Wildlife Management News

3rd Quarter 2014

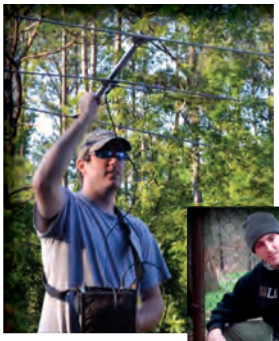
Informative Guide to the Management of Wildlife in the Northeast

WMNews can be viewed at these sites:
www.buckforage.com
www.cfd.coop.com
www.drdeer.com

Cover Photo by Dave Lamerd

WMN Welcomes New Co-editor

by Jim Holbert, Editor



Jim Stickles monitors the mortality status of GPS-collared deer using radio telemetry.

Jim befriends a young deer at the University of Georgia deer pens.

Due to fantastic local support, *Wildlife Management News* (WMN) is growing! We cannot thank all of you enough for your loyalty and friendship! With growth comes new opportunities, and moving into the future I would like to announce that Jim Stickles, a regular WMN contributor and good friend, has agreed to be co-editor of WMN.

For those who do not know Jim, he was raised in a small town in the Adirondacks of New York. Like many who enjoy the outdoors, he spent much of his adolescent life hunting, ÿshing, camping, hiking, and playing sports. Adding to his résumé, Jim has a B.S. in Wildlife Science from the State University of New York College of Environmental Science and Forestry, and he is currently working toward an M.S. in Forest Resources Management at the University of Georgia. Jim is certiÿed as an Associate Wildlife Biologist by The Wildlife Society, and certiÿed as a Deer Steward II by the Quality Deer Management Association. In the past, Jim has worked for the New York State Department of Environmental Conservation, the Adirondack Ecological Center, the Cary Institute for Ecological Studies, and the Pennsylvania Game Commission. Currently, when he is not working on his M.S. thesis or writing articles for WMN, he works as a Pro Staff Biologist for Big Game Logic, LLC.

Busy as he is, Jim has always made time in his schedule to contribute an article or two in nearly every issue of *Wildlife Management News.* As we embrace new opportunities, we hope to bring our readers stories that will continue to strengthen the hunting community and broaden our knowledge of wildlife management.

Jim shows three-time National Wild Turkey Federation Junior Grand National Champion Hunter Wallis how to age deer by tooth wear and replacement.

Fall is for Planting as well as Hunting!

Before the hunting season approaches, you are going out to your land, checking cameras, scouting, setting blinds, and getting everything ready for the hunt. But did you know it is also a great time to plant food plot trees?

Fall is an excellent time to plant for a number of reasons. First, the weather is starting to cool off, so the trees are not stressed so much at transplanting. The roots grow into the soil, even if the trees lose their leaves, as long as the ground is not frozen. This way, when the trees leaf out in the spring, they are better established and do not have transplant shock by leaÿng out when the trees are not rooted in.

Even more importantly, especially with plantings in the woods or along edges of food plots, fall is a time of regular rain, associated with the start of the cool fronts that bring the wonderful weather. So if you are not able to easily get back to water your trees on your land, the rains will help the tree grow, and as the trees lose their leaves in the fall, they do not need nearly so much moisture. Fall survival is normally very high, and you do not have the threat of hot summer temperatures and drought.

Plant your food plot trees in fall the same way you would in the spring – choose a site with good air and soil drainage. Water them in well at planting, place weed mats and especially grow tubes or cages to protect them from deer and other animals. Do NOT fertilize in the fall – you do not want to stimulate young tender growth that could be damaged from an early fall freeze. Wait until the trees leaf out the next spring to fertilize.

Fall planting with potted trees is done in mid-August through September in northern states, and from September through Christmas in the deep south.

Chestnut Hill Outdoors will be delivering Dunstan Chestnuts, oaks and other wildlife trees to Walmart across the nation in August and September, and to Coop Feed Dealer stores in NY and PA this fall.

For more information, visit: www.chestnuthilloutdoors.com

About Chestnut Hill Outdoors:

Chestnut Hill Outdoors is the grower of the Dunstan Chestnut™, the most widely planted blight-resistant chestnut in the U.S. and the best food plot tree for attracting deer and wildlife. R.D. Wallace, grandson of plant breeder Robert Dunstan, has been a professional nurseryman for over 30 years, is the leader in the establishment of the chestnut orchard industry in the U.S., and is one of the nation's authorities on growing trees to attract wildlife.

DR. DEER'S Management Calendar

by Dr. James Kroll

Fall Camera Census

Fall is a magical time of the year; a time for harvesting our crops, family celebrations and enjoying cool evenings and the handsome colors of fall foliage. It also is time for your annual early fall camera census of your deer herd. Over the years biologists have studied ways to acquire an accurate estimate of how many deer there are on the land, and efforts have panned out! The result has been a general loss of credibility with landowners, managers and hunters for state agencies. My recent work in Wisconsin is a prime example of what happens when the Department of Natural Resources (DNR) attempts to estimate the deer population, especially when such efforts evolve to using computer models. During our review of the Wisconsin DNR methods and procedures in managing the state's deer resource, we found the error in the SAK (Sex-Age-Kill) model to be ±123%. The key problem in estimating deer populations lies in the fact all deer management is site speciÿc; meaning, it has to be applied at the local level. Trying to take data from a broad geographic region and apply it to YOUR land is a foolhardy enterprise at best!

In reality, you do not have to know how many deer are on the land. It is far better to let the deer and their habitat "tell" you how they are doing. You just have to know the right questions to ask. If you spend a little time learning to recognize prime deer foods, particularly browse plants, and then spend some more time in the woods examining the abundance and use of these important plants, it is easy to assess the deer "stocking level" (how much of the habitat's ability to support deer is being used) of your property. Range scientists came up with this concept ÿrst, in determining whether or not a particular pasture or range was under-stocked, fully stocked or over-stocked with animals. A good friend of mine, Dan Lay, developed a similar system for deer back in the 1960s, which still is used in the South to measure deer stocking level. Unfortunately, such a technique has not been developed for any state in the northern United States!

One of the most important concepts to understand about assessing how the deer herd is doing, is the often misunderstood term "recruitment." The public and unfortunately many biologists still use the term to denote how many fawns are produced in a particular year. You hear a biologist proclaim to a landowner that he has a 65% recruitment rate, meaning that for every 100 does there are 65 fawns alive in the fall. That is a totally incorrect use of the concept! The number of fawns living until Fall is your fawn crop. The number or percentage of these fawns living through their ÿrst winter to one year of age is the true recruitment rate. Herds with very low recruitment are in unhealthy condition, usually due to lack of sufficient food and cover to sustain the fawn crop. But, how do you know what your fawn crop is and then the true recruitment rate? And, can you obtain a realistic idea of the number of deer on your property, as well as the age structure of your herd? The answer lies in work we did here at the Institute for White-tailed Deer Management & Research, in cooperation with Dr. Harry Jacobson of Mississippi State University, using trail cameras.

So, early Fall is the time to conduct a trail camera census; the ÿrst of two conducted annually to determine the numbers and health of your herd. The second trail camera census will be conducted the following Spring, when you ÿnd out your true recruitment rate. This issue's column then is aimed at arming you with the knowledge to conduct such surveys on YOUR land or hunting territory.

How Many and Where?

The research conducted by Ben Koerth, Dr. Jacobson, Randy Browning and myself on using trail cameras to census deer resulted in several scientiÿc publications on various tests we conducted to determine how to conduct an accurate camera count. The two primary questions, assuming cameras could be that useful, were: 1) How many cameras are necessary to obtain an accurate estimate of the deer population and demographics; and, 2) Where should the cameras be located to accomplish these tasks?

It was a very long and complicated process, but suffice it to say we overlaid an 80-acre grid over a large property and placed a camera near the center of each grid. We then operated the cameras for several weeks to determine how long it would take to photograph every deer using each grid. We captured and tagged or radio-collared several deer, which became our known population. To our surprise, we were able to photograph most, if not all of these marked individuals in less than two weeks. We used bait piles of corn to bring the deer to the cameras (but many of you live in states where baiting is illegal). Later research showed we could simply locate cameras where deer frequented, such as trails, food plots and edges. Using these data, we developed a simple way of estimating how many deer resided on the property, based on the number of individual bucks photographed. A buck's antlers are like ÿngerprints. Each set of antlers is unique in some way, even what most would consider to be a "vanilla" eight pointer! We also used markings, scars and other identifying marks to aid in identiÿcation.

Once we knew how many bucks resided or visited the property during the census, it was a simple matter to reconstruct the population based on buck:doe and doe:fawn ratios, calculated from our photographs. We summed up all photographs taken (even duplicate sightings) of bucks, does and fawns, then divided the number of doe photographs by

Continued on page 4

Dr. James C. Kroll, continued from page 3

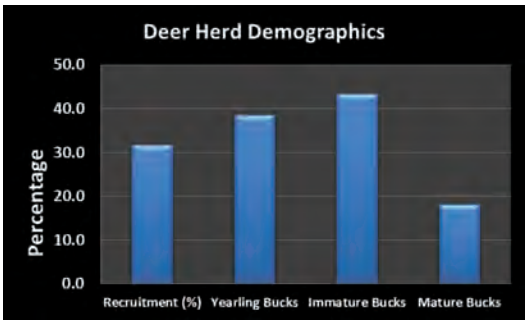
the number of buck photographs to give us an estimate of buck:doe ratio. To explain more fully, if a particular photograph had three does in it, we recorded three (3) doe photographs. We did the same thing with bucks and fawns. We found repeating photographs of the same deer did not bias the results over the short two-week period. Once we had our ratio estimates, all we had to do was reconstruct the population. Here's an example:

Suppose we conduct a study that produces 300 photographs of does; 100 of bucks and 100 of fawns. Dividing 300 doe photographs by the 100 buck photographs yields a 1 buck to 3 doe estimated sex ratio. Dividing the 100 fawn photographs by the 300 does produces an estimated doe:fawn ratio of 1:0.33. Now, if we identify 10 different bucks, we have the basis for estimating the deer herd at that point in time. Using the above ratios, that means there are 10 bucks (the number identiÿed), 30 does and 10 (9.9 rounded) fawns on the property, or 50 deer.

Further analyzing our data in this research, we found we only had to place a camera in every other 80-acre grid, reducing the need for many cameras. NOW, I am not assuming everyone reading this article owns or controls at least 80 acres! One or two cameras on a smaller place, when placed properly, are sufficient to census your deer. Lastly, as noted earlier, we learned that no more than 14 days is sufficient to conduct your count.

What Else?

Even if you do not conduct a census to estimate your deer population this Fall, camera census yields valuable information about your heard and hunting expectations. For example, we were the ÿrst to reveal that you can accurately age deer either live or from photographs. When we came out with our Aging and Judging Trophy Whitetails video back in the 90s, professional colleagues ridiculed us about the concept of aging live deer. Today, it is not uncommon to hear hunters and biologists talking about the age of some buck they saw or photographed. [Those same critics, by the way, now are on TV pontiÿcating about the age of some buck!] Using this information, you can create an age structure graph of your heard; either by age in years or by relative age: fawns, yearlings, immature (2.5-3.5 years), mature (4.5-5.5 years) and over-mature (6.5+ years). The graph below represents such a study that also includes a bar for the estimated recruitment. This survey was done in the late winter, when we could see the buck age structure after the season, and develop an estimate of recruitment at the same time.



These types of graphs are very useful in monitoring the progress of your management program. Obviously, if the age structure is improving from year to year, your efforts must be working! Another use would be to plot your sightings by location on the property, thereby showing where your chances are best for taking a buck.

So, Fall is a time for many things; however, one of the most important is to conduct your semi-annual camera census of your herd. Winter soon will be upon us and that is the focus of my next column. In the meantime, good luck and good hunting!

A Day with Doctor Kroll

by Capt. Robin Sheltra

To say that the possibility of spending some time with "Dr. Deer" would be a dream come true is an understatement. Growing up in northern Vermont, hunting and ÿshing were passions instilled in me at a young age, thanks to my father and grandfather taking me aÿeld. I moved to upstate New York in 1986 after being offered a job guiding river ÿshermen on the famous Salmon River in Pulaski, NY. And, soon after, started charter ÿshing on Lake Ontario.

I often think of the friendships made after meeting key people in one's life. Such is the case after becoming good friends with Captain George Haskins, owner of Good Times Sportÿshing. George had introduced me to Jim Holbert who had been friends with Dr. James Kroll for many years. Jim thought it would be great to get Doc and his wife Susie up to New York for a couple of days ÿshing on Lake Ontario, and also spend a day looking over the 150 acres that my wife Laurie and I had been managing for 13 years. I jumped on the opportunity to have someone with Dr. Kroll's knowledge and experience ÿsh with me and offer advice on managing our property.

We were scheduled to ÿsh Doc on the ÿrst day on "Strike Zone," one of the two boats that my brother Todd and I own. Captain George and myself would ÿsh them the second day. Day one brought good weather and great ÿshing; the second day a nasty cold front arrived bringing high winds and morning showers. We chose not to ÿsh and did some site

seeing, and then off to our home and property we went. Walking the property I noticed Dr. Kroll scanning everything with his eyes as we covered ground, pointing out different wild bushes, plants and trees that the local deer herd had chosen as preferred browse. Whitetails will browse on many different items, but it was quite obvious that the blackberry briers were one at the top of the list on our property. We were fortunate to have had another great year of apple production and the oaks had large clusters of acorns as well. This brought up another topic that Dr. Kroll discussed – relieving the apple and mast trees. Relieving certain trees involves cutting and or thinning less desirable trees from around apple, oak and other important deer food producers. A couple important things happen when this is done, more sunlight is provided and more nutrients and water are available for your hard and soft mast trees. Several times Doc mentioned "softening the edges" – a soft edge is deÿned as a gradual transition of habitat; a hard edge is a timber stand with an abrupt transition into a clearing. Wildlife feel safer and are more at ease leaving the timber and approaching a ÿeld or food plot through a soft edge.

The importance of fertilizer for some of the blackberry bushes and our newly planted Buck Forage Oats was also discussed. This was the second year planting the Forage oats; the deer hammered them the previous season. We could not have had a better or more knowledgable land manager and food plot expert to learn from than Dr. James Kroll. It was priceless knowledge.

The day ÿnished with a barbecue back at the house. Dr. Kroll and his wife Susie are wonderful, down-to-earth people that we are lucky to call our friends. My wife Laurie and I are looking forward to continuing our quest for the best whitetail habitat we can provide – it is a never ending hobby that we love.

"You CAN Mix Business & Pleasure"

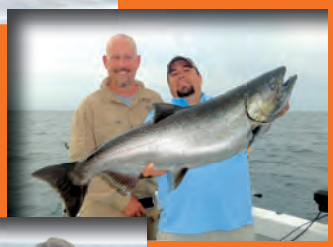
Our 2-day ÿshing excursion with Capt. Robin and Capt. George was a perfect blend of mixing business with pleasure. The ÿrst day on the "Strike Zone" was a workout! Dr. Kroll, his wife Susie, Dr. Eric Reid, and Tom Wheeler from Cooperative Feed Dealers (CFD), and myself ÿlled the cooler with hard-ÿghting salmon. Between taking turns ÿshing, we discussed everything from deer nutrition to successful Buck Forage Oat planting in northern New York State. (Dr. Reid is CFD's animal nutritionist and Dr. Kroll tests many whitetail products at his research center in Texas. Many of these new and exciting products will soon be distributed in the northeastern U.S. through CFD.)

Day 1

Buck Forage decals are displayed on the console of the "Strike Zone."

The "Strike Zone's" ice chest was literally full of over 250 lbs of fish – plenty to share and barbecue at the Sheltra's the next day.

Dr. Kroll and Susie made a great fishing team. Susie brought it in and Capt. Todd Sheltra talked him through the process of landing it with the net. They don't do that very often in Texas.



Dr. Eric Reid shows off his salmon with Captain Robin.

Tom Wheeler is trying to have his lunker salmon kiss my cheek.

Day 2

Dr. Kroll observes how the blackberries have been browsed by the deer. He suggests not only leaving them, but fertilizing them as well.

Standing on the newly-planted BF Oats, Dr. Kroll stresses the importance of a "soft edge" between the forest and the field.

Dr. Kroll pulls out a bag of fresh brown trout fillets from our "Trophy Tote" cooler. We tested this awesome cooler while fishing. We need to get some of these "big boy toys" up here in the north! (CFD is working on it!)

(L-R) Capt. George Haskins, Capt. Todd Sheltra, Capt. Robin Sheltra and Dr. James Kroll. We are talking about getting all three of their boats chartered for next year's "Dr. Kroll Invitational Salmon Tournament."

Ray Reeves delivers Capt. Robin Sheltra's new 4'x6' Shadow Hunter deer blind. My bet is that Robin's wife Laurie will be the proud owner however – she's the alpha hunter of the group and National Archery Champion!

Ray Reeves, owner of Lock-n-Load Sporting Goods and distributor for Shadow Hunter Blinds, picks up the blind to show Capt. Robin how to install the brackets for the 4'x6' legs.

Capt. Robin and Dr. Deer checked out the smooth quiet action windows on the Shadow Hunter. They do look like they were having way too much fun!

Don't ever tell me you can't mix business with pleasure. Although we couldn't get on Lake Ontario to fish, we had an absolute ball checking out Robin and Laurie Sheltra's property!

Left bench (front to back): Capt. George Haskins, Capt. Todd Sheltra, Ray Reeves. Right bench: Dave Sienko, Jim Holbert, Dr. James Kroll

Larry Gerhard's Chestnut Grove

Living His Dream!

Mornin' All,

It's a tad cool this morning, Saturday, September 13, and it will rain most of the day. For me, with lots of outside work to do, "a rainy day Sunday always gets me down" attitude would prevail, but not today. This day would see my ÿrst reforesting project – a 35-tree, Dunstan Chestnut orchard come to life. I was going to create a place where I can meander with my grandkids while they gather chestnuts for Thanksgiving and Christmas, spend time in the ÿeld watching something I helped build grow and, as icing on the cake, I was going to construct the most productive deer area on my entire 300 acres.

The rainy day wouldn't be our favorite memory, but for the trees, it was perfect. Even the all-day rain couldn't lessen the excavation part of the project, but a Bobcat Skid-steer and 24-inch auger turned a 5-day ordeal into a 1-day pleasure. For an orchard of more than a half dozen trees, I highly recommend renting these two lifesavers. And, the end result, when you condense nine hours of enjoyable hard work into one picture is:

My thanks to Jim Holbert, Dave Sienko, Denny Perry, Rob Warner and Joe Warner for helping me with this project. Jim's knowledge of the trees and connection to Dunstan Chestnut Trees, David's knowledge of planting and protecting the trees and David's, Denny's, Rob's and Joe's relentless, hard work combined to make yesterday's "just another ÿeld" into a gorgeous, generations-enduring Dunstan Chestnut orchard.

Larry Gerhard, Joe and Rob Warner and the 24-inch auger get the first Dunstan Chestnut tree planted on Larry's "Dream Grove."

Larry and the crew planted his trees the right way. Protection from deer with the wire cage, protection from small animals with the tree tube and protection from competing vegetation with the landscapers fabric and mulch. Normally, watering at the time of planting is crucial, but with a cool shower the entire day of planting, these trees had it made. Note that this tree is well over 8 ft. tall and will bear chestnuts next year.

Larry's chestnut grove for future generations. His dream come true!

Dave Sienko dressed for the day and laying out tree tubes. Note the chestnut burr on the tree to the far right. Larry told me he wanted trees that would bear nuts ASAP. Can't get better than that!

Making ~~Golden~~ Green Opportunites For Our Veterans

Chuck Stone

Chuck Stone drives posts every 30ft. and Ken Bach follows up by applying the 6ft. fiberglass rods and wire clips to each post. This Dr. Deer Electric Fence System took less than five hours to install over the 3-acre food plot that our "Wounded Warrior" friends will hunt on.

Chuck finishes up the Dr. Deer Fence by hooking up the solar panel and charger.

This 3-acre food plot is planted with Buck Forage oats, clover, and chicory. The new green growth is the Buck Forage oats one week after they were planted on Labor Day 2014.

Pray for Our Veterans and Country Every Day!

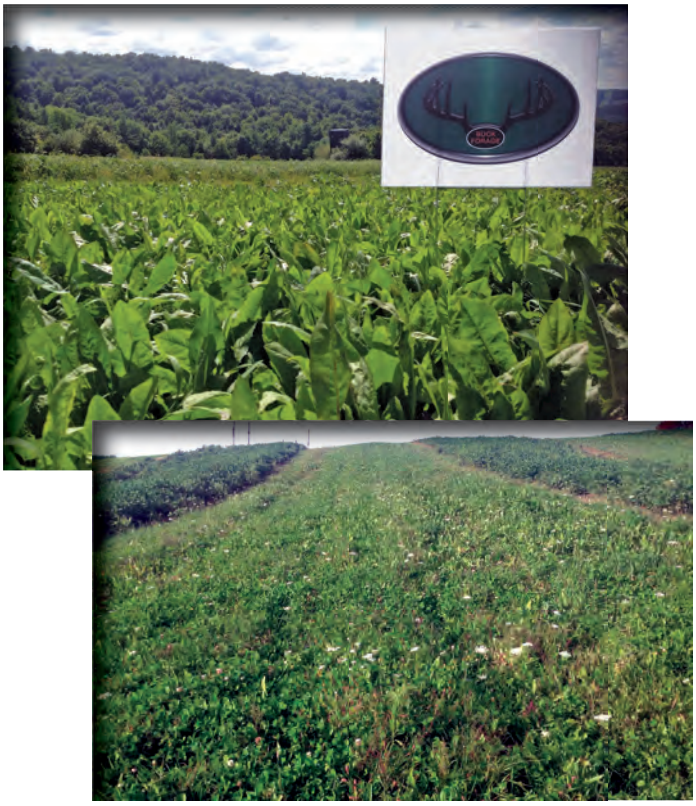
We thank Ayres-Stone VFW Post 5642 Montrose, PA, along with Buck Forage Products and Cooperative Feed Dealers, for making our veterans' voices a little louder by making copies of this magazine available to our veterans at home and abroad!

Thank You

Why Do I Plant Buck Forage Chicory?

by Ray Reeves

This seems to be the question of the year for me! Nine years ago we purchased what is now our family farm and on this 300-acre farm we have better than 100 acres planted speciÿcally for whitetail deer! Now being in the retail business of food plot seed, equipment, etc., we test a lot of different products in order to advise our customers correctly. So we test all kinds of perennials, annuals, sprays, fertilizers, etc. and with all these testings that we've done, we have a few favorites that we've settled on for our farm. In the seed department, one of these is Buck Forage Chicory. Typically we plant Buck Forage Chicory along with Buck Forage Clover as a mix. This past spring we were questioned (again) about another leading brand of chicory and why we use Buck Forage over it. So instead of trying to explain the difference, we decided to prove the difference in a very practical way. You will see in these pics two plots – one Buck Forage Chicory and the other Whitetail Institute Chicory, both planted at the same time, the same way, limed and fertilized the same way (2 tons lime per acre/400 lbs 10.20.20) and as you can see, the results are deÿnitely different. While both brands seem to grow well and produce good results, Buck Forage deÿnitely has the upper hand! The better results come toward evening when you see where the deer like to browse; Buck Forage still has the advantage. I certainly am not trying to bash anyone's product, but when it comes to time, effort, money and then results, I deÿnitely want the best product that I can get… and that product is Buck Forage!!!



I found the Browning Dark Ops camera easy to set up. There were very few photos without having some animal in the frame. The photos were clear at night and during the day. I am still using the same batteries after hundreds of photos. I am very happy with the camera's many features and small compact size. The green tree strap and camo color blends well into the surroundings. I have recommended this camera to a friend, several clients and would purchase more of these for myself in the future.

Matthew Sellers, Enhanced Habitat

CFD Featured Product

We have five different brands of trail cameras in use. The new Browning Dark Ops camera is one of the easiest to set up, the instructions are clear and easy to follow. Photo quality is excellent, both day and night and we do not even have it set up with the highest resolution. The nighttime photos are great – on some of our other cameras the pictures are so grainy you can't tell if you are looking at a buck or a doe. The photos are clear out to a greater distance as well. There doesn't seem to be any sound with this camera, so that means that it is probably going to last as far as bear contact. Browning has a winner in my book!

Dave Sienko

I really like the Browning cam!! Battery life is still over 80% and I put it out a few days after you dropped it off. The camera takes some really nice pix. This Browning Dark Ops is the best camera we run right now. We have a bunch of different Moultries, which have been my favorite. We use one Cuddieback and absolutely hate it. Nothing but problems – I'll never buy another. We have one WildGame Innovations and it's OK at best. Good daytime pix but very grainy IR pix. We had one Stealth Cam and got rid of it. Batteries would last three days at best and when it took pix they were not very clear.

Michael Koneski

I have recently transitioned my focus on trail cameras towards the product line that Browning offers. With being an avid bow hunter, I rely on my trail cameras to help with my overall success from season to season. Whether I am hanging them on a food plots, travel routes or other food sources, my Browning trail cameras provide me with the highest quality trigger speed, recovery time, detection width and overall range. With the combination of quick trigger speed (.7 seconds) and 2.3 second recovery time, Browning trail cameras ensure that your game will be detected. The thing that impressed me most with the Browning cameras was the detection range. Compared to other brands I have used in the past, the Browning trail cameras trigger pictures of animals as soon as they cross the detection zone, which helps prevent blank pictures. The overall quality of photos is outstanding, both daytime and especially the night pictures taking into consideration the no-glow infrared technology. The overall clarity, focus and brightness of the photos are top notch. In my opinion, Browning has surpassed many of its competitors with the Dark Ops model!

Chris Jeffers, Woodsfield, Ohio

The Importance of Conifers or What did FDR Know About Deer Management?

by Robert Fearnley

Recently PBS aired Ken Burns' ÿlm on the Roosevelts. This is a very interesting series of programs about a family who has affected all our lives in many ways. In his 1941 State of the Union Address, President Franklin Delano Roosevelt listed the "Four Freedoms" of humanity. They included Freedom of Speech, Freedom to Worship, Freedom from Want and Freedom from Fear. Norman Rockwell produced a series of cover paintings for *The Saturday Evening Post* with these freedoms as their theme; the most famous being the Freedom from Want showing a family sitting down to a turkey diner.

Wildlife also has their set of freedoms. Freedom of Speech and Freedom to Worship are not that important to deer (at least I don't think they care) but they are very interested in the last two. Many wildlife managers do a good job providing freedom from want by planting food plots, cutting browse and either planting or pruning fruit and nut trees. However, many may need help with providing freedom from fear. This is where planting conifers comes to the forefront. Deer and other wildlife have two main fears – harsh weather and predation. Of course harsh weather here in the northeast means winter weather – cold temperatures, deep snow and howling winds. Most wildlife can endure very cold temperatures if they have a full belly. Their hair, fur or feathers provide enough insulation to protect them from subzero weather as long as they have enough fuel to keep their warm-blooded metabolism humming along. Almost every hunter north of the Mason-Dixon Line has seen deer with snow on their backs or a deer bed where the snow has not melted. However, deep snow can make obtaining food difÿcult. High winds can destroy the dead air insulation of fur and feathers. Conifers provide help in both cases. That foot of snow elsewhere can be an inch on the ground in under evergreens. That howling wind in the open is just a whisper in a planting of conifers.

Fear of predation, of course, can never be banished, but evergreens can make wildlife feel more secure. Grouse hunters know of their quarry's affinity for hemlocks and white pines as hiding places from both man and avian predators. A beagle can run rabbits all day in a Christmas tree plantation and a wily old raccoon will often tree in a tall, dense hemlock when pressed by a hound. When driving deer by gang was more common, some hemlock swamps could be driven several times a day and deer would be moved on each drive.

Continued on page 20

The Hoffman Family Orchard – Final Report

On my latest visit to the Hoffman orchard located just north of Gettysburg, PA, my wife Barb and granddaughter Abigail had the great opportunity to learn the proper way to pick apples and peaches.

The Hoffman property is protected from deer by the Dr. Deer electric fence system. The fence protects over 70 acres where over 6,000 young fruit trees were browsed. Mike Hoffman informed me that since the fence system was installed, only one doe entered the orchard. When the doe gave birth to twin fawns, he waited for them to mature then chased the three culprits out by turning off the fence and dropping a section down.

Mike also informed me that he is more than happy with the Dr. Deer fence and that he feels it has paid for itself in the ÿrst year of use!

ANDRE & SON, INC.

www.andreandson.com

Store Hours:
Mon - Fri 7:00 am - 6:00 pm Sat 8:00 am - 5:00 pm

Moultrie Feeders
Game Cameras
Deer Minerals
Game Plot Seeds
Deer Feed

WE HAVE EVERYTHING YOU NEED FOR YOUR FOOD PLOTS!!

Soil Analysis
Pesticides
Fertilizer
Lime

SHADOW HUNTER BLINDS IN STOCK!

ANDRE & SON, INC.

Farm & Home Agricultural Supplies

17150 SR 706
Montrose, Pennsylvania 18801

570-278-1131

FAX: 570-278-3835
Mark Andre mlandre@andreandson.com

Dear Jim,

I am an avid reader of *Wildlife Management News* as I've grown up in the Endless Mountains region of PA. Recently, I read an article entitled "Vultures, the Destructive Teenager of the Bird World." While the piece as very informative, I couldn't help but form a different opinion to how we see and treat vultures in Pennsylvania. So I've written a piece for your publication that voices my view. It's entitle "Gracious Undertakers of the Sky," and it highlights some of the excellent things vultures do for ecosystems. I've taken great pains to avoid disparaging (or even referencing) Kyle Van Why's piece. Rather, I think my essay will make a nice companion piece to his.

Thanks again for your excellent publication. And I'm looking forward to purchasing my first Dunstan Chestnuts due to the articles in your last issue!

Gracious Undertakers of the Bird World

Dr. Eli J. Knapp

I'll never forget the moment I looked in the mirror and realized for the ÿrst time that my hair was thinning. It shouldn't have been a surprise. My father is bald. Both my brothers are bald. Yet for 34 years, I had beaten the odds. Proudly and naively, I had begun to think that I alone would emerge the victor, sporting a head with fully functioning follicles. But no longer. Each year, my widow's peak grows more and pronounced, with a tufted peninsula in front that will be severed from the mainland all too soon. Like most dire prognoses, my ÿrst realization was shock. This was followed closely by denial and now, as my thinning state has been noticed—and commented on—by a growing multitude, reluctant acceptance.

Despite the changes I feel in my life, I'm learning that a few things are constant; things you can hang your hat, or hairpiece, on. Gravity, the speed of light, radioactive decay, and now male pattern baldness. Equally constant is our culture's whimsy. What is liked today will be disliked tomorrow. Unfortunately for me and most of my fellow sex, what it likes today is hair. A simple glance at the aisles and aisles of hair replacement products at the local pharmacy is evidence enough.

For whatever reason, we like hair on the top of men's heads. So much so that a man should spend any amount of money to ensure that the cranial epidermis is adequately covered. Even fake hair, says our culture, is better than no hair.

While I loathe our culture for its capriciousness, I applaud its consistency. Our preference for hair, fur, and feathers carries over to the other species we share our planet with, too. Nothing, for example, is more ghastly than a shaven dog. Or a rooster that has had its head feathers pecked off. Or, heaven forbid, a vulture.

The two vultures we share our American air space with have naked heads. Gross. This is undoubtedly strike one. The fact that they eat nasty dead stuff is a deÿnitive strike two. Their propensity to perch on houses and barns and occasionally damage windshield wipers? Strike three. Vultures are out plain and simple. With unforgivable traits like these, it's no wonder they have become the emblem of war, suffering, and strife. Despite decades of diligent searching, I've yet to ÿnd them on an inspirational wall calendar. Or any wall calendar for that matter. But before we kick vultures off the team of all that is pure and holy, we must answer an all-important question ÿrst. If they truly are the harbingers of death as is typically portrayed, why do we tolerate vultures at all? Not only does the ecological community tolerate them, they protect them under the Migratory Bird Treaty Act. So either the ecological community is insane or, vultures have at least one trait that is at least mildly redeemable.

Radical though it may sound, let me proffer a few reasons to embrace—not just tolerate—vultures. As a man fast on his way to an equally naked head, I empathize for these species. And as an ecologist, it's imperative I defend them.

Here in the U.S., we share our skies with three vulture species—the black vulture (Coragyps atratus), turkey vulture (Cathartes aura) and the California condor (Gymnogyps californianus). But since the condor is still endangered, the two vultures most commonly encountered are the black vulture and the turkey vulture. The black vulture sports a dark naked head while the turkey vulture's naked head is red. And to cut the naysayers off at the pass, no, the red is not blood stain; it's simple skin color. But why are the heads of these species naked? Well, they eat carrion. And if you ate carrion, you'd want to be clean-shaven, too. Depending on several factors, carrion can harbor suites of microbes and bacteria which can cause disease. Microbes, in fact, are the vultures' chief competitor. To safeguard the corpse of a deceased deer, for example, microbes secrete poisons that sicken other scavengers. This is food poisoning plain and simple; it's also the reason most other animals are sickened by a meal of rotting °esh. But not vultures. New world vultures have battery-acid bellies that burn away microbial secretions. If this doesn't work, a phalanx of white blood cells surge out from their oversized spleens and storm through the bird's innards engulÿng and annihilating foreign bacteria. So while lesser species sicken and gag, vultures gratefully gorge away. The presence of microbes—lethal though they may be—actually sustain the vulture's existence by vanquishing the competition.

I know. You're practical. Unlike me, you're not about to applaud the evolutionary wonders of an oversized spleen. You need something more. Something that affects you. Well how's this? The digestive power of our American vultures is so great that it affects the whole forest community and potentially you. We already know they destroy microbes and bacteria. We also know that anthrax bacteria and cholera viruses are lethal to people. If such pathogens pass through the gut of a fox or coyote, they're still serious. But if they pass through a vulture,

Continued on page 18

PA Game Lands Food and Cover Crews

Unsung, Understaffed Heroes – At Least Heroes For The Critters

By: Jim Holbert

I recently had the opportunity to spend time with two PA Game Commission Food and Cover managers and to tour state game lands 219 and 35. To give you an idea of what these crews are challenged with, I need to share what their respective areas consist of.

Foreman Darren Pettyjohn and his crew of two are responsible for State Game Land 036 (18,787 acres), SGL 142 (369 acres), and SGL 172 (444 acres). This totals out at 26,303 acres.

Foreman Chuck Wiseman and his crew of two are responsible for State Game Lands 34 (7772), SGL 70 (6363), SGL 140 (1335), SGL 175 (736), and SGL 299 (2670), totaling 18,876 acres.

I compare the task of these two food and cover crews to six sailors trying to bail out a sinking battleship with thimbles. It's an almost impossible job but they know that through their efforts in managing the habitat on this land, all animals will beneÿt, not just the species we hunt.

I also got a perspective from Darren and Chuck of what Pennsylvania Game Lands are and are not. Game Lands are open to the public for hunters and non-hunters to enjoy. The ecosystems that are developed and maintained are diverse and it is important to realize that every Game Land needs to be managed differently and some areas may not be suitable to beneÿt one particular animal species. For example, a State Game Land with swampy °at wetlands with huckleberries and dense underbrush may be great bear habitat but it would be foolish to try and develop this kind of habitat for pheasants.

A few things that our Game Lands are not (or at least shouldn't be viewed as) are PA-Easy-Hunt Lands, where you can park and walk in no more than 100 yards and see all the game you want, or PA-Feel-Free-to-Litter-and-Steal-Signs Lands or, sadder yet, PA-Build-Your-Meth-Lab-Here Land.

With the Herculean tasks these food and cover guys are presented with, they really can't afford the man hours of cleaning up from slobs and making out reports.

Foreman Pettyjohn explained the physical dynamics of the 5,619 acres composing SGL 219. In the early 1900s, this area contained over 20 farms, and a network of township roads connected the community. The small town of Aurora was located in the area and stone foundations and hand-dug wells still exist. Aurora had its own school and post office.

When the farms failed and Aurora faded into history, all that was left was the acreage and a network of dirt roads. The roads are there and used today making plenty of pull off parking areas for the game lands and reasonable access to most points. Because of the access to most corners of SGL 219, food plots and share cropping has enhanced the food sources for wildlife in a widespread area.

Darren explained to me that everything is a work-in-progress with wildlife habitat maintenance. Something always has to be done. Special enclosures are being utilized to keep deer out so Aspen and other ground vegetation can grow for woodcock and grouse. He would also like to see more switch grass planted to give cover for pheasants and turkeys.

Part of the maintenance plan for 219 is the prescribed burning of switch grass. Darren explained that a 5-acre ÿeld of switch grass can completely burn in 12 seconds. Training for these burns is crucial and conditions have to be just right to carry them out.

I appreciated Darren spending his time and management philosophy with me. He pointed out that he always asks himself "Why?" when it comes to cutting or trimming of the vegetation on Game Lands. What may be unsightly to the human eye might be the life blood of habitat for wildlife. Darren and his crew may be reluctant to cut a ÿeld of goldenrod or knock down a dead cherry snag, knowing full well deer might be bedding down in the goldenrod and birds or bats are living in the rotting stump.

Buck Forage oats on SGL 219 at an ideal deer forage stage.

Mature Buck Forage oats provide cover and food for animals on SGL 219. Foreman Darren Pettyjohn prefers BF oats over any other oats available and plants them throughout the spring and late summer.

Mature Buck Forage oats planted as a companion crop for Buck Forage clover and chicory. Darren noted that this is a fantastic deer and turkey food and cover site.

PA Food and Cover Foreman Pettyjohn points out the tire tracks on this newly-planted Buck Forage oat plot. The Susquehanna Branch QDMA went through great effort and expense to help enhance this property for wildlife and he finds the activity of Game Land slobs very frustrating.

Young, palatable Buck Forage oats are an ideal forage for deer in this plot on SGL 219. Note how the oats are nipped off by deer activity.

Food and cover foreman Wiseman gave me a tour of his SGL 35, which is near Great Bend, PA, bordering the Susquehanna River. Natural Gas activity on these Game Lands has played an important role in making access and creating more browse and food sources. The network of gas lines and roads created by the Marcellus Shale construction is closed to public access and only the serious hunter is going to trek back into the hot spots of this Game Land. Chuck told me that he was certain that there are deer on State Game Lands that have never been face-to-face with a human!

An interesting fact about SGL 35 is there's a highway that runs through it and yet it is blocked on both ends so there is no access. Local folks call this road the "Million Dollar Highway." I took a ride with Chuck on this road and it is complete with guard rails. The road was once paved and it was the brainstorm of some unnamed politician who wanted to have this area become part of a PA State Park. This politician lost his election and the dream-bubble popped; thus, the highway project was dropped.

With little access on this Game Land, most food plots are located behind the Pennsylvania Game Commission (PGC) shed. Acres of food plots are planted on the fertile °ats. Deer and bear activity is evident. There are corn ÿelds and millet planted as well and it makes for excellent pheasant habitat.

Chuck and Bill Stepniak took me to an area of the Game Land that was part of an experimental forest prescribed burn. This area was concentrated with mature oaks, which created a closed canopy to the ground. The only vegetation on the forest °oor was a wall of mountain laurel with very limited visibility. A controlled burn was conducted to eliminate the laurel and to help regenerate new growth in the area. Chuck also explained that the leaves of the mountain laurel contain a waxy substance that is an excellent accelerant for the controlled burn. It is necessary to have an intense quick burning ÿre to be effective in using this technique as a management tool.

I totally appreciate these PA Game Land specialists to take the time and open my eyes to what they face in managing these areas.

Chuck Wiseman points out the natural gas access road on SGL 035. This road is approx. 1¾ miles long and planted with Buck Forage oats and clover. This is a totally new food and cover source for wildlife in that area.

This "clover lane" is a heavily browsed area.

Foreman Wiseman points out the bear activity in the Game Lands corn field. SGL 035 has a huge bear population, yet Chuck said last year the bear hunters were few.

Food and Cover Foreman Wiseman took me to this area where an experimental forest burn was conducted. The intensity of the fire killed the laurel and black birch but left the hardy oaks. The benefit of allowing sunlight to penetrate the forest floor is to allow new growth.

Wiseman points out the new generation of oak saplings that grew as a result of the PA Game Commission's prescribed forest burn.

Buck Forage Oats planted next to a standing corn field on SGL 035. This is ideal forage for deer, bear, and turkeys. Food and Cover foreman plants Buck Forage oats for their superior winter hardiness and wildlife appeal.

SGL 219 a Hidden Gem

by Mike Koneski

SGL 219, nestled away in the upper corner of Bradford and Susquehanna Counties, is a gem unknown to many hunters. This beauty has all types of terrain from creek bottoms and swamps to rolling uplands, mixed forests and steep rocky hillsides. The PGC Food and Cover Corps, with help from the Wilson Moore Chapter of NWTF and the Susquehanna Branch of QDMA, are able to provide acres of annual and perennial food plots, NWSG cover and daylighted fruit and nut trees for the hunters of PA. These projects are not just for deer and turkey, but small game and non-game species, too.

In May, a group of the Susquehanna QDMA put in a solid workday of prepping and planting food plots as well as planting about 50 Dunstan Chestnut seedlings. The group of Brian Bennett, Jake Bliss, Mike Koneski, Jerry Rusek, Matt Sellers and Jack Sorber prepped the soil, put down lime, fertilizer and seed, then culti-packed it all down. This was just a small part of what work is done for the public. Jack and Matt spend many hours spraying, making soil amendments and planting.

Over the past two years, the Wilson F. Moore Chapter of the NWTF has allocated $5000 and The Susquehanna Branch of QDMA has allocated $7000 to buy seed, soil tests, lime, fertilizer, tools and use of private equipment to improve over 15 different ÿelds/food plots. So, if you are ever hunting or visiting on SGL 219 and you like what you see, be sure to thank the Food and Cover Corps, Wilson Moore NWTF and Susquehanna Branch of QDMA.

Gracious Undertakers of the Bird World continued from page 14

however, they instantly lose their lethality. Poof. Gone. Vultures, repugnant and riddled with receding hairlines, cleanse the land like little else.

But to cleanse the land, you ÿrst have to ÿnd the corpses. Finding the deceased may be easy in the desert or on the grasslands. But New World vultures live in a land where the sick and dying often crawl into the thickest thicket to breathe their last. How do vultures locate the putrefying bodies in the ÿrst place? Unlike most other birds, they have a ridiculously well-developed sense of smell. Turkey vultures can pinpoint ever so slight wafts of ethyl mercaptan, the odor emitted from rotting meat, even amidst thousands of acres of heavily vegetated ÿeld and forest.

As a trained skeptic, however, I couldn't swallow this adaptation. I simply had to see it for myself. So upon shooting a woodchuck that had ransacked our garden for weeks, I hauled it into a ÿeld, covered the corpse with vegetation, went back to the edge of the ÿeld, sat down, and waited. For 48 minutes, the sunny mid-morning skies were bereft of buzzards. But in the 49th minute, I saw a speck. Just twelve minutes after that, three turkey vultures were tearing away at the woodchuck like three kids tearing open a present on Christmas morning. Anthrax and cholera wouldn't break out here. Nor would an evil woodchuckian stench. These vultures, so sadly stereotyped and so reviled, were providing my landscape a service free of charge. This is a classic example of an ecosystem service. According to the National Wildlife Federation, ecosystem services are any positive beneÿt that ecosystems or wildlife provide for people. This is what ecologists celebrate. It's what all of us—who live in landscapes littered with the dead and dying—should celebrate. And if we celebrate the service, it logically follows that we celebrate the source as well.

So the next time you see a dozen darkish birds dozing atop a battered barn, or soaring in the sky with upturned wingtips, you're likely seeing vultures. Squelch the urge to scowl and shake your ÿst. Force yourself to see through the stereotype. Focus instead on the ÿnely-tuned adaptations of digestion and olfaction. And as you marvel at a bird that can beat disease, tip your hat to the gracious undertaker of the skies and the free ecosystem services it benevolently bestows. But don't tip your hat too far, of course. You wouldn't want to blind the bird with the glint off your equally naked head.

Local Groups Team Up For Habitat

By C.D. Denmon

The North Mountain Branch of the Quality Deer Management Association (QDMA) had a busy month in June. Three event weekends in a row consisted of doing seminars on deer calling and proper scent usage at both a Delta Waterfowl Youth event and a Pennsylvania State scholastic trap shoot as well as a habitat project day on State Game Lands 57.

On average, the North Mountain Branch plants and/or maintains over 30 acres of food plots on SGL 57. The latest project areas consist of nearly eight acres of food plots, and are part of their network of plots that the branch services with a span of approximately a 14-mile range (as the crow °ies).

The ÿrst plot of the day was in an area that has not seen any considerable habitat work being done in many years until last year. For this project the North Mountain Branch teamed up again with the Red Rock Chapter of the NWTF. Many years ago the Red Chapter had done habitat work in these areas on SGL 57 and it is those same areas that haven't been worked in a while so it only seemed ÿtting that the two groups teamed up to rejuvenate the areas.

Over the last several years, the two groups have split hundreds of man-hours and thousands of dollars into improving habitat on public lands. With the increase demands on volunteers from their own private lives, and the increasing cost of fuel, seed, fertilizer and lime, it is becoming increasingly necessary to join forces and share the burden to accomplish these shared goals.

This project day would consist of a re-planting of a mix of ÿeld peas, buck-wheat, clovers and brassicas. Since the areas had been idle for a while, the ÿrst two years will be in a mix like this and next year will be turned over to a perennial species of plant. Fertilizing would also take place along with the installation of small animal exclosures to measure the amount of use the plots are seeing from wildlife in the area out-side the little fences. Liming of the area had already been done at an earlier date once soil samples were collected.

The fertilizer requirement for the areas totaled nearly two tons of 15-15-15 and urea. That alone makes for some logistical problems in having enough trucks available to haul the material into the remote areas, not to mention the transportation of the tractor, disks, ATVs, spreaders and other necessary equipment to get the job done. While two of the plots consisted of 2-acre plots each, they were near a dirt road. The other plot consisted of a long dead ended logging road that is nearly a mile long and was located nearly two miles from the nearest dirt road.

Even though the group consisted of 14 dedicated men and women, the group knew it was going to be a long day with this slightly lower turn out. The group met at 8:00 am and ÿnally loaded the ÿnal piece of equipment for the drive out at 6:00 pm. Extremely long days such as this aren't the norm for these project days, so anyone wishing to get involved shouldn't be scared off with fear of being overworked.

An added beneÿt to all the hours the group puts into this is that each man hour is recorded and reported to the PA Game Commission (PGC) where it is then reported to the Federal government where monies come back from the Pittman-Robertson fund, which allows the PGC more funding to put back into habitat work on our public lands.

Sometimes other groups are also involved in these joint projects. Groups such as Mehoopany Creek Watershed group, Ducks Unlimited and Trout Unlimited are just a few that participate in the projects. The North Mountain Branch has many projects throughout the year and would encourage those who wish to come and help put back into nature what they try to take out and in the process learn some new things and perhaps some new areas to hunt as well.

For more information in getting more involved in the North Mountain Branch and their activities, you can do so by looking them up online at www.northmtnbranchqdma.org or by calling 570-332-3012.

About a month after last year's planting, the area had a good growth started.

One portion of the near-mile-long plot on Game Lands #57.

ATV spreaders as well as harness spreaders are used to spread the different seeds.

Reaching remote areas with big equipment like this sometimes takes a lot of extra time but well worth the effort.

Rock picking becomes the most laborious part of the tillage planting part of these projects.

Importance of Conifers continued from page 11

Once while deer hunting, I heard a deer in a small patch of hemlocks no more than 50 feet across. By getting down on my knees I could see a deer's legs. I circled that patch two and a half times and the deer would edge towards the opposite side as I got near. Finally it disappeared without a sound; perhaps it climbed one of those saplings. Another time after Christmas while hunting rabbits, my hound jumped onto a little island in the middle of a small stream. There on that small plot of ground was a single Norway spruce about 40 feet tall and 20 feet wide with branches trailing to the ground. The dog ran excitedly around and under the spruce for two minutes when a button buck busted out of the cover. His perfect hiding place had ÿnally been breached. Clearly, conifers are an important escape cover to many species of wildlife.

Planting evergreens can improve any property's habitat. Con-ifers are easy and cheap to plant. A person with a planting bar, a bucket of seedlings and a good strong back can plant several hundred trees in a day. Patches larger than a few acres are probably a waste of ground for the maximum bang for the buck. A single tree can be an oasis in woods of deciduous trees; a small group could be wildlife Shangri-La. Irregular-shaped patches are more aesthetically pleasing and offer more "edge" footage than rectangular or square blocks. Open areas in the middle of plantings can make a patch more appealing.

Spacing is important to consider. The closer the spacing, the

Continued on page 34

PUMP N PANTRY

Made to Order SUBS, PIZZAS & SANDWICHES

Delicious ... Fresh Every Day!!

Whole Cheese Pizza $8.99
Whole Pepperoni Pizza $9.99
Toppings ..... ea. $2.00
Pepperoni, Sausage, Mushrooms, Peppers & Black Olives
Large Cheese Slices .... ea. $1.79
w/Topping ..... ea. $1.99

Home of the Endless Cinnamountain Roll $1.99

Baked Fresh Daily In Store
~ SEATING AVAILABLE ~
Kunzler Jumbo Hot Dogs
OPEN 24 HOURS
CLEAN RESTROOMS

Endless Mountains Beanery
Coffee Fresh Hot Coffee
Always On For You!

Visit us at Any of these Locations or www.pumpnpantry.com
for store locations, store menus, employment applications and much more!

Canton	Route 14	673-3195
Dushore	114 N. German St.	928-8122
Great Bend	Exit 230, I81	879-4667
Lake Winola	Route 307	378-2107
Lawrenceville	58 N. Main St.	827-2290
Lenox	Exit 211, I81	222-3003
Leroy	Route 414	364-6455
Mansÿeld	82 S. Main St.	662-2541
Montrose	Grow Ave.	278-1801
New Milford	Exit 233, I81	465-7304
Nicholson	Route 11	942-6900
Pikes Creek	Rtes 29 & SR 118	477-2054
Stroudsburg	1229 W. Main St.	424-1049
Tioga	1 N. Main St.	835-5256
Troy	530 Elmira St.	297-0921
Tunkhannock	Route 29	836-6227
Tunkhannock	Route 6	836-1584

Complimentary copies of the *Wildlife Management News* provided by PUMP N PANTRY

Like Us On facebook

Wildlife Disease and You

by Kyle Van Why

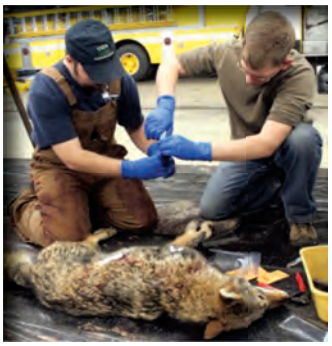
Working on wildlife disease issues for a living can be an interesting line of work. Pennsylvania is a big state and there is a lot going on out there. Although there are a number of agencies – both state and federal – that work on disease issues, there is just too much ground to cover and not enough time to cover it given the staff available. There is a very important resource that is often overlooked when investigating wildlife disease issues. It is not a capture or sampling technique, a laboratory or a test. It's help from the public. The role the public plays in reporting, surveillance, research, and management is invaluable.

Sportsmen are an excellent resource and some of the most willing to participate when it comes to wildlife disease issues, for obvious reasons. Biological samples are often collected from hunter-harvested animals; the prime example of this is Chronic Wasting Disease surveillance, which is conducted in most states using this method. Depending on the state, these samples are collected through check stations, voluntary drop off points, and even butcher shops. This gives biologists access to samples from a wide range of locations, but minimizes the amount of time and effort that is needed to collect those samples. Obtaining information on location, sex, and age from the samples is valuable and can easily be done by using the harvest tag that is already required. Another example is through voluntary check stations. In the past few years I have worked on collecting samples from coyotes, primarily from organized coyote hunts. Attendance at these hunts has allowed me to collect a lot samples from this species from across different regions of the state, in a very short period of time. The sportsmen involved are always very willing to participate and interested in what is going on, and because the check station is only open for a limited time it helps minimize effort but maximizes the information that can be collected. Another example relates to sampling waterfowl. A few years ago sampling ducks for avian in°uenza was being conducted by visiting a prime waterfowl hunting area; I was able to collect samples from 12 different species in a single day. Being able to collect from such a diversity of species was really beneÿcial and interacting with the sportsmen and seeing their interest and willingness to assist was a bonus.

In addition to sportsmen, landowners and the general public also play an important role in wildlife disease surveillance, especially when it comes to reporting. Wildlife agencies often rely on reports of sick or dead wildlife when conducting response or surveillance. The ability to have the eyes and ears of the state populous helping report wildlife issues helps conservation agencies respond appropriately. Sometimes the response is minimal, sometimes animals just die and someone happens to ÿnd them. In other situations, biologists are looking for samples from speciÿc species, areas, or events and the only way to obtain those samples is from reports supplied by the public. These reports are invaluable, because they would most likely not be documented or have the opportunity for sample collection otherwise. Sometimes it is confusing to the public on which agency they should contact to report an incident or observation. The various agencies involved in wildlife disease issues are well connected, so reporting is the important part. The Pennsylvania Game Commission is a great resource, and has personnel statewide that can help respond as well as excellent resources on-line related to wildlife disease issues. The USDA-Wildlife Services program also receives calls related to sick and dead wildlife and has the ability to respond and collect samples. Various other agencies can assist or will be able to provide individuals reporting concerns or observations to the correct agency. The most important thing is that information gets reported!

When reporting or calling for information related to a possible wildlife disease issue, it is important to do so in a timely manner. I get a lot of calls about wildlife mortalities that are a few days to a week old. Although the information is valuable, it is often too late to collect samples at that point for most analysis. Keeping track of what is going on can be very useful, such as identifying the species, number of animals involved, time period of the event, animal behavior, and environmental conditions. Photographs are great if possible; it helps with species identiÿcation but also may be beneÿcial with diagnosis. These are all factors that can help narrow down possible disease concerns, sampling needs, or management recommendations. Above all it is important to ensure that you are not exposing humans, pets, or livestock to any risks that a sick or dead wild animal may pose.

So as a wildlife biologist who works on wildlife disease issues, and for those other agency personnel, researchers, managers, students, and general public interested in wildlife disease issues, **thank you**. Keep up the good work, keep your eyes open, and let us know what is going on out there.



Saved By Chance: The Strange Story of the Pere David's

By Matt Miller

There are animals that have narrowly avoided extinction. **And then there's the Pere David's deer.**

The Pere David's deer once roamed marshes and plains of China, where they often wallowed in wetlands. At least that's what biologists believe. The fact is, no one knows for sure, because there are only very scant observations of this animal in the wild.

By the 1860's, the *milu* – as it is known in China – was already, to put it mildly, close to extinction.

The one seemingly viable population was in the Emperor of China's Imperial Hunting Park, a large walled and carefully guarded preserve.

It seems an early version of the "fortress conservation" that has become the norm for many wildlife reserves and national parks around the world today. Fence the animals in and keep the people out. When animals are rare – think tigers or rhinos – it is an appealing if last-ditch option.

But there's a big problem. A small, isolated reserve is essentially an island. And animals on islands frequently disappear – a small, isolated population is more prone to being wiped out by weather, disease, predation and dramatic change. Conservation biologists know this as island biogeography.

The isolated Pere David's deer population was seemingly well protected by the Emperor's ÿnest guards. But the deer was about to become a poster child for the harsh lessons of island biogeography. It was saved by chance.

A French missionary, Pere (father in French) Armand David had heard about this deer behind the guarded walls of the Imperial Hunting Grounds. A devoted naturalist, he had to see the deer. Just had to. If you're reading this, I suspect you understand the urge.

One obstacle: this reserve was so carefully protected that no one was even permitted to look into it. But Father David wouldn't give up. He asked the guards to let him take one little peek. What could that possibly hurt? They agreed, but he had only one chance to look over the wall. One glance, and he was done.

This may be the only instance in history when breaking a wildlife law saved a species.

At the very moment Father David glanced into the reserve, a herd of deer came strolling past him. And not just any deer: this species had a long tail and weird-branching antlers unlike any other. Amazed at what was clearly a species new to Western science, he then devoted himself to securing specimens, which he eventually did. This led to a minor craze among European countries seeking live specimens for their zoos.

They got the specimens after various diplomatic efforts. In the meantime, the Imperial Hunting Grounds proved to be not such a fortress of conservation after all. First a °ood came through, drowning some deer and freeing others that were quickly eaten by starving peasants. Then came the Boxer Rebellion, which resulted in troops storming the reserve and eating every last deer. A few isolated individuals may have hung on outside the reserve, but it was clear the deer was ÿnished in its native land.

But Father David's chance encounter meant there were still deer in European zoos. Realizing these were the last of the species, they relocated the entire herd to the Duke of Bedford's spacious deer park at Woburn Abbey in England.

This was an island, too, but the deer had plenty of room to roam and breed. Which they did. They survived World War I, though barely. When World War II brought food shortages and bombs, the Duke decided to not keep all his deer in one basket, so to speak, and sent them to zoos in other locations.

Today, the Pere David's deer is found widely in deer parks, Texas hunting ranches and zoos. It's even been returned to small reserves in its native China. But it doesn't roam freely in the wild.

You might say that today's Pere David's deer has become something less than a Pere David's deer. How did deer shape the land and how did the land shape the deer? That we no longer know. The deer's complex interplay with native plants, with marshes, with predators—these are lost to time.

Today it is a carefully tended creature. It knows the grassy lawn of the British countryside. It negotiates the corn feeders of a Texas ranch. It seems to do well enough. But it is not the animal it once was.

I'd like to think that--at least once in a while--wandering a game ranch in hilly Texas, a Pere David's deer catches the whiff of a mountain lion. And somehow, this triggers a reaction similar to when it once had to fear the tiger. If only for a second, it becomes prey again, shaped not by people but by its own wild nature.

Who knows? Maybe that ecological past has already faded. Maybe it is best suited now for the life of a semi-domestic creature. A brave, new deer for a brave, new world.

Still, when I saw them on the grounds of Woburn Abbey, the park that saved them, I marveled at their long-swaying tails and impossible antlers. I felt happy they were still sharing the planet with us, even if in a diminished state.

I know that in this era some call the Anthropocene—where humans shape everything—these stories will likely become more common. Large wildlife will persist. But will it be as full ecological players in their native habitat, or will they become shadows of their former selves? We still have time to decide.

Let's take the Pere David's tale as a cautionary tale. Guarded reserves are not enough. Islands of habitat are bad for large, wild beasts.

Conservationists get this. Efforts like the Sage Grouse Initiative aim to keep wide-roaming species including grouse and mule deer in intact habitat, thus avoiding "islands" created by energy development and houses and ÿres and weeds (read more on this great project soon on the blog). There are other examples around the world: keeping lands connected so critters have room to migrate, room to roam, room to survive.

Room so their survival doesn't come down to chance. Room so they don't become Pere David's deer, secure but not home, alive but not free.

Matt Miller is a science writer for The Nature Conservancy. You can read his essays and columns on the Cool Green Science blog, blog.nature.org/science. Matt grew up hunting whitetails in Pennsylvania, and still owns a small property there where he returns to hunt with family. He currently lives in Idaho. He has traveled and hunted widely around the globe.

Wildlife Management News

ORDER FORM for Home Delivery

Send to: Jim Holbert • 1201 California Road • Montrose, PA 18801

Your Name: _____

Address: _____

_____

Phone: _____

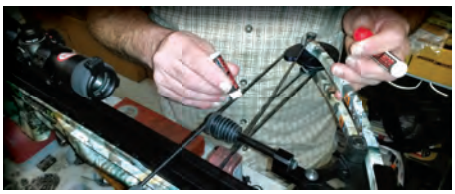
Please send $15.00 for an annual subscription to *Wildlife Management News*.

Crossbow Know-How

by Ryan Coy

For most of Pennsylvania, the regular archery season begins on October 4th. As this marks the sixth year that crossbows are legal for all licensed hunters, it is safe to say that they are here to stay. So like 'em or not, it may be time to familiarize yourself with some basic crossbow know-how.

Just like any other tool, crossbows deserve some routine maintenance. Some of these tasks should be performed every time you head out shooting or take to the woods. The ÿrst thing to look at is the string. Inspect the string (and cables if a compound) for loose and broken strands. Bow strings are made from a continuous loop of small ÿber and therefore a single broken strand will compromise the entire string. Also, if a single strand is loose and out of place, it is a telltale sign of a broken strand somewhere that may or may not be visible. Closely examine the serving (this is the heavy thread wrapped around the string at critical wear point) for unraveling and broken ÿbers. Many times the string can be reserved at a fraction of the cost of replacing the entire string. Assuming the string is in serviceable condition, the next step is to wax it. Waxing pro-



vides both lubrication and protection of the ÿbers and is easily accomplished by rubbing a stick of bow wax over the entire string and then rubbing it in with your ÿngers. The friction of rubbing your ÿngers will create enough heat to work the wax into all of the strands. The next step is to lubricate the "barrel." The groove running the top length of the crossbow's stock is where the bolt (arrow) rides when being ÿred. Most manufacturers recommend lubing this area with some sort of graphite or lithium product. Consult your owner's manual or a reputable archery shop for what products will work for your crossbow.

The next step is look over the limbs and cams (if equipped). Look for burs and nicks that could damage strings and cables on the cams. Go over the limbs on all sides, watching for cracks and delaminating. Assuming there is no damage to this point, look over the stock and trigger group. Again, look for any cracking or other damage. Also pay attention to screws and bolts that may be loose or missing. Assuming everything checks out up to this point, you should be ready to cock the crossbow and start shooting.

This is where the hard work begins. The simplest procedure is to just grab the string with your hands and pull it back, but physical ability and ageing backs may have other plans. Also, a properly used cocking aid will pull perfectly straight back on the string. This will result in an increase in accuracy from shot to shot. Depending on your bow's brand and model, you will have several options of cocking devices. By law, crossbows must have a draw weight of at least 125 lbs to be used in Pennsylvania, and many bows exceed a 150 lb draw weight. For this reason, the most common cocking aid is the rope cocker, which uses a simple pulley system to reduce the weight of pull by half. The other common option is a crank cocker. Some bows have these systems built in while others make it a removable accessory. While the physical effort to use a crank is signiÿcantly less than the rope device, the trade-offs include increased weight and noise, and more time between shots. It should be noted that with one notable exception, it is NEVER safe to release the string by any means other than shooting a bolt out of it. Let me repeat, NEVER EVER try letting the string down by hand. Severe damage can be done to both you and the crossbow by doing this!

Okay, you've inspected and maintained your crossbow. It cocked, and you're ready to go. Assuming you have the proper bolts for your bow, you can load them, cock feather down, onto the barrel. While keeping your hands and ÿngers above the bow, slide the bolt aback under the spring retainer and ÿrmly against the string. Most quality bows have anti-dryÿre devices built in which will prevent the bow from being accidently ÿred without a bolt loaded. Now the only thing left to do is wait for that big buck to come into range.

Once you are ready to shoot, there are a few things to remember. One of the most important things to be aware of is proper hand placement. Because crossbows

have a stock like a ri° e, many people tend to hold them just like a ri° e and wrap their ÿngers around the stock. This can put your digits in harm's way. Keep in mind that the string will be traveling at speeds up to 350+ fps with up to 225 lbs of force behind it. Should the string hit your ÿnger, the best case scenario would be a lot of pain and minimal blood. The more realistic result is you will likely need a trip to the hospital to reattach some skin and muscle. And to make matters worse, you probably will have missed that deer in the process. Besides your ÿngers, be aware of tree limbs, parts of your stand/blind, and anything else that may be struck by either the limbs or string.

Here are a few other things to keep in mind as you prepare to head out to the woods:

- Never store your crossbow in direct sunlight. The UV rays will prematurely deteriorate the string and cables.
- While you may leave the crossbow cocked all day in the field, do not store it for extended periods of time while cocked as it puts excess strain on the limbs.
- Just like a rifle, NEVER climb into your stand with a cocked and loaded bow. Unload it. Attach it to a hoist line. And once in your stand, pull it up.
- Remember, broad heads are extremely sharp.
- Make sure the drawstrings on your hood are tucked into your jacket or sweatshirt so that they don't get caught by the bowstring.

Good luck and Happy Hunting!

New Donor Incentives

Hunters Sharing the Harvest (HSH) Program will offer new donor incentives for the upcoming season. Beginning with the 2014 deer seasons, caring hunters who annually help feed hungry Pennsylvanians by donating their extra venison through Hunters Sharing the Harvest will discover an easier process at virtually no cost. And their compassionate gesture will gain additional recognition as a valuable wildlife resource is utilized wisely.

Since 1991, Hunters Sharing the Harvest has accepted donated deer from hunters that are processed into ground venison by official HSH inspected meat processors, and distributed statewide by food banks to over 4,000 local soup kitchens, pantries, missions and needy families. The program's yearly goal is to deliver 100,000 lbs. of donated venison which can provide more than 750,000 meals via social service programs.

Effective this season, several major changes are being announced to further the objectives and success of the HSH program that should be welcomed by participating hunters throughout Pennsylvania – HSH is proud to announce the $15 deposit requested from donors when dropping off a deer has been eliminated.

The co-pay was necessary for many years when sufficient funds to reimburse butchers were unpredictable. Thanks to major gifts by the Pennsylvania Game Commission, Consol Energy and the Richard King Mellon Foundation, along with exceptional yearly support of many major corporate sponsors, partners, sportsmen's clubs and thousands of individuals, the registered nonprofit's funding base has stabilized sufficiently for the HSH board of directors to take this action.

HSH looks forward to this change serving as an additional incentive for more hunters to donate even more deer into the system. Hunters will only have to deliver their deer to any HSH approved processor, and complete the short 3-part donation form. The processor will then process the deer for the food bank program and be reimbursed for contracted services by HSH after the season.

To make donating an extra deer easy, the HSH www.sharedeer.org web-

Continued on next page

PA Bucktails Field School

by Hannah Krause

This summer, Hannah Krause attended the Wildlife Leadership Academy PA Bucktails field school, which focuses on whitetail deer biology and management. The mission of the ***Wildlife Leadership Academy*** *is to empower youth to become ambassadors for wildlife conservation in order to ensure a sustained wildlife legacy for future generations. The academy offers high-achieveing youngsters, ages 14-17, a comprehensive study of specific wildlife species, including classroom and field-based, hands-on education. Led by experts, including biologists and educators from across the state and beyond, the program also engages participants in team work, friendly competition, and an awareness of their natural world. The Wildlife Leadership Academy will announce 2015 field school offerings and locations on their website at www.PICEweb.org. Applications are available January 1, 2015; the submission deadline is April 1, 2015. Interested students may download the 2015 application at www.PICEweb.org. For more information, contact Wildlife Leadership Academy Director Michele Kittell at mkittell@piceweb.org or (570)245-8518.*

I attended the Pennsylvania Institute for Conservation Education's Wildlife Leadership Academy this past summer. I chose to go to the PA Bucktails ÿeld school because of my interests in whitetail deer and hunting. During ÿeld school, we learned things related to the deer like their habitat, age, diet, behavior, and population management. Time was spent identifying plant species that impacted the deer and how those plants (and others) were used to give us information about the deer. We also took time to appreciate nature through journaling and photography.

During the week I couldn't believe how much I *didn't* know about deer that I was able to learn through the different instructors. It was great to be in a small class size with other students who shared my passion. The week was balanced with team building, learning, games, and competitions. I made a lot of new friends and had a lot of fun. Also, the program is set up so that the skills that have been acquired provide the conÿdence to continue working on service and educational projects once you leave.

Since June, I've had so many experiences as a function of my Academy outreach. I've done duck and owl banding with the PA Game Commission biologists to study population and migration patterns. I volunteer at Red Creek Wildlife Center to help injured and abandoned animals and birds to rehabilitate. Poster boards and presentations have been shared to educate others about whitetail deer and monarch butter°ies, one of my other passions. I realized how much I enjoy the hobby of photographing nature and wildlife. Truly the best part of all, however, is how many more things I have lined up that I'm really looking forward to so I can continue my learning and outreach. Everybody I work with is open to helping me achieve my goals. I feel I am being groomed as the next generation's leader in wildlife ecology.

Pictured at right, Hannah is learning how to press plant samples.

In the far right photo, she is working with her team to identify plants used by deer for browse.

---

site maintains links with updated contact listings of all participating processors by county, along with local volunteer coordinators who are there to help, plus a toll-free telephone 1-866-474-2141 to access the same information.

In addition, thanks to an innovative partnership with Cabela's Outÿtters, the Marcellus Shale Coalition and Pennsylvania Game Commission, hunters who donate deer will receive a new version of the S.P.O.R.T. measuring tape with our thanks. This popular weatherproof item can be carried aÿeld while hunting, and allows the hunter to quickly estimate weight of his harvest on site. While supplies last, all deer donors will receive the tape, as well as the collectible window decal sponsored by Bass Pro Shops with the charity's letter acknowledging the donation following the season.

Furthermore, pilot projects launched in 2013 in Southwestern and Northeastern PA counties to completely cover 100% of processing costs by speciÿc sponsors such as Consol Energy and Cabot Oil & Gas may be extended and expanded. All Pennsylvanians, whether they hunt or not are also urged to donate tax-deductible ÿnancial contributions to the HSH program to help meet deer processing costs. For more complete information please visit www.sharedeer.org.

Contact:
John Plowman 717-512-8534

HSH is a501C3 charitable organization and our contribution is tax deductible. The official registration and ÿnancial information of Hunters Sharing the Harvest may be obtained from the PA Dept. of State by calling toll free within Pennsylvania 1-800-732-0999. Registration does not imply endorsement.

Pennsylvania Dealer Listing

Andre & Son, Inc.
17150 State Route 706
Montrose, PA 18801
570-278-1131

Bohonyi Farm & Garden
14 Jacobstown Rd.
New Egypt, NJ 08533
609-752-0000

Brady & Cavany Sporting Goods
809 Hunter Highway
Tunkhannock , PA 18657
570-836-5486

Brandt's Farm Supply Inc.
601 E. High St.
Elizabethtown, PA 17022
717-367-1221

Cornell Brothers Feed Mill
84 Milk Plant Rd
Middlebury Center, PA 16935
570-376-2411

David Sienko Forest Supplies
339 Maple Lane
Hallstead, PA 18822
570-879-6509

Endless Mountains Archery
600 Valley Rd.
Montrose, PA 18801
570-553-2703

Endless Mountain Supply
1195 Golden Mile Rd.
Wysox, PA 18854
570-637-2680

Enhanced Habitat
5059 Meshoppen Creek Rd.
Montrose, PA 18801
570-533-1145

Flynn's Stone Castle
3626 State Route 706
Lawton, PA 18828
570-934-2822

H. Rockwell & Son
430 Troy St.
Canton, PA 17724
570-673-5148

Honesdale Farm & Garden
35 Brown St.
Honesdale, PA 18431
570-253-3890

Judsons
1 Austinville Rd
Columbia Cross Roads, PA 16914
570-297-2153

Keith's Farm & Dairy Supply
90 Carlisle Rd
Newville, PA 17241
717-776-4848

Laurel Run Pallet
975 Billyville Rd.
Mifflintown, PA 17059
717-436-5428

North Haven Ag Center
307 Elysburg Road
Danville, PA 17821
570-275-2890

PA Aluminum
2637 West Front St.
Berwick, PA 18603
800-922-1428

Red Oaks Farm and Orchard
1384 Potter Hill Rd
Thompson, PA 18465
570-727-3279

Rockwell's Feed, Farm and Pet Supply
1943 Shumway Hill Rd.
Wellsboro, PA 16901
570-724-0967

Rte 333 Supplies
229 Ladybug Lane
Port Royal, PA 17082
717-527-4220

Stoltzfus Farm Service, Inc.
1043 Gap Newport Pike
Cochronville, PA 19330
610-593-2407

New York Dealer Listing

Cochecton Mills, Inc.
30 Depot Rd.
Cochecton, NY 12726
845-932-8282

Country Crossroads Feed and Seeds
3186 County Rt. 61
Andover, NY 14806
607-478-8858

Delaware Valley Farm and Garden
30 Viaduct Rd.
Callicoon, NY 12723
845-932-8282

DeRuyter Farm and Garden
1 Dewey Ave.
DeRuyter, NY 13052
315-852-3316

M.J. Ward & Son
1-9 Cameron St.
Bath, NY 14810
607-776-3351

McDowell & Walker
11 Mill St.
Afton, NY 13730
607-639-2331

McDowell & Walker
4 Depot St.
Delhi, NY 13753
607-746-2314

McDowell & Walker
5 Mang Dr.
Sidney, NY 13838
607-563-9802

Pine Creek Farm and Feed
1825 Storms Rd
Lyons, NY 14489
315-946-8282

Southern Tier Taxidermy
161 Erie St.
Owego, NY 13827
607-687-0202

Wade's Farm & Home
94 Front Street
Addison, NY 14801
607-359-2427

If you would like information on becoming a stocking dealer of Buck Forage products, call 1-800-299-6287.

Importance of Conifers continued from page 20

faster and heavier the cover grows. However, the closer the spacing the quicker the lower branches die leaving an open ÿeld of view. If you look at cover from the deer's point of view, which is three and a half feet off the ground, they can feel quite exposed when the ÿrst branch is ten feet high. One management plan could be to cut every other tree at 10-year intervals to keep as many low branches as possible.

Any conifer can be of value to wildlife but I like some more than others. Hemlocks are of high value to wildlife of many species both for cover and the small cones they produce, but since I have no experience with planting hemlocks and until there is natural control of wooly adelgid, I cannot recommend them for planting.

White pine is a favorite tree of mine. A native tree with a beautiful blue green color and soft needles, it can grow in dense thickets if planted in full sunshine. If white pine is planted in the shade, it wants to grow tall but not thick. Almost any soil will do for this pine to grow, from dry sandy soil to wet clay.

Red pine will grow faster than any evergreen that I am familiar with, reaching head height in ÿve or six years, but the lower limbs will begin to clean off in 10-15 years. A patch of this Pennsylvania native will provide cover for several years while you wait for other evergreens to grow to a preferred size. It does not tolerate wet feet.

My personal favorite conifer for wildlife is the Norway spruce. It is very hardy, fast growing and will grow in almost any soil. As a seedling it can compete with goldenrod, which most other plants cannot. It's long downward arching branches provide plenty of cover low to the ground. It can maintain the low hanging limbs for 40 years or more, hiding grouse, rabbits and deer. The large cones provide food for cone-eating birds and squirrels. I have seen a red squirrel's cache that contained a bushel of chewed cones. One drawback to Norway spruce is bucks seem to prefer them as rubbing posts.

Other conifers have appeal for wildlife but probably make more sense as Christmas trees. White and red pines and Norway spruce will provide the mainstay of wildlife needs. Plant some evergreens next spring and give your wildlife a sense of FDR's freedoms.

Northern Forest Deer Research

by David Kramer

It has been well documented that deer browsing can alter forest plant communities. Such shifts in plant community composition and structure have become a concern to forest managers and hunters, presenting a complex and pervasive issue. There have been a number of documented cases where forest understory and stand composition have changed in Pennsylvania; speciÿcally in the heavily forested northern reaches of the state. Both deer hunting and timber harvest are centerpieces in both the culture and economies in northern Pennsylvania, so this problem hits home for many as maintaining healthy and productive forests often means maintaining deer herds at densities that are lower than hunters may desire. However, browsing damage caused by over-abundant deer herds can ultimately lower the herd's carrying capacity, so it is critically important to attain a balance between forest plant communities and deer densities.

Whietail fawn found in study in non-fenced study plot.

The U.S. Forest Service Northern Research Station and the University of Georgia Warnell School of Forestry and Natural Resources have underway an ambitious project to determine how forest landscapes and deer browsing impact seedling regeneration. Under the direction of Drs. Karl Miller, Nate Nibbelink, and Alejandro Royo, we have established a large-scale experiment at 25 sites owned and/or managed by a diverse mix of public and private forest management agencies across Elk, Forest, McKean, Potter and Warren counties of north-central Pennsylvania.

Starting this past year, we began conducting annual pellet count surveys to determine deer density within approximately a one-mile area surrounding the center of each study site. During the summer of 2013, one-acre deer fences were constructed at the 25 sites. Over the next few years we will assess how deer browsing is impacting forest growth both inside and outside the deer fences.

The results of this experiment have great potential to in°uence future policy decisions that impact timber harvest and whitetail deer management. Hopefully, we will be able to identify how varying deer densities uniquely affect seedling regeneration and understory vegetation growth. This information could help timber and wildlife managers make decisions regarding bag limits and DMAP tag allocations. Further, we will be able to test whether deer fences, which are often costly and labor intensive, are an effective option for managing seedling regeneration. If our methods are effective at reducing unpalatable and browse-resilient plant species, we may also be able to provide a solution that will increase preferred forage for deer, hopefully increasing regional deer herd health and carrying capacity, which is a winning solution for everyone.

Dave Kramer is currently a Ph.D. student at the University of Georgia. Prior to attending UGA, Dave conducted his M.S. research on the effects of hydraulic mulching and logging on herbaceous communities and mule deer habitat selection in Raton, New Mexcio, at the NRA Whittington Center. Dave has also conducted research in Costa Rica and Kenya and worked as a biologist aide for the Pennsylvania Game Commission.

Plants inside fenced plots (top right) are not exposed to deer-browsing pressure allowing them to grow rapidly and increasing plant diversity, whereas plant diversity and growth are suppressed in plots not protected by deer fences (bottom right).

WILDLIFE MANAGEMENT News
1201 California Road
Montrose, PA 18801

For an annual subscription, send a $15 check or money order to Jim Holbert at the address above. See our order form on page 28.

For advertising info, contact Jim Holbert at 570-934-2625 or email at jholbert@epix.net.

WMNews can be viewed at these sites:
www.buckforage.com
www.cfd.coop.com
www.drdeer.com

YOUR NEWSLETTER TO SHARE – WE APPRECIATE YOUR PICTURES, INPUT, AND QUESTIONS

HUNTS FOR HEALING

Healing Wounded Warriors With Outdoor Challenges

1479 Coburn Hill Road Laceyville, PA 18623

570.869.1233

WARRIORS WANTED!

Thank You Sponsors!

Buck Forage Products

Distributors of Muck Boots™ and Aspen Song® Wild Bird Food

www.drdeer.com