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Earl Says...

O nce a year we like to send a card to subscribers who have let their subscription lapse either because they were too busy to renew or just simply forgot. We always receive a tremendous response and are thankful to have them back in the fold again. Now I'm asking for your help to bring in some new subscribers to Wildlife Trends Journal.

We work our hardest to bring you the latest information to help you improve the wildlife habitat on your property. As I explain to new prospective subscribers at Hunting Expos and Conventions throughout the year, we plan to either give our subscribers new ideas for their properties or learn from other's mistakes to save their hard-earned money. Wildlife management can be expensive as I'm sure you all know.

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The Missing Link: Minerals and Your Deer!



by Ron Jolly

Ron Jolly (ronjolly22952@ mindspring.com) is an awardwinning outdoor writer and video producer living with his wife, Tes, on their farm near Tuskegee, Alabama. Tes (www.jollysoutddorvisions. com) is herself an awardwinning writer and outdoor photographer. You've seen lots of her work in past issues of Wildlife Trends Journal.

In today's fast technology, global reach world, everything is expected to happen immediately after little or no effort. We push the norm to the limit and demand fast, easy results. Our attention span simply does not allow time for things to take their course and come to fruition.

The fast-track approach may find success in some fields of endeavor

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but seldom works in wildlife management. Biologists and researchers have proven that the key to success in growing trophy whitetail deer is **age + genetics + cover + nutrition = trophy whitetail bucks**.

Age is easy, just don't shoot young bucks. Genetics are what they are in free-ranging herds but some think culling inferior deer helps. Cover can be manipulated by timber practices and management of native vegetation. Nutrition can be supplemented by planting nutritional plots and feeding high protein feeds.

One item in the trophy buck recipe that is often overlooked is minerals and the availability thereof. Growing antlers are composed of 80% protein. Mature antlers are roughly composed of equal



Mineral licks have been recognized as beneficial to whitetail deer for years. Recently, products have been introduced that provide essential minerals through the consumption of water.

amounts of protein and minerals. Calcium and phosphorous are by far the most common minerals in antlers, composing 30-35 percent of mature antlers.

According to the Quality Deer Management Association, 11 different minerals can be found in whitetail deer antlers. Calcium is the most prevalent mineral and comprises 19% of antler weight. Phosphorous comprises 10% of dry antler weight followed by magnesium at 1% and sodium at .5%. Lessor amounts of potassium, barium, zinc, iron, aluminum, strontium, andmanganese are also found in antlers. Other than calcium and potassium, little is known about the role of minerals in antler growth.

Whitetails have the ability to bank minerals and transfer them from the skeleton to growing antlers but only a small portion of minerals needed for optimum antler growth is obtained through this process. The rest must come from diet or supplements. Minerals are also important to does. During gestation and lactation does have high requirements for calcium and magnesium. It has been found that milk production requires almost 80% of a doe's sodium intake. It is also thought the high concentration of potassium and water in spring forage creates a sodium imbalance that causes deer to seek salt. Salt is the attraction to mineral sites and masks the bitter taste of other beneficial minerals.

Mineral Facts

There are 65 minerals recognized by experts. These minerals are found in the soil and plants and are required to some extent by all living animals. They are classified as **macro minerals** and **micro minerals**. Macro minerals are present at larger levels in animal bodies or required in larger amounts in the diet. Micro minerals are often referred to as trace minerals, meaning they are present in smaller amounts in the animal's diet. It is widely recognized that **calcium, phosphorous** and **potassium** are minerals important to antler development in whitetail deer. Most mineral products marketed today feature a high content level of these minerals. Minerals have a bitter taste and sodium (salt) is the attractant that encourages deer to consume minerals at man-made sites. What is not entirely understood is the role played by other minerals in antler development and animal health.

In a perfect world, deer and other wildlife acquire essential minerals from consumption of plants and water. Problem is, in today's world, modern farming practices have stripped the land of critical minerals necessary for maximum antler development and overall animal health.

The Expert

Redmond Hunt is a company that specializes in minerals for wildlife. Trophy RockTM is the name of their flagship product. This product is a natural sea salt mined in America and sold in 12- or 20-pound rocks. It contains all known minerals and performs as a lick site that deer are naturally attracted to. From this base product other products have evolved.

Plot RockTM contains the ingredients found in Trophy RockTM and is designed to be used in conjunction with commonly used fertilizers. Plants take up the minerals and as deer consume the plants, they get minerals required for antler growth and overall health.

Hydro[™] is designed to be mixed with water. This turns the water alkaline and mineralizes it making it healthy for deer and other wildlife. It has to be used in a manmade tank because the ratio of water to product is very specific.

Gene Price works in the Public Relations and Marketing arm of Trophy Rock and offers this advice. "If you look at minerals and listen to the information available today, there are the big three that everybody recognizes; phosphorus, calcium and potassium. In my opinion any of the 65 minerals are just as important as the other. If you don't have the other minerals to support the big three, they don't work right. The body can't take them in and utilize them effectively. Without the entire spectrum on minerals, certain minerals are lost in the digestive cycle and are not properly incorporated into the blood."

"We strive to get the blood back to zero. In most animals there is a negative value of multiple minerals. We don't try to overload it or push for extreme levels of any mineral. We believe a zero value is the natural level of minerals in the bloodstream. We don't want to see negative levels of any mineral and believe this is the basis for healthy deer. It's like a big spider web. This mineral helps that mineral and that mineral helps those three minerals. We will probably never understand it fully but we know it is essential that all known minerals are available," said Price.

The Big Picture

The implementation of a mineral supplement program is often abandoned because the manager or landowner does not see immediate results. Truth is, results come gradually and are difficult to see in the early stages.

As with all things in wildlife management, very few things happen quickly. Subtle changes can be seen early on if you are truly in touch with your deer herd. Better fawn recruitment, slicker hair coats, increased body weights and overall health of the herd are a few of the recognizable changes early on in a mineral supplementation program.

"The real results can be seen over a generation. If you compare a fiveyear-old buck that is mineral deficient to a five-year-old buck that is mineral balanced the differences are significant. Larger antlers and heavier body weights are the most noticeable differences but better fawn recruitment and overall health of the herd is also dramatically improved," says Gene Price.

"The key to success is to be patient and consistent with the program. Deer have an uncanny ability to regulate mineral levels in their blood. Negative values of certain minerals in deer create the aforementioned problems. There is also the possibility of a positive level of certain minerals. Neither is good. For example, excess calcium in humans causes problems such as kidney stones, gall stones, bladder stones and calcium deposits in arteries and blood vessels. Fecal studies have shown that excess minerals found in the bloodstream and digestive system of deer are passed out of the body. These studies support the theory of a deer being able to regulate retained amounts of minerals in their body."

Create a Mineral Site

We have all seen the big hole in the ground created by deer searching



Gene Price is part of the marketing arm of Trophy Rock® and an avid deer hunter. Price credits his mineral supplementation program for producing giant bucks on his farm.

for salt or minerals. Some of these sites are natural outcroppings of minerals but many are man-made in an effort to attract deer and provide their mineral needs.

Gene Price offers this advice: "When you see a huge hole in the ground covered with deer tracks and droppings, those deer are eating dirt to get the minerals. Eating dirt is not what we think is good for deer. The same applies to mineral sites established on a stump or log. To get the minerals deer are eating wood. Again, not a good thing in our opinion. "

"We recommend using a T post or piece of rebar to get the mineral off the ground. Elevating a Trophy Rock eliminates deer eating dirt or wood to obtain the minerals they need. The rock will last longer and the minerals will be more accessible to deer," said Price.

On our east-central Alabama farm, feral hogs are a huge problem. Elevating a Trophy Rock keeps the rock out of the reach of hogs and prevents it from being rolled away from the established site.

Over time, rain and moisture will leach some of the minerals found in the rock into the ground beneath it. Trail cameras prove a myriad of wildlife takes advantage of the minerals. Turkeys, raccoons, squirrels, rabbits and songbirds frequently visit the site to take advantage of the available minerals.

The Reality of It All

There have been multiple studies conducted on the effect of mineral supplementation on whitetail deer at universities such as Mississippi State, Penn State and Auburn University. None of these studies conclusively proved that mineral supplementation contributed to larger antlers. However, the Mississippi State study did suggest that phosphorous contributed to larger body size.

Despite the lack of scientific proof that a mineral regimen increases antler or body size in deer there are definite advantages that can be readily seen. Mineral sites are excellent locations for trail cameras. In spring and summer, the sites are heavily used by deer and other game animals. Trail camera photos provide insight to wildlife populations on your property. They also provide an excellent opportunity to inventory the bucks using your land.

Almost all soil 25-50 miles from a seacoast is sodium deficient. In these areas salt may be just as important to deer as calcium and phosphorous. In spring and summer deer suffer a sodium deficiency due to high water and potassium content of vegetation and forage. This interferes with a deer's ability to convert sodium in the body and increases the need for sodium. A University of





Age + Genetics + Cover + Nutrition = Trophy Bucks. Many believe minerals play a role in the equation.

Tennessee study concluded that mineral sites high in sodium content were visited by deer four times more often that mineral sites low in sodium content.

The reality of it all is that mineral supplementation, especially calcium, sodium and phosphorous, can be beneficial to whitetail deer. This is especially true in areas with mineral deficient soils or where deer are nutritionally deprived. None of this replaces the fact that age and nutrition are the main factors in producing bigger bucks.

If your management practices have addressed habitat and herd management concerns a mineral supplementation program is a logical next step. Remember, improvements will be over time and slow to materialize. Be consistent and make your mineral program a year-round endeavor. minerals will boost body weight and antler size in your deer herd but neither have they proven any disadvantage. Mineral licks are fun to establish and monitor. They are a definite attraction to wildlife on your land and just might be the key to growing, attracting or holding a trophy buck on your property. You already do everything you can for the health of your wildlife. Minerals are just another opportunity to provide what your wild critters want and need!



Mineral rocks are very attractive to deer during spring and summer when antlers are developing.

Scientific studies have not proven

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Mineral rocks elevated on a post last longer and make them accessible to deer. These rocks are very attractive to feral hogs but elevating them keeps them out of the reach of hogs.



Mineral sites provide supplements needed by pregnant and lactating does.



Mineral licks create an excellent place to monitor your herd with trail cameras.



Mineral sites are especially attractive to deer in spring and summer but are utilized by deer year round.

A lot has been said about the use of minerals at lick sites by deer and other wildlife. Little has been said about providing essential minerals through water or supplemental feed. Here are some options you should consider.

For the past decade my wife and I have done everything we can to improve the population, health and quality of native wildlife on our small east-central Alabama farm. Mineral supplementation has been a part of that effort and seemed a natural progression to timber, native habitat, food plot and herd management.

Recently, we installed a mineral water site in an effort to better provide what we feel our wildlife needs. We began by purchasing a 50-gallon fiberglass tank from a local feed store. We chose a central location on the farm and dug a hole the shape of the tank deep enough to install it level with the ground.

We filled the tank with water and added Trophy Rock Hydro to the tank at one pound of Hydro per 20 gallons of water. The Hydro turns the water alkaline and provides essential minerals for overall herd health.

It took a while but deer and turkeys eventually began utilizing the water source. As the water is consumed or evaporates from the tank, replace it with more water and add one-pound Hydro to every 20 gallons water lost. This will maintain sufficient water level in the tank and proper ratio of mineral to water.

Over time, slime will form in the tank. This is a natural occurrence and does not affect the desirability of the water to wildlife or harm them in any way. If the slime bothers you, you can remove most of it simply by dipping it out.

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A Stunted Largemouth Bass Population



by Scott Brown

Scott Brown is a Biologist and regular contributor to Wildlife Trends Journal with over 30 years experience in research and managing natural resources throughout the Southeast. Scott founded Southern Sportsman Aquatics & Land Management in 2007 and now has clients from Texas to Florida and into the Carolinas. Contact him at scott@southernsportsmanaquaticsandland.com or (336) 941-9056.

Whether your electrofishing sample or angling results look like this, you are experiencing a stunted largemouth bass population and possibly quality bream fishing.

Working on private lakes and ponds over the years one of the most common issues we face is a stunted largemouth bass population. It is very common for new property owners to inherit a waterbody that has been neglected that is full of small largemouth bass and probably high-quality bluegill and redear sunfish. Another example is a lake owner who was

experiencing good bass fishing, but slowly observed the population change over the years from quality bass, to poor, but now may have a quality bream population with most bass in the 10-12/12-14-inch size range with 9-11-inch bream plentiful. As stated in earlier articles, lake management is constant, and certain tasks need to be performed annually to improve or maintain a quality fishery of any kind. Once a largemouth bass population becomes balanced and individuals are growing at their maximum rate, fish still need to be removed annually and possibly restocking of forage may be required to maintain that excessive growth and largemouth bass quality. In some management situations a stunted largemouth bass population will occur and is desired, if a quality bream population is the objective.

A stunted largemouth bass population is the result of too many predators (largemouth bass) and not enough forage (fathead minnows, mosquitofish, silversides, bream, golden shiners, threadfin shad, etc.) AND/OR not enough appropriately sized forage to keep bass growing at any size/age and sustain a quality bass fishery. When fishing, anglers catch high numbers of small bass with few or no quality bass being observed. The bass appear to be very thin with sunken bellies and snake-like in shape where their heads look disproportionate to their bodies.

When walking the shoreline, no small fish are observed. Around docks, structure and feeders lots of bream may congregate, but all are above three-to-four inches in length. You may observe large schools of big golden shiners near the surface or feeder. In a waterbody where threadfin shad and/or silversides (glass minnows) were once abundant they are no longer observed at the surface in open water at dusk or dawn.

Largemouth bass require various forage sizes throughout their life cycle. At birth, they feed on planktonic algae (phytoplankton) and microscopic animals called zooplankton. In a short time, they move to tiny fish (minnows, bream, possibly bass hatchlings, insects and insect larvae) and eventually to forage like mosquitofish, fathead minnows, bream fingerlings and larger insects. Most waterbodies with good water chemistry and habitat have plenty of minnows 1/8 - 1/2 inches long, but once the bass get into foraging on the 1-2inch fish, (especially bream), bass

food can become scarce because of the high demand on forage that size. The only time forage is plentiful is after the spawn, they consume most of them and are once again out of food and growth stops for a large portion of the year. Once unconsumed bream reach a size the bass present cannot eat, they continue to grow and live a long life becoming a 10-11-inch bream without abundant large predators present. Bass growth slows and stops when there is no food available for growing into the next size group. Where this bottle neck occurs varies between waterbodies. We have witnessed growth stoppage at 8-10 inches, and as high as 18-20 inches, but it is usually around the 11-13/12-14inch group.

Electrofishing data when graphed out into a **Length Frequency** (numbers of fish collected in $\frac{1}{2}$ inch size groups) for largemouth bass and bream (bluegill, reader sunfish, etc.) will indicate the bunching up of the bass forming a bottleneck. Running **Relative**



Here is a typical largemouth bass from a waterbody that is experiencing a stunted population. Note the sunken belly, elongated body and abnormally big head and eyes.





Photo 3A graph shows largemouth bass collected during the same sampling time as the bream (bluegill and Redear Sunfish) in Photo 3B graph. No bass were observed over 12 inches, while over 50% of the bream observed were nine inches (quality) or bigger.

Weight calculations for bass from length 10 inches and greater, will also help determine what sizes of bass in the population are growing slow and identify the sizes where forage is abundant. Relative Weight is the comparison of bass weights in your population to known **Standard Weights** collected for fish in your particular region. Most of our clients are located in the Southeastern United States, so we use Standard Weights compiled by the Alabama Cooperative Extension System (Handout ANR-1193). Calculating this for individual fish is not necessary, but for the average in each size group, they can either be calculated from electrofishing or angler catch data collected by anglers over the year. When the average weight for a certain size group is divided by the Standard Weight the result is usually between 0.60 and 1.00. Acceptable is 0.85, but 0.90 or above is desired, while below 0.85 indicates poor weight for fish at that length. Poor weights identify lacking forage for bass in those specific inch class groups. These lower weights may occur in certain size groups or throughout the entire population. If results are above 0.90 you know bass are robust, healthy and currently have enough forage. This data analysis is normally not performed on bluegill and redear sunfish. but if the objective is quality bream then this will detect if natural and/or supplemental feeding is working and provides a general idea of health.

Some lake owners have been misinformed by their friends, family or lake managers that large golden shiners can over-populate a lake and suppress a largemouth bass population, which is completely un-true. This situation does occur, but is created when largemouth bass are mis-managed, not the golden shiners. Big largemouth bass can consume any size shiner and prefer them over bream because they are easier to catch and swallow. Big forage provides big benefits for bigger predators. Big bass cannot grow at an accelerated rate or larger desirable sizes on small forage.

Rectifying a stunted largemouth bass population requires multiple steps performed simultaneously, followed by a modified management strategy to maintain, once the bass population becomes what you desire. Depending on the size of waterbody, how long the neglect has occurred and funding available forage, a start-over may be the best option. If fish growth is suppressed for too long, even the best executed management strategy may not get the current fish reaching their potential. Starting over requires draining the lake or using Rotenone (fish toxicant) to kill it out, restocking first with forage and then with a low rate of 25-50 bass per acre, 12-24 months after forage is introduced.

The most common solution, and in some situations the quickest time to recovery, is removing large numbers of bass in the slot where the bottleneck occurs AND over stocking with various forage species. Increasing forage and reducing the number of mouths to feed is the goal, resulting in the remaining bass growing faster and larger, resulting in fewer numbers than before, but with better quality. **Carrying Capacity** is based on biomass of various species. For example, if the waterbody's carrying capacity is 1,000 lbs. for largemouth bass, having bass from 1 to over 10 lbs. is much better than having 1,000 one-pound bass. That is very simplified, but helps explain the concept. The waterbody will still have the same pounds of bass present. However, the first scenario is more appealing to most bass anglers than the



This quality bluegill came from a waterbody managed for quality largemouth bass. No bass can eat them once bream get this size, they are safe from predation by fish. There were not many this size present, but there were a few.

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www.facebook.com/TwistedOakTaylorDeese Owner: Taylor Deese (334)-850-5747 stunted population scenario. We recommend using native forage species in hopes to establish a naturally, self-supporting population. If forage fish one inch and up are lacking, then stock various species and various sizes to help promote all size bass growth. If there are plenty of one-to-twoinch and below forage, do not stock that size and move up to the other needed species and sizes. This is where a quality electrofishing survey and data analysis is beneficial to your management decision making. It may help you save stocking funds down the road or allow you to reallocate those funds with more appropriately sized individuals that will benefit the bass population now. Implementing stocking without removal will not

result in success. Often, lake owners over-stock forage and neglect to remove bass, resulting in moving the size where the overcrowding occurs, but not eliminating it.

Knowing the forage species present, their current sizes, forage species native to your area and each species' life history are important in making stocking decisions. The most commonly stocked forage species are fathead minnows, bluegill, golden shiners and threadfin shad. Try to stock sizes that are not present. If you have an abundance of big bluegill and golden shiners, no need to stock large ones for breeding stock, they are already present. Stock smaller individuals that can be consumed now and in the near

future as bass grow to get them to the size to consume larger forage already present. If you have no small or large forage (bream or golden shiners), then stocking a mixture of small and larger individuals to provide some breeding stock that cannot be eaten at the current time is advised. Again, this is where a good professional lake manager can help in determining sizes, numbers and species to stock.

Removing bass from smaller waterbodies is absolutely necessary in fish management whether your goal is quality bass or bream angling. Obviously, the larger the lake the more bass need to be removed for quality bass management. One of the most common mistakes made in lake



This redear sunfish was one of many in a small pond with no bass present over 12 inches, and plenty of high-quality bream (bluegill and redear Sunfish).

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Photo 6A graph is the Relative Weight analysis of a stunted largemouth bass population in a 10-acre pond and Photo 6B graph is a Relative Weight analysis of largemouth bass in a large reservoir. The low numbers on Photo 6A indicate not nearly enough food for bass 12 inches or less. In analysis 6B you can see the individuals get healthier (more robust) with size, but most of the size classes are around 0.85 or better. The reservoir is lacking habitat for smaller bass forage and the smaller bass on average are not as robust as the larger individuals.

management is not annually removing bass from a set slot limit to reduce numbers in the prescribed size range and promote growth in the remaining individuals. It is not uncommon to hand a lake owner their management strategy and they jump in enthusiastically the first year or so, but do not continue to follow through with bass removal in the years to come, and then they think the management put forth failed. It did not, it was incomplete, and a very important piece of the management strategy gets neglected. Bass numbers removed annually can range from 10 to 30 bass per acre, depending how productive your waterbody. Greener water (algae blooms) is more productive and generally would require more bass per acre taken out than clear water lakes. The target size most beneficial to remove may also be fluid and change over the years. When the goal is quality bream, leaving all small bass and removing larger bass caught is recommended. There is no target number in this situation, just removing bass that can eat larger bream is the goal. Methods to get large numbers of slot bass removed include inviting family, friends, co-workers, youth groups or electrofishing to harvest the bass being targeted. Check your state's private pond harvest regulations, as every state we work is different. If your target area is 12-14 inches, do not remove all 12-inch or all 14-inch fish, spread the harvest out over the entire slot. Removing a few under the slot is acceptable. Be strict on harvesting nothing over your slot. Once a potential quality or current quality bass is removed, it can no longer grow any bigger, become a trophy or contribute its genes to your bass population. When trophies are caught and fish mounts are desired, measurements of length, girth and weight, along

with good photos of the fish can be used to get a replica mount made (which is much better looking than originals today).

Can managing for both quality bass and bream be achieved? The best and easiest way to achieve this is to use two separate waterbodies on your property, one designated as a quality/trophy bass lake and one with the goal to grow quality bream. When attempted in the same lake it can be done, but numbers of both target fish will be less than if done separately. With supplemental feeding, high quality habitat and bass removal, some bass and bream will reach quality size.

Not all stunted largemouth bass populations are bad. In quality bream management, no bass present is ideal, but if they are in the fish population, a stunted bass population gives way to a quality bream population. Management recommendations would be the opposite than growing quality bass, where any bass caught 14 inches and above would be removed from the waterbody. No large predators means higher survival, better growth and longer life for bream which produces more quality bream to catch and harvest. Once you establish how large your bream can get, setting a minimum size limit is recommended. Most of our clients have a nine-inch minimum (a few 10 inch) on their bream ponds. Annual bream harvest can be 50-100 per acre, again depending on the lake's productivity and your supplemental feeding program.

Throughout the years that I have been a private lake consultant, stunted largemouth bass populations resulting from clients not harvesting bass from their waterbody and/or producing enough forage of all sizes is one of the most frequent management mistakes lake owners make. It can be difficult to reach the annual harvest objective. A 25-acre lake needing 625 bass removed annually becomes a chore and is no longer fun. However, if you can get others to do your chores for you, the fish population will be better, and you will most likely enjoy it more when it is managed correctly.



Bach & DeVos operates two woodland mulchers/grinders on forestry based carriers.

Other services include timber sales, forestry/wildlife plans, burning, site preparation and planting, GPS and mapping, land sales.

Goatsuckers: The Weird World of Nightjars

by Ryan Shurette



The coloration of nightjars is typically very cryptic (resembling bark or leaves) and they are masters of camouflage. Photo by Dûrzan cîrano - Own work, CC BY-SA 3.0, no changes made.

In the Southeast, one of the most L consistent and welcomed harbingers of spring is the first loud, clear song of the whip-poorwill. Whether it is first heard during the late dusky evening as you quietly sit on your back porch swing in April, or in the still predawn morning while you are standing in the woods listening for a turkey to gobble, the repeated melodious chant of "whip-poorwill, whip-poor-will, whip-poorwill" echoing though the cool air is very familiar and pleasing to most of us who love the outdoors.

Pleasing perhaps because the very sound of this native song can stir distant memories of childhood camping trips, early morning fishing escapades, and many other adventures that usually take place while the rest of the world is either still asleep, or eating their dinners inside. Yes, we outdoors folks know that sound...but how much do we really know about the creature who sings it? Other than a brief glimpse of them at night as they are taking flight from the middle of the road to escape our oncoming automobiles, these weird and

G. Ryan Shurette is a Certified Wildlife Biologist and Owner/ Guide of DragSmoker Fishing Guide Service. Contact him at 256-404-5814. mysterious birds are seldom seen.

In most cases the first member of the nightjar family (Caprimulgidae) that can be heard singing in southeastern states like Florida, Georgia, Alabama, Mississippi, Louisiana, and Tennessee is, in fact, the

Eastern whip-poor-will, or Antrostomus vociferus. This species winters in Central America, eastern Mexico, and the southernmost (coastal) parts of the Gulf of Mexico states (especially peninsular Florida). Then, each year (usually sometime in late March or April) they begin migrating northward towards their breeding grounds, which range from the Great Lakes and southern Canada down to about the latitude of Atlanta and Birmingham, in the eastern half of the country. For a couple of weeks in early spring the whip-poor-will can be heard with increasing frequency throughout the South, but then something strange happens. Some folks may not even notice. In addition to, or instead of, this distinctive mantra, there can be heard a somewhat similar, but definitely different song. Does the Eastern whip-poor-will change its song? No, it's a new bird. Typically whippoor-wills move on through to their more northern breeding areas and another nightjar either replaces or supplements the whip-poor-will's calling. The Chuck-will'swidow (Antrostomus carolinensis) has a distribution that is similar to the Eastern whip-poor-will, but its range is shifted towards the south a bit more. Much of the two species' occurrence ranges overlap, but the Chuck-will's-widow is a little later in its migration up from Central America, Mexico, Cuba, and the Caribbean. That's why sometimes the whip's song sounds like it changes to the somewhat altered song of "chuck-will's-widow". They are indeed separate and different species, although their physical appearance can be even more similar than their songs. If in doubt as to which species is singing, just listen for the gap or pause in between the Chuck-wills'-widow's cadence. There's a two second pause in the song of that species versus the continuous back-to-back stanzas of the Eastern whip. It's glaringly different once it has been pointed out.

There are actually about 120 species of **nightjars** (and allies, including frogmouths and owlets) in the world with most occurring in Australia. Six common species of nightjars are found in North America, with three species occurring predominately in the East. The eastern nightjars include the two species named above plus the Common nighthawk (Chordeiles minor; also sometimes called a "bullbat"). The **Common poorwill** (Phalaenoptilus nuttallii), Lesser **nighthawk** (Chordeiles acutipennis), and Common pauraque (Nyctidromus albicollis) inhabit the

western US, with the latter two being more common in the Southwestern states. All six members have some distinctive characteristics that separate them, but for the most part they look pretty similar, and they have one thing in common. They are all pretty weird. In this article we will take an in-depth look at the biology and ecology of the goatsuckers.

The Latin word Caprimulgus, from which this family gets its name, essentially means "goatsucker". This appellation comes from the old folk tale that these birds sucked milk from goats. That's right, sucked milk from goats. This myth is not accurate of course but this name only adds to the weirdness and mystique of these creatures. Many think this name arose due to their grossly oversized and gaping mouths, which are actually used mainly to scoop flying insects out of the air. I suspect the term goatsucker may have originated also from the fact that these birds are



Nightjars have relatively large eyes with a reflective light-gathering membrane that allows the birds to see and forage effectively in the dark of night. Researchers believe that Whip-poor-wills (shown here) and Chuck-wills-widows detect most of their flying insect prey by seeing the silhouettes against the sky at dawn, dusk, and on moonlit nights. This physiological feature (the tapetum) is responsible for the bright red reflection that glows from their eyes when they are spot-lighted in the road at night. Photo by Tony Castro - Own work, CC BY-SA 4.0, no changes made.



The Eastern whip-poor-will, winters in Central America, eastern Mexico, and the southernmost (coastal) parts of the Gulf of Mexico states (especially peninsular Florida). Then each year (usually sometime in late March or April) they begin migrating northward towards their breeding grounds, which range from the Great Lakes and southern Canada down to about the latitude of Atlanta and Birmingham, in the eastern half of the country. Map credit: Cephas - Cink, C. L., P. Pyle, and M. A. Patten (2017). Eastern Whip-poor-will (Antrostomus vociferus), version 3.0. In The Birds of North America (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. Retrieved from Birds of North America: https://birdsna-org.acces.bibl.ulaval.ca/Species-Account/ bna/species/whip-p1, CC BY-SA 4.0, no changes made.

prone to hanging around open areas and bare ground, and foraging around livestock (perhaps in a pasture setting where goats may routinely bed down for the night) and the fact that they are mainly crepuscular (active primarily during pre-dawn and dusk) when low light levels make it hard to see exactly what they are up to. A croaking, erratically flying nightjar fleeing from such a site may have helped to conjure up that fantastic name. All throughout history birds that fly at night, including the nightjars, have often had the reputation of being associated with witches and spells. Some believed whip-poorwills were able to predict storms. Many Native Americans and early settlers believed the whip-poor-will was a death omen, especially if it called from close to one's dwelling. The Mohegan Indians believed small elf-like people (called makiwasug) took on the shape of nightjars to move around the forest during the night. The author H.P. Lovecraft used the whip-poor-will in his books and stories as a spirit animal that could sense impending death and that would remain near the dying person as they passed. The following chilling excerpt is from one of his works (The Thing on the Doorstep and Other Weird Stories); "It is whispered that they linger and flutter around houses where death is approaching, hoping to catch the soul of the departed as it leaves" (Lovecraft, 2001). It is interesting that so many people and cultures have this dark and sinister impression of these birds.

As they are related to owls and swifts, the physical appearance of a nightjar is quite strange. Although each species is unique, they all have relatively large heads, long pointed wings, tiny inconspicuous legs, small beaks and enormously wide mouths. On either side of the mouth there are long sensitive whiskers that help the birds to detect and capture flying insect prey, and possibly to protect its eyes during feeding. The coloration is typically very cryptic (resembling bark or leaves) and they are the ultimate masters of camouflage. On the ground in the leaf litter they are almost impossible to detect. This is a critical part of their self-preservation strategy since they nest and sleep on or near the forest floor during daylight hours. Some nightjars also perch or roost on branches but they do not perch perpendicular to the limb as most other birds do. They orient themselves on top of the branch so that their tail and beak align with it. This makes them appear to be part of the branch, resembling a knot or broken secondary branch. Nightjars have relatively large eyes with a reflective light-gathering membrane (tapetum) that allows the birds to see and forage effectively in the dark of night. Researchers believe that Whippoor-wills and Chuck-wills-widows detect most of their flying insect prey by seeing the silhouettes against the sky at dawn, dusk, and on moonlit nights. This physiological feature (the tapetum) is responsible for the bright red reflection that glows from their eyes when they are spot-lighted in the road at night.

Some nightjars perform incredible acrobatic aerial courtship displays. You might have seen the Common nighthawk (one of the few species that is also active during daylight hours) erratically flapping and then holding its wings in a "V" shape, climbing higher and higher in the sky before stooping and diving head first towards the ground. Sometime before impact he pulls up and "booms". This booming sound is produced by air moving over the tips of its wings. In addition to courtship this maneuver can also be directed to scare intruders from its territory and nesting area. The male Eastern whip-poor-will performs a buzzing circular dance on the ground to impress females. Nightjars are by no means elaborate nest-builders. Depending on the species, they usually lay 1-3 mottled eggs directly on the ground or litter (often on pine straw litter in the Southeast). Some species like the Common nighthawk will also nest on gravel rooftops. Incubation is performed by both the male and female in some nightjar species (females only in the Eastern whip-poor-will) and generally lasts about 20 days. The Common nighthawk has a slightly shorter incubation period of about 18 days. The parent bird who is not incubating roosts some distance from the nest to minimize the risk of detection. The incubating bird will sit motionless on the eggs, with its eyes closed, so as not to be

detected by predators. The Eastern whip-poor-will has been found to lay its eggs during a time in the lunar cycle so as to take advantage of increased intensity of moonlight and therefore maximizing the efficiency in detecting prey. Eggs typically hatch around 10 days before the full moon so that adults can forage throughout the entire night over the next two weeks in order to supply the growing chicks with plenty of high protein food. Nightjars have semi-precocial chicks, which means they are somewhat able to move around and fend for themselves, but not to the level of a turkey or quail chick. After hatching, the young nightjars may move from the nest and hide if danger approaches. Adults will sometimes move the chicks to a new location and may also pretend to be hurt in an attempt to lead predators away from the nest, much like the kill-deer or some other shorebirds do. Some researchers have even observed adults kick chicks sideways sending them tumbling a few feet away as

the adults fly away trying to confuse intruders. Whip-poor-will males will sometimes attempt to defend the nest site from animal (and human) trespassers by hovering vertically near the suspect with their tail feathers spread and white markings exposed, sometimes croaking as well. When not in breeding status or if they are away from the nest adult nightjars may even hiss and open their mouths widely when disturbed or surprised on the ground, presumably to imitate a poisonous snake. In the Southeast, where the Chuck-will'swidow is the most common breeding nightjar, this species has a pale whitish inner mouth and throat, just like a cottonmouth. This coloration and behavior may be more by design than just coincidence, and this adaptation could be enough to startle and bluff some would-be predators.

The strange doesn't stop there. In a phenomenon that is not known in any other bird species, **Common poorwills** (the smallest of the



Nightjars are by no means elaborate nest-builders. Depending on the species, they usually lay 1-3 mottled eggs directly on the ground or litter (often on pine straw litter in the Southeast). Chuck-will's-widow eggs are shown here. Photo by Ryan Shurette.

North American nightjars) can go slow their breathing and metabolism down and actually enter into extended periods of torpor, and even into true hibernation. This strategy has undoubtedly evolved to allow the species to survive the harsh environmental conditions in the southern portions of its range where they overwinter in rock piles in the high desert. The Hopi Indians, which lived in that region, called this little bird hölchko, which means "The Sleeping One". Other nightjars might also be able to hibernate to some extent but it has not yet been documented to the extent of the poorwill. At the other end of the spectrum, the Chuckwill's widow is the largest nightjar on the North American continent. With a wingspan of a little over two feet, and a mouth the diameter of a tennis ball, they have even been documented to prey on small birds and bats, swallowing them whole! Although their usual diet consists of flying beetles, moths, and winged ants, these voracious birds undoubtedly are seasonal predators of migrating warblers. In an account published in the Wilson Bulletin (1967) from 1961 in south Florida, a Chuck-will's-widow was observed to have evidently died from trying to ingest a Common yellowthroat (a small warbler that breeds in the US and winters in the Caribbean). Upon closer inspection the Chuck-will's-widow also had a partially digested Cape May warbler in its stomach along with a couple large locusts. In another earlier account published in the Auk (1899) this species was observed picking off migrating warblers over the ocean (interestingly during daylight hours). This adaptive predatory behavior and the ability to feed on other migrating birds may play a significant role in maintaining fat reserves during migration to and from its breeding grounds.



Chuck-will's-widow presumably mimicking an eastern cottonmouth snake to bluff potential predators. Photo by Dick Daniels (http://carolinabirds.org/) - Own work, CC BY-SA 3.0, no changes made.

The sleek and long-winged Common nighthawk, or bullbat, is typically the only eastern nightjar that can be seen flying around actively feeding and performing courtship displays during the daylight in summer. Dawn and dusk are actually the most active times for this species and sometimes they can be seen feeding together in the tens or even hundreds (especially in the lighted areas like ballparks or in cities where flying insects are abundant). Bullbats (in addition to the booming sound described earlier) make a nasal, buzzy meent call. They are often easier to hear than they are to see. It usually takes a minute or two to locate them as they are flying around. The Common nighthawk is easy to distinguish both by its call and by its white wing bars which cross and contrast the dark primary feathers on both wings. It also has a white patch on the underside of the throat. This patch disappears, however, when the bird is not in flight and it becomes every bit as camouflaged as the other nightjars when perched or sitting on the ground. The Common nighthawk is a long

distance migrant and it breeds in virtually all of the lower 48 states and all Canadian provinces. They even turn up in summer in Iceland, Greenland, and Island of the Azores. In the daytime they roost on tree limbs, on fence posts, or on the ground. They nest on the ground like other North American nightjars in cleared forest stands, open woods, gravel patches, or grasslands. The Lesser nightjar is similar to the slightly larger Common nighthawk but it is a desert dweller. It breeds in the extreme southwestern US and Mexico and winters in Central America. This species is very efficient at dealing with temperature extremes, which are common in desert conditions. This species can enter short term torpor (not true hibernation like the Poorwill) when it is very cold until temperatures warm and food can be more easily found. In the intense heat of the day the bird has physiological adaptations to stay cool, as well as behavioral strategies (like a dog they open their mouths so that air can cool the lining and act as a radiator). Lesser nighthawks can

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walk around on the ground pretty well also. Regarding its vocalizations, this species sounds nothing like its cousin the Common nighthawk. It produces a low, purring call that almost sounds like a tree frog. It does have a similar white band on the outer wings but if you see a nighthawk in the East, it will almost certainly be the Common nighthawk and not this species.

The **Common pauraque** is primarily a tropical species that ranges from Central America up through Mexico and only into the southern tip of Texas. It looks a little different from the other Caprimulids in that it has, relative to its body size, a much longer tail and broad, round wings. Like other nightiars it is perfectly camouflaged, nests on the ground, and builds no nest. Largely non-migratory, it roosts in scrublands, woodlands and densely vegetated forests during the day, and feeds over wetlands, open croplands and open forested areas at night. Interestingly, the Common pauraque often (in addition to catching insect prey in the air) forages on the open ground by hopping or chasing insects crawling or flying low over the ground. This species has relatively long legs for a nightjar and sometimes it even runs from danger instead of flying (Nigel, 1998).

While none of the North American nightjars are federally listed as threatened or endangered, there are a few species that have shown trends of decline over the past decades. Some nightjars are not the easiest species to survey because of their cryptic nature, camouflaged coloration, and nocturnal habits. However, long standing surveys (like the Breeding Bird Survey routes) have shown that species like the Common nighthawk have been decreasing in numbers for the last several years. For the Common nighthawk that decline is estimated at about 60% in the past 50 years. (Cornell Lab of Ornithology). Partners in Flight (PIF) has estimated the breeding population of Common nighthawks now at somewhere around 16 million birds. Habitat changes and insect abundance have been named as possible factors but it is hard to identify exactly what is the main cause of these trends. Common poorwills have also been reported by PIF to have decreased, by about 30% in the past 50 years, to a current estimated population of around 1.4 million individuals (Cornell Lab of Ornithology). Urbanization of habitats is thought to be one reason for this. The Chuck-will's-widow is reported to have declined around 69% since the mid-sixties, according to the BBS (Cornell Lab of Ornithology). With a current population estimate of about 6 million, pesticide use has been named as a



The sleek and long-winged Common nighthawk, or bullbat, is typically the only eastern nightjar that can be seen flying around actively feeding and performing courtship displays during the daylight in summer. Photo by Gary L. Clark - Own work, CC BY-SA 4.0, no changes made.



The Common nighthawk population has shown a decline of about 60% in the past 50 years. The exact causes for these trends are not known. Photo by Andy Reago & Chrissy McClarren - Common Nighthawk, CC BY 2.0, no changes made.

possible concern with this species but this tie has not been conclusively shown (Cornell Lab of Ornithology). The Eastern whip-poor-will has seen a whopping 75% decline over that same period of time (Cornell Lab of Ornithology). Current population estimates provided by PIF are approximately 2 million adult birds globally. Some members appear to be stable. Pauraques are common and widespread and don't seem to be declining. Others have actually increased. The Lesser nighthawk population for example has increased by about 15% in the past 50 years according to PIF (Cornell Lab of Ornithology). There has been a recent initiative over the past decade or so to get public groups and private individuals involved in surveying for nightjars by joining the United States Nightjar Survey, which is sponsored and coordinated by the Center for Conservation Biology and William & Mary College. If you are interested you can check this program out online at www.nightjars.org. Goatsuckers are indeed weird and fascinating creatures. Hopefully this article has helped to shed some light on these mysterious birds.

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Do-It-Yourself Wall Hangers How to Mount Your Trophy Deer Head European Style



By Ron Jolly Photos by Tes Randle Jolly

Ron Jolly (ronjolly22952@ mindspring.com) is an awardwinning outdoor writer and video producer living with his wife, Tes, on their farm near Tuskegee, Alabama. Tes (www.jollysoutddorvisions. com) is herself an awardwinning writer and outdoor photographer. You've seen lots of her work in past issues of Wildlife Trends Journal.

Deer season is finally over and it was a good year. You finally got a crack at the trophy buck that haunted your dreams for months. Now you have a new dilemma. It is time to do something with the head and cape in your freezer. You may have limited space on your wall or maybe a limited budget. Whatever the issue, the buck deserves to be displayed in a place of honor for all to admire.

I can't think of a single deer hunter I know who does not have a mounted deer head. Most have several and each mount represents a special moment in the life of a hunter. They serve as proof of an unforgettable encounter between hunter and hunted.

I have been a hunter and big buck fanatic for more years than I care to admit. Over the decades I have had my share of success. In time, the need to conserve space, save money and yet showcase special bucks led me to European mounted heads.

European or skull mounts have a

classic look that is durable, rugged and last a lifetime. They take up less space and can be finished in a matter of days. A shoulder mount from a taxidermist can take months to reach your wall.

A taxidermist may charge \$500 or more for a shoulder-mounted whitetail. In contrast, a skull or European mount prepared by a taxidermist costs around \$100. If you learn to European mount your own deer heads, the cost is cut to \$20 or less.



There are several ways to accomplish the goal of a skull totally clean of flesh, connective tissue and oil in the bone. One way to prepare a skull is the use of **Dermestid Beetles**. These beetles are amazingly efficient and can clean a skull of all flesh and tissue in a matter of days. Problem is they must be maintained in a controlled environment of proper food, moisture, fat and temperature. Maintaining a beetle population is a task within itself, not to mention the stench associated with flesh eating beetles.

Another way is to use boiling water, a pressure washer and common tools around your house to prepare your own skull mount. The process is a bit tedious, but simple, and can be completed in a few days if you are persistent. Here's how you can save money and showcase your trophy with a do-it-yourself, elegant, European skull mount.

Remove the Head

Cut to the bone behind the ears with a sharp knife. Cut around the neck to just behind the jawbone. Finish the cut by circling to the origin of the cut behind the ears. Make certain the cut goes all the way to the neck bone.

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Skin the Head

the cut between them.

Begin skinning the head by

pair of pliers or forceps. Cut

Cut a line to the bone from the

back of the skull over the top of

the nose to the mouth. Cut to the

bone around each antler. Cut a line

gripping the edge of one cut with a

connective tissue between the skull

the ears off as close to the skull as

possible. While skinning the skull

remove as much meat and tissue as

and the skin with a sharp knife. Cut

joining the cut from each antler to

Locate the first cervical vertebrae. This joint is the first neck joint behind the ears. Moving the head will help reveal the location of this joint. Once the joint is located, insert the point of your knife into the joint on the top and bottom side. Cut any connective tissue holding the head to the neck.

Once the joint is revealed and all connective tissue has been cut, twist the head until it breaks free of the neck.



possible. Continue until all the hide is removed from the skull.

Remove the Parts

The perfect European or skull mount consists of a clean bleachedwhite skull and naturally colored antlers. To get to this point you have to remove any and all tissue inside and outside the skull.

The lower jaw is attached to the skull by tendons and muscle. Remove the lower jaw by opening the mouth as far as possible and identifying the joint. Cut the





muscle and connective tissue on the outside of that joint on each side of the skull. Apply pressure to the lower jaw, further opening the mouth. Cut any connective tissue revealed by opening the mouth. When enough tissue has been cut the jaw will loosen allowing you to remove it from the skull.

Remove the eyes by gripping the connective tissue around the eye with pliers or forceps. Use a sharp pointed knife to cut around the inside of the orbital lobe while pulling on the eyeball with the forceps or pliers. Continue until the eye is cut free of the skull. Repeat for the other eye.

To remove the brain, insert a stiff piece of wire with a bend at one end into the spinal cord opening at the back of the skull. Use the wire to break down the brain into a mush. Periodically invert the skull and shake out any loose brain material. Continue until most of the brain matter has been removed.

Boil the Skull

Place the skull in a large, deep-sided pot. Add enough water to cover the skull. Add 1/2 cup dishwashing liquid. Place the pot on a burner and bring water to a boil. Once the water boils, lower the temperature to maintain a gentle boil for 30 minutes. If enough water boils away to expose part of the skull add more water.

After boiling the skull for 30 minutes, cut the fire and leave the skull in the water for another 30 minutes. This process does two things—it softens remaining tissue on the skull and removes a lot of the natural oil in the bone.

Clean the Skull

After the skull cools enough to handle, it is time to begin removing remaining muscle, fat and tissue. I use a pressure washer to hasten this process. Secure the skull to a pallet or fence panel to prevent movement. Use the high-pressure nozzle to cut through remaining tissue on the skull. Be careful with the fine bones







around the nose because the pressure could break or dislodge these tiny bones.

This is a messy job. Wear rubber boots and a waterproof apron to prevent water from soaking you. You will be glad you did.

After the pressure washer has removed as much material as possible, place the skull back in the pot and bring back to a low boil for 15 minutes. Let it cool and use a knife or scraper to remove the rest of the tissue inside and outside the skull. Use forceps to remove sinus material inside the nose. Repeat as many times as necessary to get all the tissue off the skull, being aware that you can boil the skull to the point that the fine bones in the nose become loose and fall off. Should this happen they can be glued back to the skull when completely dry.

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Bleach the Skull

Place the skull in a plastic pan large enough to hold liquid deep enough to cover the skull. Wrap medical gauze around the skull at the base of the antlers, covering the skull between the antlers. Pour enough hydrogen peroxide into the pan to cover the skull but not the antlers. Dribble hydrogen peroxide on the gauze until it is soaked. This will bleach parts of the skull not submerged in the liquid. Apply more liquid to the gauze on a daily basis until the skull is bleached snow white. This normally takes five days with over-the-counter hydrogen peroxide. More concentrated hydrogen peroxide is available and will take less time to bleach the skull.

Another option for bleaching the skull is mixing hair salon products referred to as "basic white" with a 40% solution of hydrogen peroxide. Paint the solution onto the skull fresh out of the boiling pot taking care to completely cover the skull. After the paste is applied, wrap the skull in plastic wrap or aluminum foil. After a day in the wrap remove the skull and brush away the dry residue.

Seal the Deal

When the skull is bleached white remove it from the liquid and remove the gauze. Let it dry for at least a week. After that time locate the two holes in the rear of the skull and insert a five-inch length of wire. Center the skull on the wire and twist the ends forming a loop. This serves as a hanger for the mount.

Remove any residue accumulated on the antler bases with a small wire or stiff plastic brush. If a portion of the antlers has been bleached by the peroxide, use black and brown shoe wax to stain that portion of the antlers. To seal the skull, hang it by the loop at eye level. Generously spray the antlers and skull with a clear polyurethane spray on one side. Allow that side to dry then turn the skull and spray the other side. Apply at least two coats. When the varnish is completely dry you are ready to hang your trophy.

If you are a first-timer mounting your first skull, there are kits available on the internet to assist you with the task. These kits include most of the items you need to clean and display your trophy. Each kit is different but most include bleach, hangers and directions. Do a simple search for "skull mount kits" and you will find a variety of kits available averaging around \$30.

Shoulder Mount Caping Tips

Many deer hunters choose to have their trophy shoulder mounted. If this is your choice you should know that how you cape your animal is the key to success at the taxidermist. It is crucial that the cuts you make to field dress and cape your deer are made correctly.

If you field dress the deer, make certain that you only cut the hide to the brisket to remove the guts. The hide from the end of the brisket to the head is critical to a successful mount.

Hang the deer by the back legs and pull it up until the head clears the ground. Locate the end of the brisket nearest the deer's rear legs. Make a cut around the deer's body two inches behind the brisket. Continue the cut across the ribs, over the back and back to the origin of the cut behind the brisket.

Ring the front legs below the knees. Cut the hide on the back of the legs in a straight line between the ring cuts below the knees to the cut around the deer's body.

Start skinning the deer at the cut around the body. Skin the hide off the carcass towards the front legs. When you reach the cuts on the front legs, start working the hide off the front legs being careful not to cut a hole in the hide. Continue skinning the deer until all hide is removed from the carcass all the way to the head. Locate the first cervical joint behind the head and sever the head from the neck at that joint.

Wrap the hide around the head and place it in a plastic trash bag. If you cannot take your trophy to the taxidermist that day, freeze it. Your taxidermist will have everything he needs to complete your shoulder mount.

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Closing

Mounted deer heads are part of the hunting ritual. If you are a deer hunter you either have mounted heads or you are hoping to have one soon. It's our way of sharing with others the beauty and excitement of hunting. Mounted deer heads serve as a conversation piece to every hunter who sees them. They represent your success as a hunter and add to the decor of any room-provided your wife agrees!

VORETIPS

There is some speculation on whether to use a pressure washer to remove tissue from a skull before boiling it. That is an option if you have a pressure washer capable of creating enough pressure to cut tissue from the bone before boiling it.

I have seen skulls that were completely void of connective tissue and flesh using only a pressure washer. This saves time and reduces the chances of over-cooking the skull and loosening the small bones on the nose.

If you choose this route, remember, the sinuses and parts of the brain are hard to remove with a pressure washer alone. Boiling the head in water and a small amount of dish washing liquid helps soften and loosen these tissues making them easier to remove with pliers or forceps. Boiling in soapy water also removes most of the oil in the bone.

A combination of boiling and pressure washing is the most efficient way to prepare your trophy for display and eliminates odors created if these materials are not removed from the skull.

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Wildlife Trends Journal Management Calendar



Clean up, organize and stock deer cleaning stations before the season starts.

Prepare skinning shed for deer data collection. Deer season is right around the corner. Collecting information from deer harvested on your property can provide valuable insight to the status of your herd, the progress of your management strategies, and assist in making harvest decisions that will improve the deer herd and ultimately the hunting. Making sure your skinning shed is fully stocked and ready should be an annual preseason activity. At a minimum, you should be collecting age (jawbone), weight, antler measurements, and reproductive data. Supplies needed include jawbone extraction tool, pruning loppers, wire basket to airdry/store jawbones, sharp knives, permanent markers, pencils, weight scale, gambrel/rope for hanging deer, flexible measuring tape,

instructions on how to collect and store harvest data (recommended if more than one person will be collecting the data), and harvest data sheets to record the information collected. General preparations may include sharpening and lubricating pruning loppers, calibrating weight scales, inspecting and/or replacing rope or cables used to hang deer, ensuring water source is working properly, and stocking/ organizing the data collection area. The Quality Deer Management Association (QDMA) or Forestry Suppliers are great places to purchase supplies to collect harvest data including harvest data sheets. Collecting and analyzing harvest data is often the backbone to the success of a deer management program.

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Service tractors, ATV's, and other mechanical tools.

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

Check, repair and prepare deer stands for hunting season.

While the best time of year to relocate or place new deer stands on your property is in late winter after the deer season has ended or very early spring (before green up), late summer or early fall is when you need to revisit these stands to tighten them back up, inspect for loose nuts/bolts, rotten or loose wood, or any other safety hazards. This is also a good time to check the shooting rails, padding, replace pull up ropes, and trim shooting lanes where needed in preparation for hunting season. However, do not over do the shooting lanes. Small openings are all that is normally needed to identify and shoot deer. Because we have so many deer stands on the property I hunt, we have started using flagging as a way of ensuring each stand is safe. That is, once a stand is checked, tightened, etc., we simply tie a

piece of colored flagging on the base of the stand or the ladder. We use a different color each year. For example, this year we are using yellow flagging. So, if you get to a stand this fall that does not have a piece of yellow flagging on it, you know that it has not been through "final inspection" this year and to use caution if you use it.

Mow under and around fruit trees and orchards.

Mowing around fruit trees will not only enhance the growth of the trees by reducing competition for resources by surrounding plants, but will enhance the aesthetics of your property. Mowing will also help "clean" the understory around the fruit trees so wildlife can find the fruit as it drops in the fall (acorns, persimmons, apples, etc.). As fruit or nuts begin to fall, these areas provide great places to hang a trail camera to get pictures of wildlife using the trees and/or a great place to hang a deer stand!

Develop a pre-season deer harvest plan that will maintain or improve your deer management program. Monitoring the status of your deer herd is the backbone to the success of your deer program. Hopefully, you have been collecting harvest data (weights, measurements, ages, etc.), hunter observation data, as well as conducting camera surveys. Collectively, this information is used to make educated deer management decisions that will help you achieve the goals of your program. Without this information, you are simply guessing and/or hoping the hunting on your property will get better. Though it may not be the most exciting part of deer hunting (but neither is cleaning out and repairing shooting houses), collecting and analyzing information about your deer herd will result in better management decisions and ultimately better hunting. If you haven't already done so, ask a wildlife biologist to review your data or information and provide harvest recommendations before hunting season starts. Using your data and trail camera photos, an experienced deer biologist/manager can provide valuable insight to the status of your deer herd. For most deer biologists, assessing deer management pro-



Begin flooding a portion of duck ponds for early arriving teal.



Mowing under and around fruit trees improves property aesthetics but also helps animals find fruits/ nuts that will be dropping soon.

grams and hunting is more than a hobby or passion – it's their profession. It's what they do day in and day out. Based on their experience and your information, a deer biologist can often prescribe recommendations that will significantly improve the hunting on your property.

Begin flooding duck ponds in early September. Teal are usually the first ducks coming down the flyways as they migrate south for winter. Although it depends on where your property is located, you should expect to start seeing teal in late August through mid-September. To accommodate these waterfowl and/or to attract them for the early teal hunting season, flood at least 30% of your duck pond. To be most attractive, make sure there are some open water areas within the flooded area. The main reason for not flooding the entire duck pond is to delay seed deterioration caused by flooding. Seed deterioration rates, or the amount of time it takes for a seed to break down after being flooded, vary among different plant species. Most native wetland plant seeds are well adapted to

flooded conditions and will last up to 3 months under water. However, most agriculture crop seeds breakdown much quicker. Thus, you only want to flood enough of your pond to provide early arriving teal with a food resource. Begin flooding the remainder of the pond in late October for the main flight of ducks. This will ensure the seeds you've worked hard to produce will remain longer into the winter to provide food and attract ducks. If you have never shot early season teal, you're missing out. Teal respond to calling and work decoys well and they fly in fast, tight flocks which makes for some fast and furious shooting.

If you added annual clovers to your food plots last fall, September is the time to apply management to regenerate the food plots.

Incorporating reseeding annual clovers into your fall plantings will allow you to extend the plot's wildlife value by providing quality food sources through early summer. Without them, fall plots of small grain such as winter wheat and oats generally become less productive and thus less valuable for wildlife by early spring. If you have planted annual clovers such as crimson or arrowleaf clover, allow them to flower and seed out - which normally occurs in April - June depending on which growing zone you are in. The flowers are important for game birds, particularly quail and turkey poults. Flowers attract insects which are an important component in the diet (source of much needed protein) for very young turkeys that were hatched this spring. Although plots generally get weedy after the clover has seeded out (which isn't always a bad thing), leave these plots alone until early fall. About 3 weeks to a month prior to planting time, mow the plots as low as possible, allow a week or so for the weeds to start growing again, and apply glyphosate (RoundUp) to knock them out and prep the plot for re-planting. If weeds were thick, you may consider burning the thatch off to expose bare ground (burning also enhances clover seed germination). Once the weeds die (or have been burned off), spread fertilizer, lightly disk the plot to expose bare ground and "stir up" the residual clover seed from last year, then plant annual small grains (wheat and oats). The key to the whole process is to not disk the food plot too deep. After the first planting, and if you've allowed last year's clover to seed out, annual clovers will reseed and come back every year which not only provides great nutrition and extends the life of your fall annual plots, but will save you money on seed.

Implement habitat enhance-

ment plans. Summer is a good time to implement habitat enhancement projects such as timber harvests, timber stand improvements via hack & squirt methods, Quality Vegetation Management (QVM) to



Once crops are mature, fire is a great way to expose seed and increase dove use of a field.

stimulate desirable wildlife understory species via herbicide applications, roadside enhancement areas, and creating new food plots. All of these projects or activities will add wildlife value to your property. Although it has already gotten late in the growing season, I like to have these projects planned well ahead of time so that they can be implemented early in the growing season. This allows a longer time during the growing season for these areas to "recover". Timber harvests or dozer work that is done late in the growing season often results in poorer quality wildlife habitat during the first year because plants have not had time to re-colonize. Additionally, these areas are not as aesthetically pleasing during the following winter. However, if you are running behind, I recommend getting these improvements in when you can. I'd rather get the improvements implemented late than to not have them done at all.

You can think of it this way – you will be early for next year!

Prepare fields for dove sea-

son. The only thing that helps get me through August is knowing that dove and football season will be starting soon! With much experience planting and managing dove fields, the most successful dove fields have a few things in common. First, they have an abundance of food (seeds). Dove are primarily seed eaters and consume very little insect matter or green forage. Among the various seeds available to dove, grass seeds and grains comprise most of their diets. Secondly, the seeds must be readily available to the dove. Dove prefer to feed on the ground in open cover where they can watch for approaching predators. Dove have short legs and are not strong scratchers (like turkeys) so they avoid areas with dense ground cover and rough vegetation. Finally, the field must be

located in an area used by dove – similar to being in a flyway for waterfowl.

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

through the field. As mentioned, dove like clean/bare ground to land in and easily walk around. They also use these strips to pick up grit (small pebbles and sand) used in their digestive system. Freshen these strips up through the growing season as needed. A week or so before the season, I burn sections of the field to remove vegetative cover of the crop and expose the seed on bare ground. If crops are mature but still green, apply an application of glyphosate (Round Up) a week or so before burning to brown the crop ensuring it will burn clean. I often use the bare dirt disked strips as firebreaks – so think these through before installing them earlier in the process. Plan how much of the field to burn according to your anticipated hunting schedule. For example, if you plan to have one "blow out" hunt when the season opens, prepare and burn the entire field (or whatever is needed). However, if you plan to hunt through the various phases of the season, save some of the field to burn later just before hunts are scheduled.

A few other tips:

- Top-sowing or broadcasting without covering the seed is not considered a normal agricultural practice and is illegal in most states.
- Dove prefer to land in clear areas. Maintaining disked bare ground strips will ensure easy access for dove.
- Plant dove field with a variety of plantings that will have varying maturation dates (e.g. browntop millet, Japanese millet, and sunflowers). This will ensure continued attraction throughout the season.
- Too much shooting pressure will cause dove to move to other

areas. Limit shooting to one hunt per week.

 Manipulating portions of the field by mowing, chopping, burning, or disking a week or so prior to hunting will help expose seeds to attract dove to the field.

Install trail cameras to capture photos of deer. Depending on where your property lays in the whitetail's range, antler hardening (shedding of velvet) has already taken place or will shortly. Late August or early September is a great time to begin installing trail cameras around your property to capture photos of bucks. During this period, bucks are congregated in loose bachelor groups allowing you to photograph multiple bucks together. Where to place the cameras depends on local food sources and deer activity. In some cases, attracting deer to a camera site with scattered whole corn is most effective. However, mineral licks that were created earlier in the year often make great camera locations, particularly if you have experienced wet conditions. Other locations that may be effective in late summer or early fall include entrance trails to large agriculture fields, along the edge of smaller

food plots of perennial crops, summer food plots, or small water holes (if weather is warm and conditions are dry). Naturally, most hunters are anxious and excited to plug the SD card into a computer and run through the photos to see what kind of bucks they have, which is what I do. However, take time afterwards to do a little analysis of the photos. By counting the number of bucks and does in the photographs you can get an idea of the existing adult sex ratio which will help you make harvest decisions. Estimating the age of the bucks you photographed will shed light on the buck age structure. Obviously, a full-scale camera survey will provide the most accurate and comprehensive information about the deer herd, but "random" trail camera photos certainly have a story to tell and can help you better understand the status of the deer herd on your property. All of this allows you to make better management decisions that lead to desired results. Photos from trail cameras will also help reduce "mistakes" when judging bucks in the woods while hunting. This is particularly true for guest hunters that may not be as familiar with the deer herd as you are.



Late summer and early fall is a great time to install and monitor trail cameras to assess a deer herd.



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