invasive exotic species of plant that was introduced into the port of Mobile as packing material and into Mississippi in the 1920's as a possible forage crop, and then in the 1930's into Florida for soil stabilization. This perennial grass is native to southeast Asia and considered by many to be one of the worst invasive plants. Cogon spreads by seed dispersal and rhizomes and quickly outcompetes other species of vege-



Japanese Honeysuckle can outcompete and choke out competition with its aggressive vine growth and negatively alter those plants below as it deprives the forest floor of vital sunlight.

tation by choking out any plants it meets as it spreads. When burned, it does so very hot and quick, torching any adjacent vegetative competition and further opening the canopy for added sunlight which fuels its further expansion. Wildlife has little use for it, and it outgrows and crowds out the native plants that would naturally provide them food and cover. Cogon grass's thick stem density prohibits necessary survival movements of ground nesting birds or young in its mats. Once established, cogon grass is hard to control and even bolstered by mowing and soil disturbance. It can be managed successfully but takes extensive effort, with early detection and the implementation of control measures being key to avoid its takeover.

Other notable invasive plant species of the Southeast that land managers should be familiar with include: Chinese Tallow Tree, Japanese

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Honeysuckle, English Ivy, Tree of Heaven, Mimosa, Alligator Weed, Trifoliate Orange, Dodder, Bermuda Grass, Russian Olive, Hydrilla, Chinese Privet, Japanese Climbing Fern, Purple Loosestrife, Chinaberry, and Eurasian Milfoil to name a few. Though the avenue of introduction varies widely for ornamental to agricultural interests, the proliferation of these plants in new landscapes has significantly altered the native community balance in many regions of the United States.

Controlling any non-native invasive plant species can basically be accomplished by these basic control methods or a combination thereof including:

• Mechanical removal – physical removal by pulling or digging by hand or machine.



Collateral damage of a Cogon grass Treatment, often an unfortunate circumstance in many scenarios.



Just as many other ornamental releases, the Mimosa is pleasing to the eye but can compete with native flora for vital resources.

- Chemical control application of appropriate herbicides by varying techniques and concentrations and/or according to the manufacturer's label.
- Grazing placement of cattle or goats to directly consume the targeted species to inhibit the growth or spread of the plant.
- Integrated Pest Management (IPM) – Typically the most successful approach as it incorporates multiple control practices at varying timing of the year according to stages of the plant's life cycle.

Unfortunately, invasive exotic species aren't limited to just plants but extend to animals as well. A whole host of non-native exotic invasive invertebrates, both terrestrial and aquatic, can now be found in the landscapes of the Southeast. The complete list is long and exhaustive and can be found in terrestrial, freshwater, brackish and marine environments, and includes Asian Clams, Apple Snails, Zebra Mussels, Fire Ants, Gypsy Moths, and Spotted Lanternflies. While many can wreak serious havoc on native plant and animal communities, others can potentially have an impact on human health; nonnative mosquitos carrying viruses such as Zika and Dengue are of concern. Introduced mussels can alter the functionality of water control structures through their aggressive growth and spread. There can also be significant economic implications from various exotic invasive insect species that inflict damage to agricultural and silvicultural resources. As with plants, efforts should be made to exercise some form of effective control mechanism promptly to limit spread and mitigate the potential harm they can inflict.

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Advancing to the vertebrate realm, the actual and potential impacts caused by this subphylum of invasive exotic animals becomes more evident due to their sheer scale and ease of observance. We've all seen the footage of the adventurous individuals in the Everglades catching huge Burmese Pythons native to Southeast Asia. As the snakes increase in size, their likelihood of being predated drastically decreases, providing a poor forecast for the effective removal of this species. These snakes have unfortunately become a naturalized denizen of south Florida as a result of their accidental or purposeful releases and have had significant impacts to native fauna. Due to the similarity of the subtropical and tropical climate of their homeland to that of south Florida, a wide collection of exotic invasive reptilian pets have been either accidentally or intentionally introduced and are now embedded in the natural landscapes with much inconvenience to the native communities. While there are certainly many others, including the nutria, European starling, Black and White Tegus, Iguanas, Asian Carp, Lionfish, and domestic cats, none have been so resilient and impactful to land managers as the feral swine.

While the exact timeline of the introduction of feral swine is not truly known, it's likely that their existence in the natural landscapes is the result of accidental escapes from farmsteads coupled with intentional release for free-grazing purposes to reduce resources required to raise them. Whatever the reason, there's no mistaking the consequences resulting from their introduction and their appetites and habits have taken a significant toll on the flora, fauna, and associated habitats in which they now reside. Existing in more than half



The most effective means of managing feral swine involves intensive trapping efforts, preferably traps larger than this with remote doors for whole sounder removal.

of the United States, this creature can readily exist in a myriad of habitats and is very successful in the efficient use of available resources. It proliferates in nearly any area where it exists. Swine has very few natural predators and can tolerate and thrive within a wide spectrum of climatic conditions. To make matters even worse, they have a high reproductive potential and reach puberty as young as 4-6 months of age. They have large litters, breed often, and the young has a high survival rate. They're the quintessential cogon grass of the vertebrate world. The stagger-

ing mass of natural resources it takes to support these literal pigs is thus not available for the native wildlife in the area.

Population management of feral swine can be a challenging undertaking with an estimated removal of 40% - 60% of the resident population needed in order to curb their expansion and to just maintain the current population. While recreational hunting and efforts of control with nighttime shooting aided by night vision aids or thermals can be effective in killing feral swine, dedicated efforts in the form

of corral traps will have the most effective impact. Multiple companies now provide large corral traps, often equipped with a remotely phone activated door, that are more than capable of catching numerous feral swine at one push of the button. Incorporating shooting activities to mop up those trap shy individuals can be an effective addition to have the greatest impact in controlling their numbers. Timing of trapping activities to coincide with periods of lower native food availability will also increase the efficacy of trapping efforts.

These few examples are just a sampling of the invasive exotic species that will sully your property's potential and productivity. From Chinese privet to Burmese pythons, the list is long, and the multitude of exotic invasive species can cause major and perhaps permanent landscape defects. Fortunately, mindful and attentive focus on fighting these species can be effective if you take action with firmness and haste. Vigilance is the land steward's first line of defense against exotic invasive species. Familiarity with what your local native ecosystem is supposed to look like will aid in the early detection of wayward invaders. And early detection is key: the longer that any exotic invasive is ignored, the more difficult (or impossible) it becomes to remove them from the landscape. Although it takes a little time in the short term, simple steps such as cleaning agricultural or timber harvesting equipment between properties or requiring any contractors of those fields to do so prior to entering your property can aid in prevention. Taking action at the first sign of introduction can save a world of hassle and decreased land productivity in the long run.

Just as one dedicates time to the hands-on management of the land, one must also dedicate time to the mind as well with self-study and education or hire those with that knowledge and experience. The internet houses a wide array of resources, websites and videos, for one's self study of exotic invasive species identification, occurrence and range, potential conflicts, and methods to mitigate their impacts. If you'd rather talk with a professional for more technical assistance, your local Extension Office, Natural Resource Conservation Service (NRCS), University Forestry, Agriculture and Wildlife Ecology departments or State **Conservation Department Offices** can provide an assorted collection of resources to assist you with material needed to learn to identify the species in your region that are likely to become a problem if they become established. Many exotic plants lack native look-alikes so it becomes easy to know it when you see it. In certain circumstances, financial assistance may even be available to assist landowners under some federal cost-share programs.

Some individuals may prefer and better succeed by taking a more active role in an in-person manner. There are many opportunities available to participate in meetings to better learn and understand the issues involving exotic invasive species and their impacts. Your Extension offices, College Schools of Forestry and Wildlife, NRCS, State DNR Offices, and other conservation associated government and non-government agencies often host meetings on a wide array of land management topics including exotic invasive species. Consider joining a conservation group such as a state chapter of the Southeast Exotic Plant Council (www.se-eppc. org) to help raise awareness and stay abreast of invasive exotic

plants and their associated threats to native plant communities. Attending meetings and networking with other landowners can be quite beneficial in the exchange of valuable information regarding the identification, management, and control of invasive species of plants.

The unfortunate truth is many of these exotic invasive species are here to stay and will likely only increase in numbers as time progresses. The good news is that most have an Achilles heel, and with dedicated effort, can be managed to a degree where their presence has less of an impact. In order for these control efforts to be effective, land managers have to remain vigilant and weary of any strangers on your property. Expand your knowledge base and study and educate yourself and learn to promptly identify those plants and animals that are not native and their potential impacts. Be active and proactive in monitoring your property for an early detection and swift in your response once those species are discovered. Be prepared by having the required resources to put into action once a situation presents itself. Become a staunch defender by not allowing land management equipment on your property that hasn't been pressure-washed clean of any vegetative stowaways. Network with others with commonality to both disseminate information as well as receive it on the occurrence, success in treatments, and outcome of control efforts. With this integrated and dedicated approach, any land manager or owner can be successful in keeping these strangers off your land.

Understanding Fish Genetics and Your Lake



For decades lake owners and managers have been trying to improve their private fisheries, and genetics at some point, is discussed. It is always stressed to have a highquality fishery, you need good water chemistry, good habitat, a strong forage base, along with good harvest practices to maximize the growth of your fish species, particularly with largemouth bass. One thing that also contributes to success of a

quality or trophy fishery is fish genetics. Most lake owners/ managers do not alter or change the genetic make-up of their fishery and just manage what they have, while a few strive to improve what they already have and turn it into something exceptional. Some of the genetics work overtime and have been very beneficial to lake managers and some have been deemed more harmful than good.

By Scott Brown

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This Tiger bass with the proper forage base, grew to over 10 inches in six months. In a few years, adding pure strain, all Florida females will allow the lake owner to have Florida and Tiger bass simultaneously. By tagging or fin clipping the Florida females, they will not accidently be removed during the annual, small bass removal process.

Common genetically altered freshwater fish include the largemouth bass, bluegill, black crappie, striped bass, triploid grass carp and a few others. The Largemouth bass being the most studied and desired. For decades people have been trying to generate a superior genetic largemouth bass, and some with the desire to grow a new world record.

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No matter the genetic make-up of your largemouth bass population, some small bass should be removed annually to leave more forage for fewer mouths. This promotes faster growth and creates more quality individuals.

Largemouth Bass

The largemouth bass (*Micropterus* salmoides) is the most sought after and most intensely managed freshwater private and public water fish species in the country. The desire to consistently grow and catch big bass has always been most lake owners' objective. This desire has spread all over the world as seen by recent big bass catches in Japan and other countries. The current International Game Fish Association (IGFA) World Record, All Tackle, largemouth bass were caught in Jacksonville, Georgia in 1932 and Shiga, Japan 2009 that both weighed 22 lbs. 4 oz. There have been a few others thought to have been larger, but for some reason or another, they were not acknowledged by IGFA. Anything that will give managers and anglers the opportunity to grow bass quicker and catch more, larger individuals is intriguing and has been implemented by several.

The Holy Grail now is to raise a new largemouth bass World Record. To raise an exceptional largemouth bass takes all the above mentioned, and (no one likes to hear it), but it also takes luck. For a fish that starts out not much larger than a seed on your morning bagel, has to grow and survive well over a decade and almost grow double of what the average largemouth bass growth rate documented. It requires perfect environmental conditions, no disease, never any water chemistry issues, unlimited forage its entire life. It has been attempted many times, to grow a new world record even in captivity where all the factors are controlled with zero chance of predation at a younger age, and they still have failed. Luck is something that happens and cannot be duplicated. With all that luck, includes a genetic freak that outgrows anything like its species has seen. I do believe some day the current World Record will be broken. The bass could be from a five-acre private farm pond, a ten-acre golf course or neighborhood pond, or from a large public lake or reservoir in the southeastern part of the US, Texas or California.

The most desirable pure strain genetic largemouth bass is the Florida (Lepomis, salmoides floridanus). This was the genetic makeup of the bass in Japan. It is unknown if the one in Georgia was a pure Florida that had been stocked, a Florida/Northern cross or a straight Northern (which is the least likely scenario). The Florida Largemouth bass has been stocked all over the country by both State agencies and private lake managers during the past several decades. The Florida largemouth bass has been the foundation for various crosses trying to obtain a faster growing fish that achieves even greater top weights. The true

Florida strain bass occurs throughout Florida, but is more common from north Florida east and south of the Suwannee River. There are recent signs of the pure Florida strain in northeast Florida and south Georgia, but it is unclear if those are naturally occurring or have been introduced. There are indications the Northern strain is in central and south Florida, and that is probably due from the introduction of the Northern strain or Tiger/Gorilla/F-1 Cross bass. The Florida strain's desirable traits are that it can tolerate warmer temperatures and can reach weights well into the double digits and the teens, while its undesirable traits are slowing down feeding in peak summer heat and grows slow, requiring more years to reach quality/trophy size than a cross like the Tiger/ Gorilla bass/F-1.

The Northern strain of largemouth bass naturally occurs in many parts of the country where it is native or has been introduced. The Northern largemouth bass is similar to the Florida strain, but many feel it feeds more often (even when full), even during the hotter months and tolerates cold weather better, but its negative is that it rarely reaches weights in the double digits.

Crossing the northern strain with the Florida strain has been performed since the 1960's. This crossing occurs naturally where the two subspecies over-lap in the South. These intentional crossings may be referred to as the Tiger Bass, Gorilla Bass or F1 Cross. The Tiger Bass is a cross with a Florida female and a northern male. This genetic makeup produces a bass that has the potential to grow bigger than a Northern strain bass, but has the constant appetite of the Northern which allows it to grow faster than a pure Florida. The only negative that has come from

this is that very few of these fast growers will reach double digits, but they reach 7-9 pounds in half the time it takes a pure Florida strain bass to grow to these weights, when forage is unlimited throughout its entire life.

Up until recently this Florida/ Northern cross was very well received, and these fish were stocked by many private landowners and some state agencies around the country. But through research conducted by various states, universities and private hatcheries another trait has been isolated to help improve these "super" bass. Now using males from known females over 10 lbs. and crossing with females weighing over 10 lbs. (both Florida or the Florida/Northern cross have been used), will improve the genetics of the prodigy and increase the numbers of quality fish in the population. Texas started this concept in the mid 80's with their Share Lunker Program, where they will come get your 13+ lbs. female largemouth bass and spawn her with known males from large females, and stock the fingerlings back into public waterbodies. Recently, other states have adopted this practice of collecting high quality genetic females, spawning them out, then restocking the fry or fingerlings back into open water public lakes and rivers.

All this sounds terrific for the private lake owner, however recently some states and universities are questioning the unnatural introduction of various pure and cross versions of the largemouth bass across the country. It is displacing or eliminating other lesser known less genetically superior natural black bass populations such as the shoal bass (*Micropterus cataractae*), Suwannee bass (*Micropterus notius*), redeye bass (*Micropterus coosae*), spotted bass

(*Micropterus punctlatus*), smallmouth bass (*Micropterus Dolomieu*) and Guadalupe bass (*Micropterus treculii*).

If you are considering stocking a genetic cross/enhanced version or pure Florida strain largemouth bass, or any species of fish, know its life history and what can be expected in the future. For example, if you start a new lake and stock pure Florida strain not in their natural region, they will remain pure Florida until a northern individual gets inside your waterbody through anglers moving fish or a flood event and begins breeding. Then your Florida bass will slowly shift to the Tiger/ Gorilla/F1 Cross, but eventually shift more to bass having more Northern than Florida traits. If you have a lake with Northern bass already present, adding pure Floridas will naturally create the cross, but it will slowly revert back to Northern traits. One technique is to add pure Florida females, tagged and fin clipped to a pure Northern gene pool. The tag and fin clip are to identify the fish later as a pure Floridian when caught, and not to remove it as part of your annual small bass removal program. The key to keeping whatever you choose as your genetic makeup, is to not allow other sub species to enter your waterbody otherwise the gene pool of desirable traits becomes diluted. Florida, (other states are working on such regulations now for introduction of non-native sub species), has created laws preventing the stocking of any bass except the pure Florida largemouth bass in certain areas where it is known that most bass carry the pure Florida gene.

Another management tool when trying to create a super bass is to not harvest all the fast growers, but target slower growers for harvest. Now you are into the microman-



Bluegill, whether copper nose or standard, will grow to over 10, and many to 11 inches when on a high-quality supplemental feeding program.

agement of genetics. The ones you want to remain, and breed are the faster growing females and ones that will live longest with potential to be the biggest. This can be monitored through tagging and watching growth rates of females (females are the bigger bass that turn into quality or trophy individuals). A step even further is to stock only female genetically superior individuals. This eliminates any chance of overpopulation and the increase of natural forage availability. Monitoring all known aged females allows you to remove slow growers and keep fast growers. It is thought that with any harvest guidelines the faster growers are being plucked from the population because they reach the harvest pool

quicker. Leaving these fast growers is hard to do, but can be done with intense monitoring.

Bluegill

The bluegill (Lepomis macrochirus) is a close second to the largemouth bass when it comes to desirable genetics considered by lake managers who desire faster growing and obtain bigger individuals, quicker than the standard native bluegill in their area. There have been a few crosses that became popular for a few decades, but have seemed to have subsided once the long term affects of these fish were discovered. A popular bluegill cross is the bluegill (or redear sunfish [Lepomis microlo*phus*]) with the green sunfish. This creates a fast-growing species with

a large mouth and ravenous appetite. However, over the years as this cross reproduces from generation to generation, it reverts back to the less desirable green sunfish. Whenever two fish species or subspecies are crossed, they always revert back to one of their original species or subspecies and seems more times than not always back to the undesirable version. If it goes back to the less desirable individuals the reward verses risk verses amount of money/work needs to be assessed. I have seen a few pond owners start completely over with a rotenone kill and/or draining to remove the undesirable species they were left with and start over after various genetic trials.

The copper nose bluegill is another naturally occurring species in Florida that is being reproduced and stocked around the country. It has a better appetite and grows faster and larger than its northern counterparts. As stated earlier, unless you can keep these fish isolated from local bluegill stocks, they will become diluted and eventually take on the traits of the bluegill in your area. A quality supplemental feeding program with most bluegill populations can greatly increase growth rates and numbers, regardless of subspecies or genetic makeup. Smaller pellet, higher protein feed greatly accelerates bream and other forage species populations.

Hybrid Striped Bass

The hybrid striped bass (Morone saxatilis X Morone chrysops) has been used frequently in private lakes and ponds as an additional or the sole sportfish for decades. It is commonly stocked into small waterbodies that may not be able to support a natural producing largemouth bass population. Since it does not reproduce, its numbers can be controlled through stocking and harvest. We like to stock them in lower numbers, but every other or third year to offer anglers various sizes and ensure once the oldest/largest individuals are removed from the population through harvest or natural death, there are others present to fill the void. This way as you transition through year class to year class there are always quality fish to catch as opposed to waiting for a restocking to grow into the quality/ harvestable size range.

Black Crappie

Many pond owners want black crappie, but they are prolific spawners, over populate small waterbodies, and become stunted. There are



It is very important to stock triploid grass carp instead of diploid, so they do not multiply and ruin your waterbody. Most states require stocking certified triploid, and some states require a permit only allowing you a certain amount.



This little bass may just be your lake's new record in 8-10 years, or who knows, maybe a State or World Record in 12-16 years.



No matter the genetic makeup of your fish species, good water chemistry, habitat and forage are required to bring out the genetic potential of your fish.



Nothing compares to a roaster full of crappie rolled in cornmeal and deep fried. With different kinds of genetic possibilities, one may be suitable for your situation, and allow you to grow some big ones, without worrying about overpopulation.

two cross options, one is a cross with black and white crappie, where the offspring still reproduce, but at a much lower rate than pure strain black or white crappie. The second option is a triploid (will not reproduce) male black striped crappie cross with female white crappie that can work well for some lake owners wanting crappie and do not want the natural reproduction. Fish hatcheries in Mississippi call it the Magnolia Crappie. Like the channel catfish and stripe bass hybrid, harvest numbers need to be tracked and upon depletion restocked occasionally if stocking the sterile individuals. Even though these do not reproduce, desirable and usable size forage is required. We also recommend stocking every other year to generate multiple years classes so there is no down time between quality fish present. This can come in the form of silversides (glass minnows), threadfin shad, small shiners or even better, a combination of all three with some small bream to grow the crappie quickly and large.

Grass Carp

One of the most common genetically altered fish used by lake managers is the triploid grass carp, used for aquatic vegetation control. This fish does not reproduce and can be stocked in numbers to maintain, reduce or eliminate certain vegetation. Over the years I have seen triploid grass carp used to perfection to control unwanted aquatic plant species and I have also observed them grossly misused to where it did nothing to reduce the target aquatic plant species, eliminated all desirable plants from the waterbody causing erosion or altered the water chemistry to an undesirable state with suspended dirt particles increasing turbidity and lowering dissolved oxygen levels. Some states prior to the sterile triploid grass carp stocked

diploid grass carp into public waters and are still dealing with the disaster decades after their introduction. There is a lot of misguided information about grass carp use, so research your specific problem plant and the fish prior to stocking. We have recently begun getting several requests to remove grass carp (which is not easy and usually takes them 10-15 years to die off), in overstocked and mismanaged waterbodies where they are doing more harm than good.

Whatever your target species is, your fish management goal is to maximize its growth potential and numbers. Besides good fish genetics, good year-around water chemistry, good habitat, good forage base whether natural or supplemental, good harvest practices, and also a little luck to grow a monster. Even with all the genetic alterations that can be made to largemouth



This is a big Florida strain largemouth bass. Tagging fish and/or clipping fins can help track growth, year classes, or identify females stocked later on, so they are not accidently removed. Big Florida females offer big fish in the future and help the present gene pool.

bass, you still need all the previously mentioned to align and one freak genetic individual to live 12-17 years to possibly reach the upper teens or world record weight. I have worked throughout the southeastern United States almost 40 years as a fish research biologist and lake manager on some of the most productive waterbodies in the country, but have only seen one largemouth bass over 15 lbs. and maybe a dozen-or-so at 12-13 lbs. I have seen many more bass between 9 and 11 lbs. than most. You can only manage around Mother Nature so much, and once you have maxed her out, a little help from Lady Luck is what's needed to grow that Super Fish.



No matter the largemouth bass gene pool, abundant forage is required to get the most out of the growth potential and size of your largemouth bass.



These, most likely pure strain Florida largemouth bass from Central Florida, are hawgs! Any lake owner would be happy frequently catching some largemouth bass this size and larger.

Wildlife Management on a Budget



By Matt Petersen

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Becoming educated on cost share programs and taking the time to implement them is an excellent way to offset the cost of other habitat improvement projects such as firebreaks and food plots.

of inputs such as fuel, fertilizer, seed, tree stands, tractors, ATV's, guns, bows have all increased dramatically in the past 10 years and, coupled with everyday living expenses, have forced many hunters to decrease time spent in the field and some to walk away from the sport altogether. Conducting any extra habitat work on the properties folks hunt often is the first thing to go when the budget gets tight and typically results in poor quality hunts, and lower quality wildlife and populations. Although there are many ways to approach conducting wildlife and habitat management on a budget, we'll touch on a few topics here that I encounter the most in my travels and experience.

was recently picking up a trailer that had been repaired at a local welding shop in my area and was asked by one of the owners, "What do you do?". I went with my standard canned answer of "I manage hunting properties for folks and I'm basically a farmer for wildlife". This led to a series of questions about who I work for, their motivation and reasons to hire me, my average client's background, etc. This gentleman was an older man, likely in his early 70's, who I thoroughly enjoyed talking to, and respected his wisdom and perspective I was able to gather from our conversation. But something he said that I've heard many times from older people stuck

in my mind and inspired this article. He said, "Hunting has turned into a rich man's sport". In many ways, my new friend is right. The cost of land has skyrocketed in my area of the Southeast in recent years, being driven by developments of cookie cutter houses, industrial parks, and warehouse buildings. Although I'm only 38 years old, I find myself pointing out to my wife and daughters, or even the young guys that work for me, that I used to hunt farms in the area that are now housing developments or office space. I can remember friends and I dragging deer across cornfields and calling predators in areas that are now covered in asphalt with not a tree in sight for 20 acres. The cost

Get Sunlight to the Ground

To have quality deer, turkeys, quail, and most other forms of wildlife, maximizing sunlight's ability to reach the ground is vital. One of, if not the most common mistakes I see landowners and managers make is not managing timber and old field areas properly. When I see a block of old growth hardwoods or a super thick stand of volunteer or planted pine, I always think of the opportunity that's being missed to make these areas exceptional wildlife habitat. Sticking with the theme of this article, getting there in a cost-effective manner is our main goal and the obvious method that actively generates income is a timber harvest.

Bringing in a logger and cutting timber on a small or a large scale is often exactly what a property needs to take it to the next level in regard to its ability to increase and retain wildlife populations. While the benefits are obvious with timber harvest, income, loggers removing trees and debris to increase sunlight to the ground, building roads, etc., there are certainly issues to address. The first would be to assess the timber stand in both its size/acreage, species, age and quality, as well as the farm's proximity to a timber mill. The first limiting factor here for smaller landowners is the amount of timber acres to be cut. It's often hard to attract a logger in my area of central North Carolina if you have less than 20 acres to cut, especially if the timber is of marginal quality. You also have to factor in the age of the trees, if you have young hardwoods of lower timber values such as gum, maple, sycamore, etc. Often these trees need to be more mature to allow a logger to make a return on harvest and get him on site. The same can be said about young, planted pine. I'm working with a new client at



Extremely high deer populations and especially high antlerless deer numbers can wreak havoc on food availability on the property, and especially native plants. Keep your property's carrying capacity below its maximum level to ensure there's plenty of forage and cover for all wildlife year-round.

the moment that has a large chunk of his property that's in 14-year-old planted pines. The trees have started to shade out the ground, greatly reducing under story plants, but are still too young to entice a logger to harvest. We both want to have the trees thinned heavily to increase wildlife beneficial growth, but the landowner and I will be waiting at least two to five more years before we can get a logger to do so.

My favorite low-cost option, that unfortunately doesn't provide income but can be controlled on both a large and small scale, is **Timber Stand Improvement** (TSI). TSI just means using any method to help or benefit the forest on your property. It could be that the method of TSI you choose to input could be beneficial for future tree growth, wildlife, or both. Although we often strive to achieve both goals, you can lean to one side or the other, depending on your wishes for the stand's future. The methods that I commonly use are the hack and squirt method, stump

sprouting, felling trees completely leaving the stump as low to the ground as possible, as well as hinge cutting trees. A brief explanation for each is hack and squirt is a method that utilizes a hatchet or chainsaw to cut through the cambium layer (through the bark) of the tree and spraying or squirting herbicide into the wound to kill the tree standing in place. We also include the girdling method of cutting a continuous ring around the whole tree that connects through the cambium layer to stop the flow of nutrients through the tree and will eventually kill it. These methods are excellent ways to kill large trees to open up the canopy while also eliminating the danger of having to fell a big tree. Stump sprouting (check out MSU's research for more info) is simply cutting hardwood trees completely to fell them with the intention of the tree sprouting back with young, tender growth that deer love to forage on, and small game often utilize for cover. The most important factor with stump sprouting is making sure that the tree you're



Burning old fields is a much better method in promoting wildlife beneficial plants while at the same time controlling unwanted growth, such as trees, versus mowing.

cutting is one that deer normally prefer to browse on. Good examples are black gum, oaks, maples, locusts, etc., although I've noticed that deer will browse on just about any species of stump sprout, especially if food is limited. Felling trees completely and creating a low stump is typically used on hardwood trees we would prefer to kill completely or non-sprouting trees such as cedar, pines, etc. I prefer the low stump because it will often kill the tree outright and leaves less of an obstacle for wildlife and humans to contend with in the future. Hinge cutting is simply cutting 2/3 to 3/4 of the way through the trunk of a tree, around belt height, applying pressure above your cut to lay the tree top down parallel with the ground. By leaving the hinge portion of the tree intact, it allows the tree to continue to receive nutrients from its root system, which will keep it green to provide cover and browse for wildlife. Often times these hinge cut

trees will stump sprout as well, producing young, nutrient rich growth and providing cover at ground level at the same time. All of these TSI methods serve to open up the canopy and allow the manager doing the work to pick and choose which species to leave or take depending on their goals. It can be conducted when it's wet or dry on a large or small scale, unlike timber harvest. It also only requires cheaper hand tools such as spray bottles, herbicide, hatchets, and chainsaws that can last for many years and are affordable. Whichever method you choose, whether it be a timber harvest or TSI, get sunlight to the ground for better wildlife habitat.

Replacing Your Mowing Program with a Burning Program

The first week of November I had three customers contact me about doing some bush hogging for them.

The first customer wanted some dog fennel mowed down in an old clover plot so he could see the field better for hunting. The second was reclaiming an old field that had been burned every two years in the cool season to limit hardwood growth and maintain the field in early succession. The last was an old hay field that was dominated by mature tall fescue with sporadic plants such as broomsedge, Johnsons grass, and dog fennel. The last field that was mainly fescue had an old barn adjacent to it that housed a pack of 15-20 Beagle rabbit dogs. As I was unloading the tractor an old-timer that owned the hounds told me to let him know when I left how many rabbits I ran out of the field. He said that he had been trying to catch a rabbit in a rabbit gum to train some puppies with but hadn't been able to get one. He blamed it on a big cat that often roamed the 3-acre field looking for prey. I mowed the whole field and didn't jump one rabbit or even a mouse! The field was virtually a desert for any form of wildlife. In contrast, I jumped a couple of small rabbits in the acre clover plot and noticed grasshoppers and a few birds feeding in the plot while I mowed. The 2-acre old field was a completely different story, it was practically a zoo! I ran at least a dozen rabbits of various sizes out of that field, with mice and all types of birds and bugs constantly running out in front of the tractor. The irony of all this is that the old field that was managed with fire was far cheaper to maintain and was obviously superior to both of the other fields in terms of providing cover for wildlife. While the clover plot would offer species such as deer better forage, the old field setting still provided plenty of forage opportunities and in a much more diverse and drought tolerant plant community. All that's needed to

keep that old field community thriving is periodic fire every 2-4 years, depending on soil type, site conditions, and rain, and you have excellent wildlife habitat with very little input cost.

Now I could go into great detail here about fire frequency, timing, implementation, prep work, etc. but for the purposes of this article's length, I can't do it, but I do want folks to understand that fire is a cheap tool that nearly anyone can use. I spoke to a friend of mine who works for the NC Forest Service to provide some cost for having the Forest Service conduct prescribed fire on private property. In short, he told me that they charge \$35.00 an acre for understory burns of old fields and timber stands, or \$50.00 per acre for prep site burns that are conducted to prepare for future tree plantings. He also told me that price included the cost to create and prepare firebreaks, which is by far the most expensive part of preparing your property for the use of prescribed fire. When you sit back and think about the input cost to plant a 1-acre food plot versus having the Forest Service or a private contractor burn an acre of the land, the \$35.00 price per acre starts to look really good. I've had many landowners have the Forest Service install the firebreaks and conduct the first burn and then the landowner takes over the burning from there because they can't come close to having the firebreaks installed that cheaply. Also, the State of NC (and I'm sure other states) offer a certified burning course at \$25.00 per person to educate folks on prescribed fire in all aspects. They'll teach you how you can use fire on all scales big and small and how to control it using simple hand tools coupled with proper planning and site prep. Fire is the greatest wildlife tool available to wildlife managers

in the South and Southeast, and if you're not using it on your farm at the moment, chances are you should be.

Stay Out!

This topic is often a tough sell for me on property visits with landowners who are looking for advice on improving their land for wildlife. It often can get downright uncomfortable when I have to tell folks that it's not a great idea for their wife to jog around the whole property twice a day or their kids ride bikes throughout the farm regularly if they want to keep mature bucks daylight active. I can often see a look of disappointment or even a grimace with eyes saying, "well we're going to do it anyway" and that's fine. Enjoy your property as you see fit, but just like with many other aspects of this life, it's hard to have it all. Sure, in parks and suburban landscapes across the country deer become conditioned to constant human interaction and mature bucks and deer of all ages will move freely in daylight in plain view of hikers, joggers, etc. In the vast majority of the eastern half of our country, though, deer are hunted hard nowadays, and older bucks tend not to respond well to human intrusion. This topic alone could make up half of the space allowed for this article but in short if you want deer and especially mature bucks to use your property in daylight you need to provide



Having your local forestry service crew install your firebreaks and conduct your first burn is an excellent way to set up your property for the continued use of prescribed fire.

them with areas where you seldom, if ever, go.

Although to a lesser degree, I've witnessed turkeys respond negatively to pressure. I've seen gangs of turkeys abandon fields where they are constantly being run off by trucks and equipment pulling in and out of them. The same with fields that have been plowed and worked or treated with herbicide. Again, to a lesser degree, but it's always a good idea when using your farm that you set aside acreage that wildlife can count on not being bothered in. Do so and your hunting success and wildlife retention will certainly improve, and best of all, it's a management practice that's completely free.

Kill Deer!

Another point that always surprises me with hunters is when I start talking about deer populations and doe harvest. It's hard for me to believe that deer hunters can get so upset about killing deer! We're deer hunters, right? Isn't that what we do? Low doe harvest and subsequently high deer numbers are one of the most common issues in the South and Southeast that I see that lead to poor wildlife habitat and overall wildlife quality. I so often see food plots that are eaten to ground level, with browse lines 6' up along all the fields and notable lack of deer preferred forage available on properties that I consult on. I typically ask the landowner about the average antler size of his 4-year-old bucks and how many does he tends to see hunting and in groups on trail cameras. The common response is that they tend to grow 120" bucks at 4.5 and can't seem to get bucks over that size, with most being 8-pointers at best. They tend to repeat that it's common to see 10-15 different antlerless deer on each hunt and it's common to see 5-10 does in the same picture on trail cam. This is a classic indicator for a case of a property having a deer population that's over its carrying capacity. I'll set a goal for the season of how many does I suggest the hunters on the property should kill and explain that it'll be a multi-year process to lower the population to a sustainable level. I'm often met with a blank look and the thought that I'm asking them to kill every doe in the county. The truth is I tend to set the harvest goal low on the first year and the landowner often could remove double the projected number and not hurt the local deer population.

The reasons for keeping the deer population under, and note <u>under</u>,

the property's carrying capacity are less of a feed bill if you have a supplemental feeding program and less acreage needing to be maintained in food plots because we have less mouths to feed. A key component that's also often overlooked is having native vegetation regeneration, or basically plants' ability to make seed or grow from its roots and spread propagating more wildlife beneficial plants naturally. What you tend to see on properties with high deer populations is the absence of deer preferred browse species and especially young regenerating growth because deer are killing them by eating them before they can establish. I love a good story and one that comes to mind here is of an invasive species, Kudzu, that has been on a farm I've managed for 11 years now. This property has always had an extremely high deer population, and the landowners have never made a real effort to control it. On this property the patch of Kudzu has only been in some middle-aged hardwoods and is around 5 acres in size. The Kudzu has barely moved over the years because any growth that gets within 6' of the ground is browsed hard and not allowed to grow. The Kudzu does great above deer reach in the tree canopies but along the ground is eaten up. On the flip side of that coin, I have a farm that's managed to the extreme for wildlife with food plots, burning, timber management, population control, etc. and we've been fighting Kudzu there brought in by logging crews for years. The deer barely touch it, and it spreads like wildfire. Again, this could be a much longer discussion if we had room for it but the short of it is don't let a high deer population lower your deer quality, as well as availability of the proper cover and habitat for other game species such as quail, turkeys, rabbits, and others.

Get Familiar with Cost Share Programs

A farm that I've been planting food plots and consulting on the past few years just recently had a clearcut timber harvest conducted on it a year or so ago. The timber had been sold by the previous landowner before the new owner bought the property and, unfortunately, all the timber had been purchased. The only standing timber on the property would be left along erodible areas such as drainage ditches, creeks, and a river that runs through the farm. That's typically not ideal for wildlife because clearcuts can often lead to the same age timber stands and species dominating the majority of the farm, but that was part of the deal when the new owner purchased the land. Luckily, the new owner had researched heavily various cost share programs and found a few different ones that will help get the farm back on the right track in terms of providing food and cover for wildlife, as well as setting up future income for timber harvesting. The landowner's first point of contact was his closest NRCS office (National Resources Conservation Service) to discuss the options for his farm based on his wildlife goals. The folks at his local office told him that since his farm was to be clearcut and that he had enough acreage to qualify, he could apply for a Carbon Sequestration program that was designed for Loblolly pine plantations. The site had to be clearcut at the time of application and, if selected, you must follow general best practices of pine reforestation, such as chemical site preparation, appropriate spraying, etc. He learned that this program fell into the Conservation Stewardship Program (CSP) and that there is a huge catalog of habitat projects you can perform, such as fruit tree planting, cover crop-

ping, pollinator plantings, and more. The CSP selects tracts based on a ranking system, so, as many of these projects that a farm can add will make the program score higher for better conservation. The landowner chose cover cropping and planting 5 acres of the clearcut into pollinator habitat. Once his treatments were selected, he had to map all the areas to be planted in pine, cover crops, and pollinator habitat and send it to the NRCS for approval. Once approved, he would submit contracts to confirm he would complete this work and the plan as far as timing and how to do so. The landowner said that the folks at the NRCS were a valuable source of knowledge and that they had self-interest in getting folks approved for programs. The

income from qualifying for these programs allowed this landowner to create new food plots, plant wildlife beneficial trees, and make new trails and firebreaks. There are also many tax deferment programs such as timber farms, maintaining wildlife openings, crop production, etc. It's wise to explore all these options and see what works best for your goals and property and is especially important when operating on a tight budget.

Conclusion

There are many methods to create a great wildlife property while keeping expenses low that we weren't able to cover in this article. Building small food plots with hand tools, trapping predators, ways to purchase and lease property in a cost-effective fashion, finding the proper used equipment, and the list goes on with topics we could cover. The ones mentioned in this article are a few of the best methods I've found to cost-effectively make a difference on farms I own, lease, and manage. The main takeaway here is don't buy into the hype that hunting and wildlife management is a rich man's sport. With a bit of education, time, and hard work you can have an outstanding wildlife property on a budget.

Memories of Spring just may be the latest and greatest insight into turkey hunting that members of the Tenth Legion will salute!

— Will Primos

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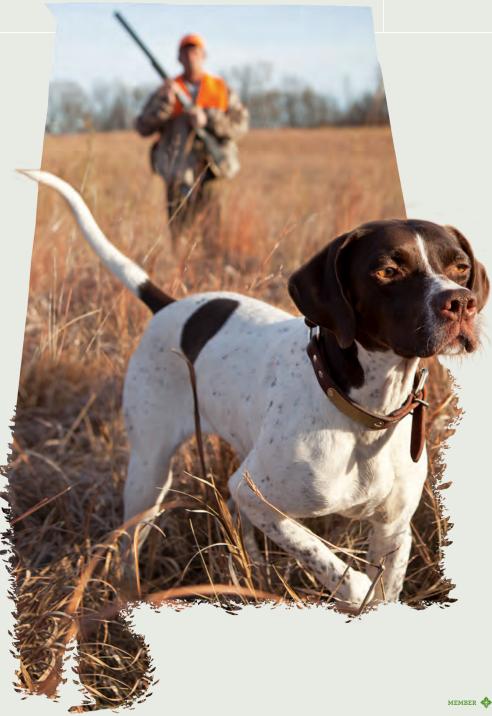
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Wildlife Trends Journal <u>Manag</u>ement Calendar



By Dave Edwards

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

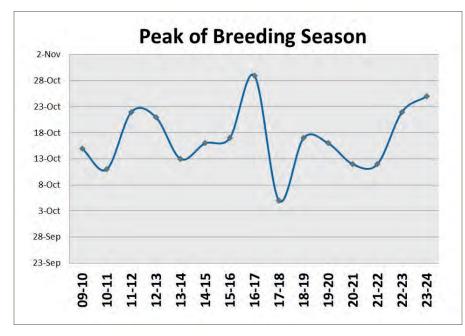
Ensure doe harvest goals are met

Doe harvest goals are contingent upon population management needs of a deer herd. If the overall deer density is within the desired range, where the goal is to maintain the current population size, deer harvest is still needed to remove the number of deer that recruited into the population that year (i.e., fawns that survived and entered the adult population). If the goal is to reduce the overall deer density, deer harvest must exceed the number of deer that recruited into the population. A simple law of nature taught in college Wildlife Population Dynamics courses is that Population Growth = Births minus Deaths.

Ideally, it is best to harvest does early in the season and/or before the rut. Doing so will save food resources for remaining deer and immediately improve the sex ratio for the upcoming breeding season which will conserve energy for your deer herd. An unbalanced sex ratio will result in an extended breeding season where bucks can lose up to 30% of their body weight from excessive breeding activities. Consequently, under these conditions, bucks enter spring needing to Meeting doe harvest goals is critical to managing a deer population for desired results.

recover. The highly nutritious spring food then goes towards body maintenance rather than body/ antler growth for the following year. The extended breeding season associated with an unbalanced sex ratio also results in poor hunting due to the lack of breeding competition. That is, there are so many does that bucks do not need to compete. In this case, hunters generally do not see much breeding activity such as chasing, rubs or scrapes. We often refer to this as a diluted rut.

By the time you get this issue of *Wildlife Trends* it will be late in the



Collecting fetal data from harvest does can provide much insight into a deer herd's reproductive performance.

hunting season in most states. If you have not met your doe harvest goals, get to work. If needed, recruit the help of friends. Holding a "doe harvest weekend" is a great way to get participation from club members or friends. Make a big deal out of it by having a cookout at the camp with "awards" for those that harvest the largest doe, oldest doe, or most aggregate weight.

Collect fetal data from harvested whitetail does

If the breeding season or rut occurs in your area before or around Thanksgiving, and your hunting season extends into late December of January, you should be able to collect and measure fetuses from does harvested later in the season. Similar to human fetuses, the age of deer fetuses is determined by their length. Commercially produced fetus scales are essentially rulers that can be used to measure and ultimately determine the age of the fetuses. White-tailed deer fetal scales can be obtained from the National Deer Management

Association. Knowing the date of harvest along with the age of the fetus allows you to determine the day of conception. With an adequate sample size of fetal data, this information can provide much insight into your deer herd's reproductive performance as well as the length and peak of the rut in your deer herd. This not only helps you determine when to put in for vacation next year (during the rut), but the length of the breeding season will shed light on the adult sex ratio of the herd. A tighter sex ratio will result in a shorter more intense rut due to increased competition for mates, while an unbalanced sex ratio will likely be represented by a long, weak rut due to less competition and length of time it takes bucks to breed the abundant doe population. This information, along with hunter observation data, is a great and free way to help assess the status and success of your deer management program.

Perform preventative maintenance and calibrate sprayers in preparation for burning and early summer uses Although you probably won't use them for a couple months, late winter is a good time to overhaul sprayers. By overhaul I mean check all hoses, tubes, connections, filters, nozzles, etc. This is also a good time to calibrate sprayers so that everything is ready when early summer weeds become a problem in food plots. We commonly use the pistol nozzle of our sprayers to assist in prescribed burns. Be sure to check all parts and test the pistol nozzle, hoses, etc. if you plan to use it this winter during burning activities. Working on sprayers is a great mid-day activity while hanging out at the camp during a weekend of hunting.

Prepare for last phase of duck season

If you have multiple duck ponds and hunt waterfowl throughout the season, strategic/staggered flooding schedules help maximize hunting opportunities by extending the food supply in ponds. That is, by not flooding some ponds or areas early in the season you essentially "save" these ponds and their associated food for later in the season. Thus, if you have "saved" ponds on your property for the late phase of duck season, mid-late December is the time to initiate flooding of these areas. Maintaining water depths of 12"-18" is ideal for puddle ducks such as wood ducks, mallards, gadwall, teal, etc.

If you enjoy duck hunting but only have one or two small "duck holes" on your property, enhancing these areas (e.g., water management, plantings, etc.), and managing the hunting pressure will ensure you have exciting hunts each time you go. Like most wildlife, ducks react to hunting pressure. As hunting pressure increases, the number of ducks using the area decreases. Managing the pressure simply means that you do not hunt the pond too often and allow the area time to rest between hunts. A good rule of thumb is to not hunt a small pond (or any small area where ducks use), more than once per week. Of course, longer rest periods result in better hunting. It is also a good idea to not hunt the area in the morning and afternoon of the same day. If food sources remain and you allow the pond to ments, beaver ponds, lakes, and flooded fields to find new areas to hunt. While food sources and water can change from year to year, in most cases ducks will be attracted to the same areas each year. Simply stage yourself somewhere that you can see the area you are scouting without spooking ducks. In most cases, a high vantage point that offers a landscape view is best as it

often allows you to see where ducks are

coming from as they

approach and which

Good vantage points

are often hills, high-

ways, bridges, barns,

and sometimes deer

stands. The point is

to get as high as you

can so that you can

see the sky where

ducks are flying. I

can't tell you how

many times I have

set up and scouted

like this and found

an even better spot

by being able to see

flocks from a land-

scape level verses

actual area (tight)

ducks would be. In

some cases, you may

where I thought

not see ducks go

getting into the

direction they go

when they leave.



Winter is a great time to identify and flag wildlife and hunting improvement projects.

rest longer than a week, you will be pleasantly surprised at the number of ducks that will be using the pond, especially if there is hunting pressure on surrounding areas.

Scout now for next duck season

Doing a little homework this season, even if it means missing a hunt or two, will help you have better duck hunts next year. By this I mean take time to watch and glass wetlands, moist soil impounddown but notice that lots of flocks headed in a certain direction. Relocating closer to the area you saw ducks headed on the next scouting mission will often reveal a new honey hole. As you begin to pinpoint areas ducks are using, close in tighter and start learning exactly where ducks want to be and how they approach when coming in. If it is still duck season, this is when I like to hunt the spot a couple times. Doing so will help you identify exactly where to build a blind this summer. So, by next season, you will be sipping coffee after putting out your spread of decoys while waiting on daylight and ducks to start flying.

Assess and flag or mark wildlife improvement projects such as new food plots, plot expansions, wildlife clearcuts, new roads, and roadsides that will be widened

Because temperatures are cool (or cold) and the leaves are off trees where you can generally see better in the woods, winter is a great time to assess and mark areas for upcoming timber harvest, new food plots, or other improvements. Having the leaves off is certainly a big help because you can see what you are doing and visualize areas that you are flagging. Projects that may need to be marked or flagged include small bedding areas that will be created with chainsaws (chainsaw work is more pleasant during the winter too while it is cooler), new food plot areas or expansions on existing plots, areas along roadsides that need attention next spring, etc. Besides flagging areas that will require heavy equipment and drier conditions, winter is also a good time to mark areas that will be planted in wildlife friendly orchards, supplemental hardwoods, areas to plant hedgerows for quail through fields, etc. Marking these areas in winter will not only be more pleasant for you and allow you to see what you are doing, but will ensure you are ready to tackle these projects when conditions are right. Also, flagging in winter gives you time to think more about the areas you have flagged out before the project is implemented. The last thing you want is to be flagging just ahead of a logging crew and having to make hasty decisions on where you want a new food plot to be created.

Create a wind map of your property to help you have more successful deer hunts

A deer's nose is its best defense. Through my career as a wildlife biologist, I have been fortunate to have worked and hunted with many "lucky" hunters - those that seem to cross paths with the biggest bucks on the property year in and year out. These are the guys you see in magazines standing under a barn wall full of mounted bucks. Generally speaking, I am not one that believes in "luck". To me, luck is where preparation and opportunity meet. All of these hunters did their homework to understand how and why deer (particularly the mature bucks they were hunting), used the property and set up stands accordingly. They all seem to have different thoughts on where and when to hunt the stands. However, the single common strategy used among ALL of these hunters was they closely monitored wind and only hunted stands under favorable winds. That is, they only hunt areas when the wind is right – carrying their scent away from where they expected deer to come from. Although I routinely wear ScentLok and spray myself with odor neutralizers before heading to a stand, I am a firm believer that if a deer gets downwind, it is over (at lease in most cases). On properties that have hills or draws, wind will behave differently across the property. As wind hits ridges or tree lines it is diverted and results in the wind changing directions at given points on the property. You may be surprised that a true north wind can generate a south wind in some locations on a property. Something else that will cause "odd" winds is large bodies of water such as a lake or river. In the morning, cool air in the woods is often drawn out to the warmer water area creating different wind currents than the true

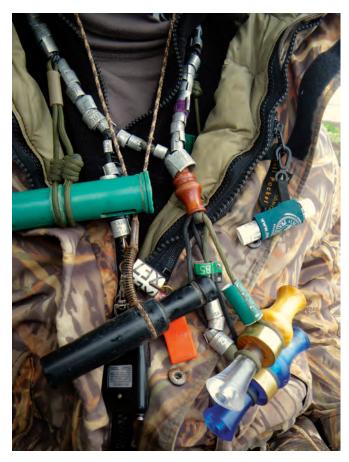


Once deer seasons ends, it is a good idea to "summerize" hunting stands.

wind reported. The opposite can occur in the evening. These situations often occur under light wind conditions. To create a wind map, simply record the true wind (wind direction without interference wind the weatherman reports), then visit various spots on the property where deer stands are located and record the actual wind at these spots. Many hunters collect and record wind information over time, often while they are hunting, then compile what they have collected to create a wind map. Once generated, a wind map is a valuable tool that will help you select which stand to sit resulting in more successful hunts. Of course, you still need to be in the right place at the right time. But these "lucky" moments happen more often when you have prepared and selected a stand where your scent is not a factor.

Prepare deer stands for the off-season

Once deer season ends, it is a good idea to "summer-ize" your hunting stands. That is, to ensure they are in good working order next season there are a few things to do. Ladder and lock on stands should be loosened or removed from the tree to allow the tree to grow during summer and prevent it from absorbing the attached chain or strap of the stand. This not only protects the stand from potential damage but is good for the tree. If the stand is not going to be removed from the woods, remove any cushions or seat straps and burlap/camo covers that may be on a stand. This will prolong their life and prevent the weather or critters from ruining them before the next season. Cushions and covers should be removed from tripods or other stands as well. Although they should already be secured, double check the tie downs and anchors of tripod stands. There are two kinds of tripods - those that have blown over and those that will. Making sure they are securely anchored will reduce the chances of a tripod getting blown over. Shooting houses should be cleaned out and sealed up as much as possible. Sealing them (meaning closing the door



and windows), will reduce damage by squirrels, owls, etc. It will also reduce wasps as well (notice I said reduce). Cleaning shooting houses out in late winter is much nicer than trying to do it in August! Of course, all climbing tree stands and pop-up blinds should be removed from the woods and stored over the summer. When "summarizing" ladders and

lock on stands, it is VERY important to revisit these stands just before hunting season starts again the next year to reattach the chains/straps and tighten everything up. One trick we use to identify stands that are "safe and ready to hunt" is to tie a piece of flagging onto the stand once it has been tightened and checked. Use the same color flagging for each season. For example, this year we are using blue flagging. Next year we will use a different color, say yellow flagging. So, if a hunter gets to a stand this season and does not see the blue flagging, they will know that the stand may have been overlooked and/or has not been checked and secured.

Prep for last phase of duck season - strategic/staggered flooding schedules help maximize hunting opportunities by extending the food supply in ponds.

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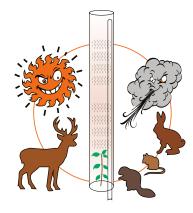
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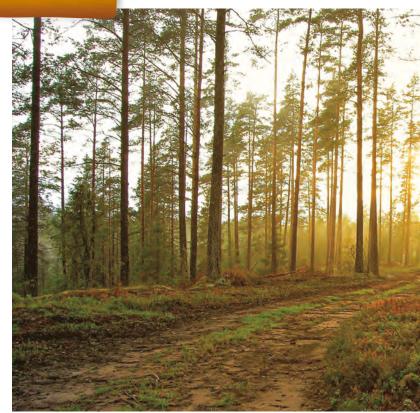
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