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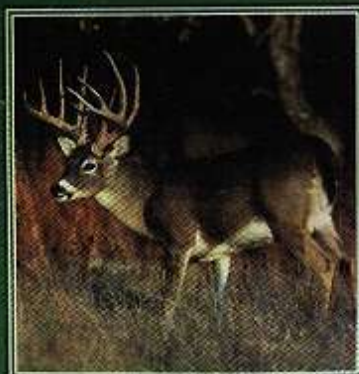
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Volume 3
Number 2
Issue 7

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17 BOWHUNTING'S VIRTUAL CAMPFIRE *Lee Foote*

Take a trip down the "virtual highway" where you'll find that technology can be used to bring you first-rate traditional adventure.

20 MY FIRST SHOT *Scott Biessenberger*

Remember your first bowhunt? Relive that intense, action-packed moment in this inspiring experience.

22 I BECAME A BELIEVER *Mel Toponce*

Join Mel as he takes you on his own "conversion experience" from the modern firestick to the traditional bowstick in the high country of Nevada.

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When you can't hunt wild game, the next best thing is some good old fashioned stump shooting in your local forest. Hey, didn't Robin Hood start out that way?



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52 GOOD TIMES! *Krista Holbrook*

It's summertime and your favorite wild game season is over— what to do? Sign on for a traditional 3-D shoot. You'll sharpen those hunting skills and have great fun and fellowship all at the same time.

54 THE BATTLE OF ALJUBAROTTA *Robert E. Dohrenwend*

If you enjoy the tale of longbow glory at Agincourt, you'll love what our longbow ancestors accomplished at Aljubarotta.

58 OUTDOOR TRIVIA QUIZ— PART III *Gene Wenzel*

All good things must come to an end, or so the story goes. So sharpen your pencil and your wits, and take a shot at the last installment of our traditional trivia.



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FRONT COVER

Picking a spot at the Michigan Traditional Bowhunters Jamboree.
Photograph by Russell C. Lantier

SHARPENED POINTS

This edition of Sharpened Points is geared to provide you with a few practical points that can make your next hunting trip more enjoyable. By the way, have any tips or points to share? We welcome your submissions for this section, and thank you very much for the ones you've sent us.

Pulling Arrows from the Bullseye

Here's an old trick that bears repeating. Carry a small, closed-lid container with a few cotton balls in it soaked in Armorall. Cut an X in the top that will allow an arrow to be inserted an inch or two. You can shoot several targets before applying more Armorall.



Stop Gumming Up the Works

To keep glue from gumming up your arrow fletching and clamps, clean well with hot soapy water and dry. Apply a small coat of Min-Wax to the outside and inside of fletching clamps once a month or more.



Rule of Thumb

(a figure of speech relating to the fistmele):

35 grains of point weight
= 1 inch of shaft length
= 5 pounds of spine
(shaft stiffness).

Add thirty-five grains to your point weight or lengthen your shaft by one inch and you effectively reduce spine by one class or approximately five pounds. Subtract thirty-five grains from your point weight or shorten your shaft by one inch and you increase spine by approximately five pounds.



Don't Forget the Carbohydrates

Body heat is generated by muscle activity. When sitting on a stand, about the only muscle working is the heart, so a source of great body heat does not exist. This is why we get so cold while sitting in a tree stand. A simple trick is to have a full belly! Have something to eat along with you. The stomach generates a fair amount of heat while digesting food. Load up on the carbohydrates.



Photograph by Stephen Childers, Childers Photography

"Suspend" Those Restrictions

Tight clothing or boots restricts blood flow and causes you to be cold. Wear suspenders to hold your pants up. Your belt should only be used to hold your knife. A belt tight enough to hold your pants up will restrict blood circulation.

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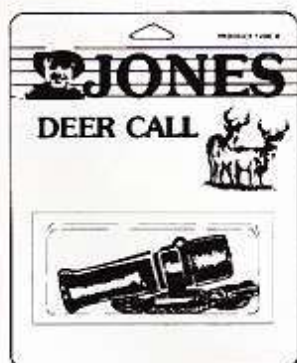
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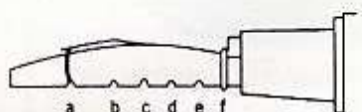
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PUBLISHER'S LETTER

Camaraderie

Since I was twelve, I have always enjoyed hunting of some sort. The times I remember most do not always involve the number or size of the kill, but the camaraderie. Not who shot better or who shot worse, but the funny tales told, the ability to escape the pressures of work for a while, and the experience of being out in the woods with friends.

Stalking hogs in south Georgia last spring (at right) with Greg Campbell provided me with one of those experiences. Wild game was abundant as well as the wild ride in his Bronco, and I don't remember having as much fun since I was a teenager.

Game was also abundant at the King Ranch where Claire and I just returned from hunting with three other couples. It was a blast. Two of the wives chose to hunt while the other two enjoyed the south Texas setting and the abundant wildlife. Like all my hunts of the past, the times of fellowship and deepening of friendships are what made the time spent together memorable. Yes, we hunted hard and saw lots of critters big and small, but unfortunately, we did not kill anything. Our trip was still a success.

Because more and more women are participating in hunting and fishing, we include with this issue of *Longbows & Recurves* an added bonus, the preview issue of *OutdoorWoman*. As more women and children get into the hunting arena, we want to welcome and encourage them to make some memories in the outdoors with us. We think this publication will fill a void, so please pass it on to someone who might enjoy such a publication.

Longbows & Recurves' Summer Equipment Issue is geared to successfully guide you through some of the equipment decisions to make in preparing for the upcoming hunting season. Why not make the preparation fun with a trip to your favorite traditional rendezvous? Our new Club Event calendar for 1998 gives the dates of your favorite shoots, while Krista Holbrook describes this not-so-typical summer pursuit in her article, "Good Times." Before you leave the campfire, let Lee Foote describe "Bowhunting's Virtual Campfire," explaining how modern technology can both preserve our heritage and keep the traditional spirit alive. Remember to visit our web site at www.Longbows-Recurves.com and let us know what you are thinking.

Have fun this summer and keep this in mind: don't major on the minors.

See you at the rendezvous,

Mike



Photograph by Matt Schuster

Longbows & Recurves

TRADITIONAL BOWHUNTING AT ITS BEST

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Thanks to all of our friends.

DEPARTMENTS

FROM THE WHISPERIN' PINES—Bob Wesley

TRADITIONAL REVIEW—Don Francois

WILD GAME RECIPES—Claire W. Stanley

EQUIPMENT EDITOR—Sam Fadala

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WRITE ON TARGET

The views expressed by letter writers in Write on Target are not necessarily the views of the magazine, *Longbows & Recurves*™. The publisher does welcome your comments and opinions, but reserves the right to condense and edit letters due to space availability and/or appropriateness. Letters should not exceed three hundred words.

First of Many

In the summer of 1997, I sent you a completed reader survey form. For my effort I was pleased to have received a Primos deer call in the mail. Since that time I've practiced several hours a week with my two traditional bows, and occasionally with my call. Since this was my first serious year as a bowhunter I had reservations about calling a deer in. On December 12th, about 4:00 p.m. I heard a deer. With four doe bleats from your Primos call, the last being the loudest, a ten point buck came within

shooting range. I pulled back my sixty-pound longbow that was made for me by a friend, and I killed my first deer. The end result was a fine trophy.

I would like to thank you for the call and let you know that I will keep reading your magazine.

Terry Forrest
Amprior, Ontario, Canada

To Each His Own

I purchased V2N4 of *Longbows & Recurves* and in the Hunting Review

section, I read the article titled, "More Crossbow Threats." I really do not understand the apparent concerted effort by the B.S.B.A. to keep people who like to shoot or hunt with a crossbow from doing so. I don't see at all where one should interfere with the other.

I build crossbows and enjoy shooting them. I even build what would be called a "traditional style." The originals of this type were built eight hundred years ago. I do not hunt in the state of Louisiana with it

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[because] I do not meet current legal requirements.

The article mentions that the B.S.B.A. (Bayou State Bowhunters Association) does not want crossbows to be used during archery only season. It does not mention anything however about the use of compound bows. Being "bow shooter" people, I am sure that you are aware that modern compound bows shoot harder and are just as accurate as a crossbow. Crossbow scopes do not add much more accuracy than some regular bow sights and even the magnification is a [moot] point in our area where most shots are taken while hunting at less than thirty yards. I think that too much time and effort is spent by special interest groups trying to keep someone else from doing something that they want to do. The woods and forests are big enough to accommodate everyone, and with the deer herd population in this state being close to one million, there is also plenty of game for everyone. You do not see

crossbow shooters and hunters trying to stop regular bowhunters from enjoying your sport.

I have always thought that maybe the legislature should consider a bill that would allow crossbows during gun season only. Maybe such a proposal would make everyone happy. I am sure that you are aware that in Arkansas crossbows are legal. If they can get along, why can't we?

Jonathan G. Fogle
West Monroe, Louisiana

L&R: The point of Don Francois' comment was that crossbow hunters are attempting to infringe upon bow season, and we stand by his statement. We will defend your right to legally use your crossbow, but again, we think that crossbows are better suited for gun season.

Passionate Parting

The "Parting Shot" photo and caption [in your Winter 97 issue (V2N4)] warms

my heart to your magazine and my passion to follow Christ and his blessing to me in the [gift] of traditional archery.

Keep up the good work.

Lanny Caudle
Midland, North Carolina

Keep em' Sharp

Keep up the good work. I've been getting your magazine at the newsstand since it came out, but I can't find your anniversary issue anywhere so I had better just sign up now. I hope you have an anniversary issue left for me.

I enjoy the stories by Bob Wesley the most. He probably remembers my friend Ron LaClair. I finally beat him last winter at our indoor league. He says he's gonna kick my tail this winter. So keep those tips coming in. I'll need them.

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But how do you use it?

Regarding "Making a Wingbone Turkey Call" by Larry Long, am I missing something? I guess after assembly you use it on a slate, but it never says what application to use to produce the sound.

Again, I'd like to compliment your great efforts in communicating a great image of hunting to the public. I live in New York City where the closest people get to nature is the house plant. The city dweller's emotions are controlled by sitcoms on television. Wise-cracking "intellectuals" are the role models. Men wear suits here, a garment designed to make a man look like a stone building. Did you know that there is no practical function for a necktie?

I'd [also] like to see more articles on varmint hunting and calling. I joined and subscribed to Varmint Hunter Club which is 99% for the rifle shooter. It provided me with a wealth of information on calls for

bobcat, coyote, and other predators. Could you refer me to a good predator call archery company? I'll be contacting the Yonkers, New York Traditional Club and they may help too.

Thanks again,
Charles Barnett
New York, New York

The wingbone call is not difficult to master. Hold the large end of the call between your thumb and forefinger and cup your hands to create an echo chamber. Close your lips and push the end of the call just far enough between your lips to break the seal. Stop when you can barely suck a small amount of air through the call. Suck air in short bursts into the call. This should make a sound that you can vary in several ways. Volume can easily be controlled by the amount of air you pass through the call. Volume can also be controlled even further by opening and closing your cupped hands. This also

changes the tone when combined with changes in air pressure.

Longer bursts of air will produce yelps and short bursts will produce clucks. Experiment with the call, anyone can make it work. Getting the sound to the proper tone can be difficult.

Remember the first time you heard your own voice on tape? You probably said, "Who's that?" We don't sound like we think we do. Any call (wingbone, tube call, or diaphragm) that is against our head or in our mouth presents this problem. Tape record your calls and play them back to get the sound you need to hear in your head to make the call sound right to the turkey.

In response to your question about predator calls, try contacting Primos, Inc., P.O. Box 12785, Jackson, Mississippi, phone 601-366-1288.

Tongue-Tied Trivia

I learned a lot from the trivia quiz by Gene Wensel. May I add another name to question #9: calycophyllum-candissi-

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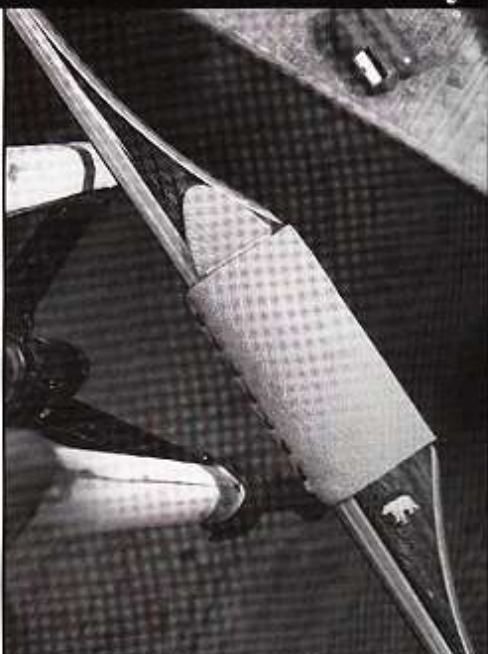
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mum, known as degame, (dah-gah-meh). This is taken from *New Archery* by P.H. Gordon (page 146), and *Bows & Arrows* by J. Duff (page 24). The best is said to come from Cuba.

I hope you received my last letter with trivia and data. Congratulations on your first anniversary issue!

Monte
Hemet, California

Arrow Woods Wanted

I am one of your Swiss readers and I [really enjoy] *Longbows and Recurves*. In your issue Volume 2, Number 3, the article, "Heads for Hogs" on page 41 shows an arrow made with two woods. Can you tell me an address where I can buy such a wonderful shaft. Thank you for your answer.

Truly Yours,
Christen Jean-Claude
Switzerland

L&R: Maybe the two articles in this issue on arrows by Paul Branner and Don Stokes will help you find and/or build a beautiful shaft for your next hunt.

They're in the Mail

What a nice surprise to find a magazine for traditional archers. Sadly, hunting season has come to a close, but my copy of *Longbows & Recurves* will help ease the withdrawal symptoms. I'm a happy camper. Not only am I now a subscriber to L&R, but I am assured that my four back issues are in the mail. This is my chance to be in on this great publication from the beginning. I hope that your popularity and business grows [so that] more issues [will be] published each year.

Don La Vigne
Lewisburg, West Virginia


L&R: Thanks for subscribing. We appreciate you, and we are working hard to exceed your expectations.

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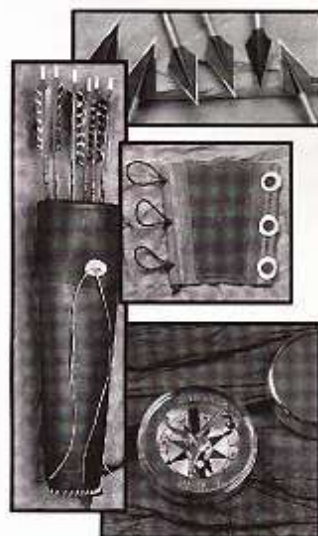
I'm pretty much involved in all kinds of traditional-looking bows. I usually shoot longbows myself, occasionally recurves. My friends and I used to meet every week on Saturdays and Sundays, have some talking and a lot of arrows in the woods where we have our range. I found your advertisement in the P.B.S. magazine and I wondered if you were willing to mail issues to my home in Sweden....

I look forward to reading [*Longbows & Recurves*].

Friendly and sincerely,
Pierre Jean Levy
Sweden

L&R: We will be sure to mail Longbows & Recurves to you in Sweden. By the way, you may want to look at this issue's article by Fred Anderson entitled "The Wild Rovers." 

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BIONOTES

A very rural area of Washington State near Puget Sound is home to **Fred Anderson** and his wife of thirty-six years. He has been a teacher for twenty-eight years and has authored several stories and columns on archery including his newly published book, *The Traditional Way: The Mystique and Heritage of Archery*. He became a full-time bow maker in 1963.

Scott Biessenberger grew up in Louisiana and completed his education in Texas. He has been bowhunting for twenty-five years and shares his love for archery in many ways with his friends and family. Scott has just completed his first selfbow from a hickory stave.



Scott Biessenberger



Paul Brunner

Paul Brunner has hunted many different species of animals all over the world for thirty-nine years since picking up the bow at fourteen years of age. He is a senior member of the Pope & Young Club and life member of the P.B.S.

With recurve in hand, **Joey Buchanan** often heads to the swamps of south Georgia in search of hogs. Joey serves as the president of the Traditional Bowhunters of Georgia, and is a regular member of the P.B.S.



Robert E. Dohrenwend

Robert E. Dohrenwend is a resident of Pelkie, Michigan who brings a rich tradition of longbow experience with him from the forests of the Upper Peninsula. Robert is a skilled writer, translator, and military historian.

Lee Foote is a wetland ecologist from Lafayette, Louisiana, now living in Edmonton, Alberta. An occasional contributor to *Longbows & Recurves*, in this issue he explores the Internet for bowhunting information sources. Appropriately, he submits his manuscripts to us via e-mail.

Wayne "Biggie" Hoffman of Gray, Georgia, is a well-known bowhunting advocate who has written for a number of

related publications. He is past president of the Traditional Bowhunters of Georgia and is currently a council member of the P.B.S.



"Biggie" Hoffman

Krista Holbrook, of Panama City, Florida shows us how much fun summer 3-D tournaments can be. Krista and her husband, Sterling, enjoy camping and hunting along the Tombigbee River in Alabama.

An outdoorsman from northern Mississippi, **Don Stokes** has bowhunted for more than thirty years. He is an expert in wood properties, with more than twenty years experience in research, development, and quality control.

Mel Toponce, a veteran with over forty-five years of hunting and fishing experience on six continents, writes of his traditional conversion on a Nevada mule deer hunt. Mel's official address is northern California.



Mel Toponce

Professional bowhunter, guide, and writer **Gene Wensel** puts you to the test again in his Outdoor Trivia Quiz. Gene and his brother, Barry, are regular contributors to *The Professional Bowhunter Magazine*.

Butch Winter lives in Union City, Tennessee and edits *Blackpowder Annual*. Butch brings to *Longbows & Recurves* an expert perspective on knives.

The southeastern part of Missouri and southwestern Illinois is the primary whitetail hunting ground for **Gale Wisdom**. Gale owns Flint Chip Archery and represents King of the Mountain clothing.

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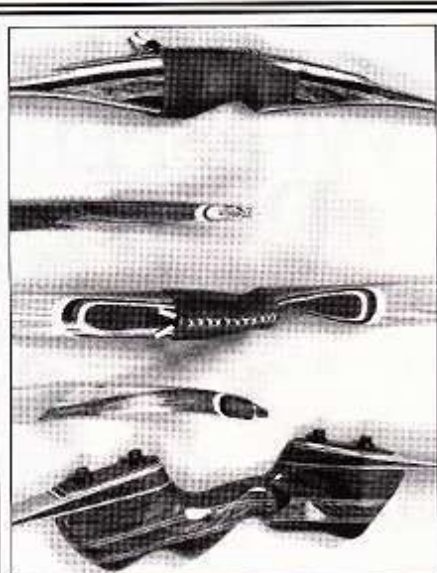
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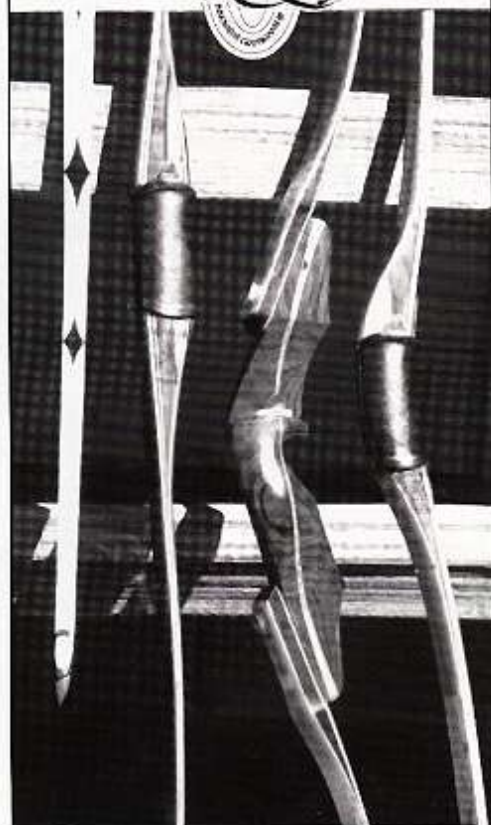
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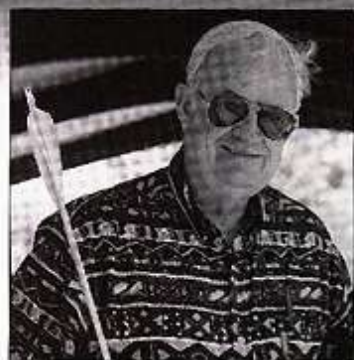
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FROM THE WHISPERIN' PINES by Bob Wesley



Enjoying the Traditional Rendezvous

Spring is here and it is now time to carefully store the broadhead arrows away and prepare for the annual traditional rendezvous. Other forms of archery may describe this season as tournament time. The traditionalist looks upon it a bit differently. Rather than placing emphasis upon winning, the traditional archer sees the camaraderie with friends as the real reward. Perhaps the biggest problem facing the traditionalist is selecting the three or four big shoots across the country that he can work into a busy schedule.

In the South, the tournaments that are a must for me include the Louisiana Traditional Rendezvous held in St. Francisville, Louisiana on April 26th, the Lofton Classic, on the banks of Grenada Lake, Mississippi the first May weekend, the North Carolina Championships held in Catawba County the last weekend of May, followed by the Hill Championships held near Wilsonville, Alabama, the last weekend of June. *Longbows & Recurves* will list contact names and phone numbers in its Club Events department to assist you in your planning for the spring shoots.

Let me encourage all field captains to keep the targets close so that all can hit them, and positioned with safety in mind. The prime objective is to see that everyone has a good time. I personally like to see the whitetail deer target at a distance no greater than twenty yards, the turkey no greater than twelve, the walking bear or boar around fifteen to

eighteen, and the standing bear no further than thirty yards. The ten ring will determine the high score. The eights and fives will bring gratification to the rest of us shooters.

In order to maximize enjoyment at these spring shoots, keep in mind that most archers tend to over-bow themselves or use too much draw weight.

Target distances are usually no greater than thirty yards. A bow of a poundage lighter than hunting weight proves to be more than satisfactory. Begin training by practicing at least thirty minutes a day following hunting season. Practice should place emphasis upon correct form, aiming, and follow-through. Form should include correct alignment with the bow hand placed so that the back of the wrist is almost flat, the bow arm with the elbow slightly bent, and the upper arm well back and down in the shoulder socket. The anchor should be three contact points with the arrow directly under the dominant shooting eye. The holding weight should be primarily by the back muscles. Remember that a short practice session on a regular basis, placing emphasis upon quality



Short practice sessions on a regular basis emphasizing quality shooting will prepare you for a big moment such as the McMahon Eagle Eye in Coudersport, Pennsylvania.

shooting is more desirable than prolonged, irregular sessions where one just flings arrows.

Learn to conjure up a shooting situation which calls up a bit of pressure. You are with a best friend who has just shot a ten on the whitetail deer target. The target is down a hill on a slanting hump of ground in a shady place. You estimate the distance to be between eighteen and twenty yards. The ten ring is only four inches across. This is where practice pays off. While being careful not to overdraw your arrow at full draw, you check your bowhand, elbow, low bow shoulder, anchor, and back tension. Coming up from the back of the front leg you stop your arrow point along the foot line of the deer while focusing on the center of the ten. Keep in mind that the release involves relaxation of the string hand rather than a turning loose




The prime objective at the traditional shoot is to see that everyone has a good time.

of the string. Once the release hand relaxes it should remain on the face or be moved backwards due to the pulling of the back muscles. The bow shoulder should be relaxed at full draw but down and back. Now, suddenly your arrow is gone, and thud—it settles next to your friend's arrow. What a thrill! What a fine sport!

Remember to support the vendors. It takes a lot of effort and money for them to travel with their merchandise,

display it, and be available to serve participants. I make a special effort to visit each booth, purchase some item that I will surely need sooner or later and thank them for making an appearance. During the year I usually give those that make the special effort to attend the rendezvous special consideration. Also keep in mind that the club that sponsors the shoot makes a concerted effort to

see that everyone has a good time. Make a point to look up those who are primarily responsible and thank them.

I look forward to crossing arrows with you this year at a traditional rendezvous with good fellowship, camaraderie, and the true spirit of archery. Until then, I wish you much happiness from the shady glens of the Whisperin' Pines. 

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TRADITIONAL REVIEW

by Don Francois



Where the Deer and Antelope Play

The mailing address for the Prairie States Traditional Bowhunters (P.S.T.B.) is Hot Springs, South Dakota, but the organization is regional with members from South Dakota, Minnesota, Wyoming, Nebraska, and North Dakota.

The idea for a regional organization began when the North American Longbow Safari was held in Hot Springs in 1993. This event drew traditional archers from the aforementioned states, some of whom did not have a traditional organization back home.

Jim Dahlberg is one of the founders and boasts that the club is growing. Only two years old, it had seventy dedicated members.

The P.S.T.B. holds one big shoot annually. This year it will be August 1st and 2nd near Pierre, South Dakota. A hallmark of the shoot is that all of the targets are homemade by the members. The competition among the target makers is almost as keen as that among the shooters. A trophy is awarded for the best and worst target. Jim says that they get some pretty wild and unique entries that add to the fun and enjoyment of the shoot.

Jim adds, "The purpose of the organization is not just to have fun. We're trying to make a difference."

Toward that goal, the club will hold a raffle this year with half of the proceeds going to the family of the late Jay Massey and the other half going to the Make-A-Wish Foundation which was criticized by anti-hunters for sending a critically ill young hunter on his dream bear hunt.

P.S.T.B. is an organization of bowhunters and the area has plenty to offer. Bowhunters in South Dakota enjoy a ninety-four day season and can take up to five deer. There are plenty of big game animals ranging from whitetails and mule deer to pronghorn antelope.

Illinois Goes Primitive

"Chip" one up for the Primitive Archers of Illinois (P.A.I.) who will be able to use flint points for the first time beginning with the 1998 turkey season and later this year for deer.

According to Bob Linksvayer, who has appeared in the pages of *Longbows & Recurves* (check out "Building a Sapling

D Bow" in Volume 2, Number 2), the first thing that had to be done was convincing the state's chief game biologist that flint points were efficient hunting heads. Bob gathered information from other states where flint points are allowed to support P.A.I.'s position.

When I spoke to him, there were still some details to be worked out, but basically, the point must be made of chert, flint, or obsidian and must be large enough so that it cannot pass through a hole measuring seven-eighths of an inch in diameter.

P.I.A. has seventy members, all of whom are builders of primitive equipment. The club is an active one, holding monthly meetings. They hold one big, competitive shoot every year and several smaller, non-competitive shoots.

When Bob isn't building bows, he enjoys hunting with them. Illinois has a good turkey population and the deer population has stabilized after increasing for several years. The number of deer killed by hunters has dropped off somewhat in the last two years as has the total number of hunting permits sold. However, bowhunting in general and traditional bowhunting in particular continue to enjoy growth.

Nothing Missing in Mississippi

Jerry Kattawar is a founding member and the first president of the Mississippi Traditional Archery Association. Jerry is proud of the M.T.A.A. which has over four hundred members and several local chapters throughout the Magnolia State.

The club's year starts out with one-day shoots hosted by the local chapters. There are eight to ten such chapter shoots held around the state beginning in early spring and continuing every month or so until fall.

The club's big shoot is the Lofton Classic held each year in Grenada over the first weekend in May. This is one of the premiere shoots in the South and is well known for its hospitality and family atmosphere.

Along about August or September, M.T.A.A. holds its annual Charity Shoot. Kattawar says that the organization, "wanted to give something back," so four years ago they selected St. Jude's Children's Hospital and raised five thousand dollars for its benefit. Last year the chosen charity



was Special Arts Children of Mississippi and the year before it was the Firefighters' Memorial Burn Center.

Come October it is hunting season and the members gather at a state management area for the annual camp-out and hunt. Jerry says it is usually just a camp-out, but last year the forty-five members who participated actually bagged a couple of deer. But Jerry insists that whether they eat venison or beans, they always have a great time.

Hunting is Good in Pennsylvania

Pennsylvania is a great state for deer hunting and for traditional archery. Lee Smith is president of the one-hundred-ninety member Pennsylvania Traditional Archery Association (P.T.A.A.). Lee says that his organization split from the Pennsylvania Longbow Association about five years ago, and not surprisingly, many P.T.A.A. members shoot recurves. The club holds two big shoots each year at the Denton Hill Ski Resort, one in September and another in October, offering a great warm-up for deer season.

The other Pennsylvania group is the aforementioned Pennsylvania Longbow Association (P.L.A.). President Jessie Miller says that the one-hundred-ten member group holds one big shoot each June. This year it will be on the 13th and 14th at Sheshequin Buckskinners in Marsh Hill, Pennsylvania. This gathering also serves as their business meeting with officers being elected every other year. Other shoots are held in the spring and fall.

Jessie explained that most officers and members also belong to the United Bowhunters of Pennsylvania (U.B.P.) which is an all-inclusive bowhunting organization that is politically active concerning hunting legislation.

Although he lives only three miles from the house he was born in, Jessie does like to travel. He and his wife, who also

shoots a longbow, have been to shoots down south including the big traditional tournaments in Louisiana and Grenada, Mississippi. He says they love the friendliness and laid-back attitude that prevails at the southern events. He doesn't even mind the nickname he was given: "Yank".


Bowhunter Education— The Future of Bowhunting

The Traditional Bowhunters of Georgia (TBG), in cooperation with the National Bowhunter Education Foundation (NBEF), will be holding bowhunter safety courses throughout the State of Georgia. The TBG has fifteen members certified as bowhunter safety instructors, and they will be contacting all the archery and bowhunting clubs in Georgia to offer the course in various locations around the state. The course is recognized in all states and countries requiring bowhunter certification. The course length is ten to twelve hours, and each class is limited to twenty-five persons. Cost is ten dollars.

Jim Kenney of Archery Traditions in Athens, Georgia has been a great supporter of this program by providing a place to conduct the classes, while Mickey Wilson and Joey Buchanan have manned the telephones to rally support.

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Bowhunting's Virtual Campfire

by Lee Foote

The sun has set and the group of traditional bowhunters gather around the warm flickering light. Their discussion is the talk of hunters; the conversation moves from game seen, to shots taken, to equipment used. As a disagreement over broadhead performance heats up, fingers move nimbly over the keyboard... the keyboard? Yes, this whole scene is played out nightly on several Web sites, electronic bulletin boards, and live chat rooms dedicated to bowhunting. The Internet has become a virtual campfire for archers around the globe. As disconnected as traditional archers may feel, there is hope of remaining in a community of hunters when they join ranks electronically with kindred spirits around the world. I stumbled across my first archery site while surfing the Internet and came close to dismissing it, however, a second look convinced me that if Dean Torges, Dan Quillian, Steve Rupert, and Biggie Hoffman were going to be instantly available to discuss traditional archery, I was certainly going to read and learn.

Most Internet discussions are led by ordinary bowhunters, though some topics draw out experts in their fields: professional hunting guides, renowned bowyers, and wildlife biologists who log on and enter into discussions with other archers, be they beginners or experts. This electronic medium is one where people can let their hair down a

bit, go out on some limbs with their hunting opinions, and admit the limits of their knowledge. The Internet gives us free access to their expertise.

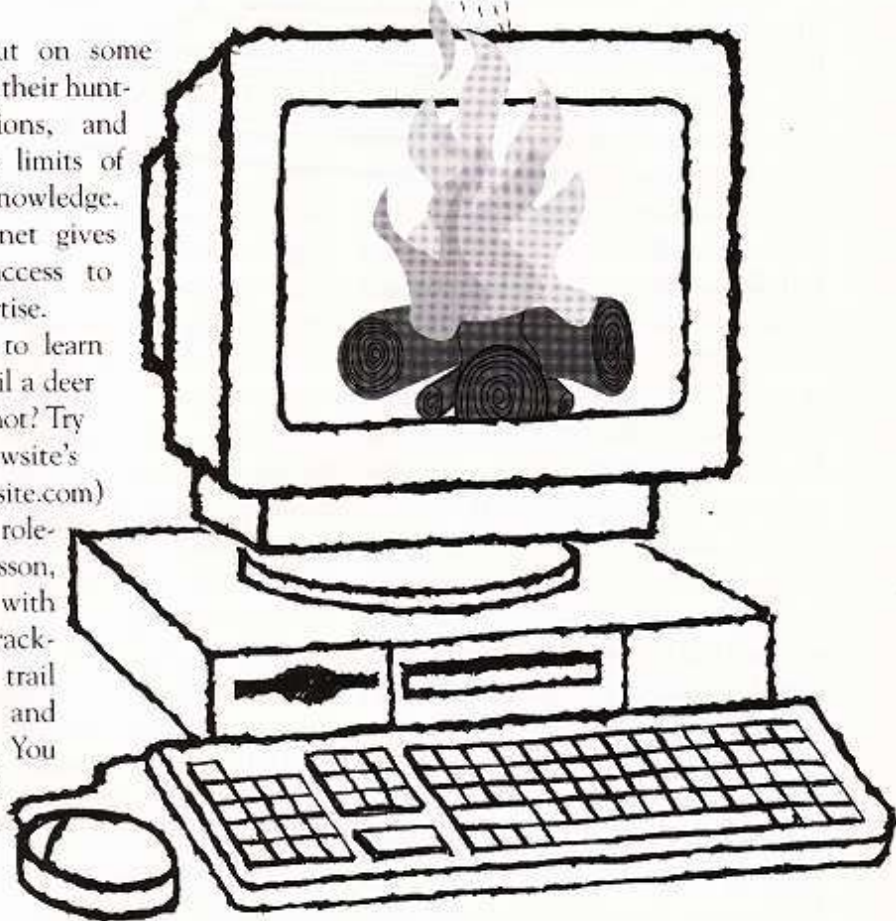
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of blood, tracks, vegetation, and the appropriate procedure for retrieving your virtually wounded game. Several times the Bowsite has carried daily updates and photographs of hunts in-progress from hunters in the field. This amazing task was accomplished via computer, modem, and cellular phone. We see instant realities of weather, wildlife seen or taken, and decisions made. In addition to sending encouragement and best wishes, readers could

offer advice to the hunters in their pursuit. This secondhand experience is as close as many archers will ever get to hunting elk in Idaho's remote Sawtooth wilderness. However, because we were treated to the daily activities, stalks, night time strategy sessions, and keen anticipation of the hunter, we could relate to them as only hunters can.

The Internet is nothing if not fast. Pat Lefemine, advanced bowhunter and the organizer of the Bowsite and



Stickbow Web sites, provides bowhunter alerts and daily updates on critical issues facing the sports of hunting, archery, and traditional bowhunting. When antihunting groups add a last minute rider to a bill; when congressional maneuvers threaten hunting privileges; when the press unfairly portrays hunters; the archery bulletin board lights up with alerts, perspectives, addresses of where to write and pertinent information in support of hunting. In twelve hours, a network of letter writing, phone calling, e-mailing bowhunters can make their interests known to their legislators. The Internet bulletin boards have carried information and discussion over the last three years concerning the use of hounds and bait for hunting black bears. Many of us emerged better educated and our letters to lawmakers reflected that awareness. More recently, the Campfire Program, an international program that helps African tribal communities manage their lands for sustainable wildlife production, has been challenged by antihunting groups that oppose big-game hunting. Congressman names and voting inclinations were listed on the Internet so hunters could write and urge them to reauthorize the support for Campfire Program. A hunting-favorable version of the program prevailed in late 1997.

Electronic Encouragement

Across electronic lines hunters not only find common causes, they find alliances, friendships, and an occasional debate. Hunters commiserate missed shots and offer encouragement. Hard-earned successes are celebrated worldwide with "attaboys" and electronic kudos. It is not unusual for hunters to end up hosting each other, swapping hunts, or visiting electronic

acquaintances while traveling to other states. Want to know more about hunting feral goats in New Zealand, Kudu in Zimbabwe? When the rut occurs in Maryland? Where to find extra long cedar shafts? Send in a question and you will get answers from individuals with firsthand experience.

Particularly touching were the eulogies and many sincere words posted on the passing of bowyer and traditional archery great, Jay Massey.

The Internet also provided wide-ranging notice of the opportunity to donate to the fund established in his honor. Regular bulletin board fare includes heartwarming stories of first hunts, parental guidance, advice for starting children in bowhunting, hunting camp pranks, recipes, and book reviews. Discussion topics called threads also include specialty niches where, for example, women bowhunters can meet to exchange ideas and provide support, advice, and suggestions for women's hunting equipment.

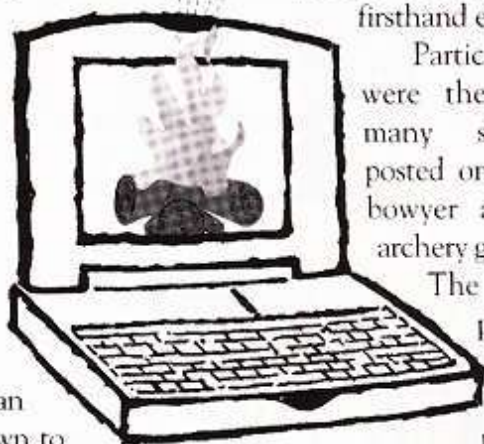
Historically, hunting has been a sport where traditions, rules, skills, and the hunting culture were handed down from father to son. Wives and daughters played only a small part in bowhunting. That appears to be changing, as evidenced by the two hundred-plus replies quickly posted to a thread titled "Any lady hunters out there?" With increasing urbanization, non-hunting households, and less connection to wild land, hunting has become an anachronism in the minds of the inexperienced and uninformed. Some hunters are even hesitant to admit their bowhunting passion in "polite" company for fear of negative reactions. Newcomers to the sport, particularly those coming from nonhunting backgrounds often find it hard to break into hunting

circles because of the unspoken codes of behavior, jargon, and skills. There is good news for new archers, women bowhunters, and urban archers. No need to feel isolated anymore. The virtual campfire exists just a few keystrokes away on the Internet. Logging on can quickly land one right to the middle of up-to-date hunting conversations. Discussions range widely and include almost any topic that would come up around a hunting camp supper table. New bowhunters can become familiar with the key topics of bowhunting by simply watching the discussions on the Internet (this is called "lurking" and is perfectly alright), then joining in with questions or opinions whenever they feel comfortable. The Internet can help demystify bowhunting to the public, provide insight into hunter-hunter relationships, and reveal our strong commitment to the land, our quarry, and well-launched arrows. The caliber and integrity of the archers is impressive and many topics are filled with awe, appreciation, and reverence for the privilege of hunting and communing with nature.

Supporting the Traditional Way

It is ironic that our appreciation of bowhunting with traditional equipment can be augmented and supported by something as recent and highly technical as the Internet. Archers, however, cannot afford to stick their heads in the sand regarding electronic media regardless of their penchant for primitive gear. As archer Lou Compton of the Traditional Bowhunters of Maryland wrote "So wife and kids move over... a real live, walking, talking Neanderthal is about to go on line... I've got to join my fellow toxophiles in a journey down the information highway."

There are currently three primary interactive Web sites that deal exclusively and comprehensively with bowhunting and one of these that is dedicated to traditional archery. The Bowsite (www.bowsite.com) is a very



well-organized, private site operated by master bowhunter Pat Lefemine. The site includes color photographs, commentary columns, hunter alerts and updates, and individual conference/discussion sites for hunting all major big game species in North America, as well as guest columnists. The main bulletin board allows hunters to share their hunts, problems, successes, and questions. The site like the other two, is screened to eliminate profanity, anti-hunting replies, or other offensive posts. The Bowsite provides extensive links to related Web sites such as the Professional Bowhunters Society, Pope and Young Club, and the Wildlife Legislative Fund of America, among others.

Bowhunting (www.bowhunting.com) is an active and professionally arranged site. The extensive commercial advertising makes this the site for serious hunting gear enthusiasts. Though some traditionalists are put off by the more commercial approach, this is a very complete site. All types of bowhunting are discussed, but my impression is that this is the site favored by the compound shooters and crossbow enthusiasts. Some of the most recognized professional bowhunters in the world are featured in columns and commentaries at this location. Many links are available for archery related topics and manufacturers. Other

features such as live chat rooms, trade-a-hunt listings, and sweepstakes entry forms that are just an icon click away.

The Stickbow (www.stickbow.com) is a relatively new location that caters specifically to longbow, selfbow, and recurve shooters. Pat Lefemine also moderates this site. There is a distinctly different tone to the exchanges on the Stickbow's bulletin board called "The Leatherwall." Ideas and philosophies tend to emerge more often, and there is a distinct lack of commercialism. Frequent posting personalities with names like Tennbow, Rupe, MT, and Xman provide sensible continuity and entertaining commentaries. This site, like the others, supports highly ethical and responsible bowhunting sportsmanship and provides abundant information for those considering hunting with traditional equipment. I posted a thread to the Stickbow site asking archers to share their thoughts about the Internet bowhunting sites for this article.

Here are some of the replies I got:

"... I've seen ethics taught, technical advice freely given, emotional support showered on those in need, friendships made and hunts organized..." (Ric A.)

"Traditional archers, I think, tend not to be 'joiners' which creates a kind of isolation... The net has changed all that." (Don S.)

"Even after thirty-four years in traditional archery I still learn something almost every time I log on." (Kelly)

"I've made a lot of new friends and met a few of them in person. Several folks on this site have helped me out with solid advice on topics such as building a spine tester and arrow match up." (Bruce S.)

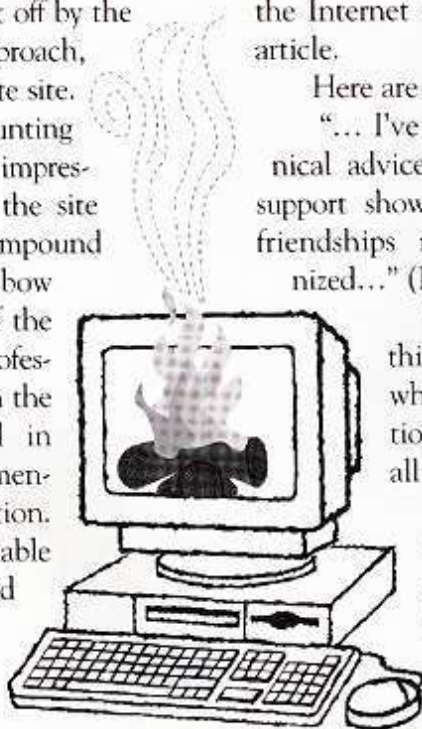
"The tensions and creativity that develop on [Stickbow's] Leatherwall add a whole new level of explosive, super-evolutionary growth potential to traditional archery. Funny." (J.K.)

"I organized a hog hunt in February, 1997 for the chat room users. Thirteen of us from all across North America spent three days chasing pigs in South Florida." (Jeff D.)

As this article goes to press, one of the latest traditional websites to grace the Internet is *Longbows & Recurves'* own (www.Longbows-Recurves.com). This site provides the traditionalist with, among other things, bowhunting articles, club events, and an interactive link allowing its visitors to relax with a virtual cup of coffee.

So my hat is off to the interactive hunters that keep the interest up as we wait for the next issues of our favorite archery magazines. Bowhunter linkages via the Internet are some of the most appealing uses of the computer.

You owe it to yourself to investigate the wealth of information on archery, tackle, wildlife biology and bowhunting available through the Internet. The possibilities are intriguing. When my legs turn in their last hunt and my old sore shoulder will no longer let me draw my recurves, I will take solace in being able to take a virtual hunt and chat with bowhunting friends around the world via my basement computer. ■



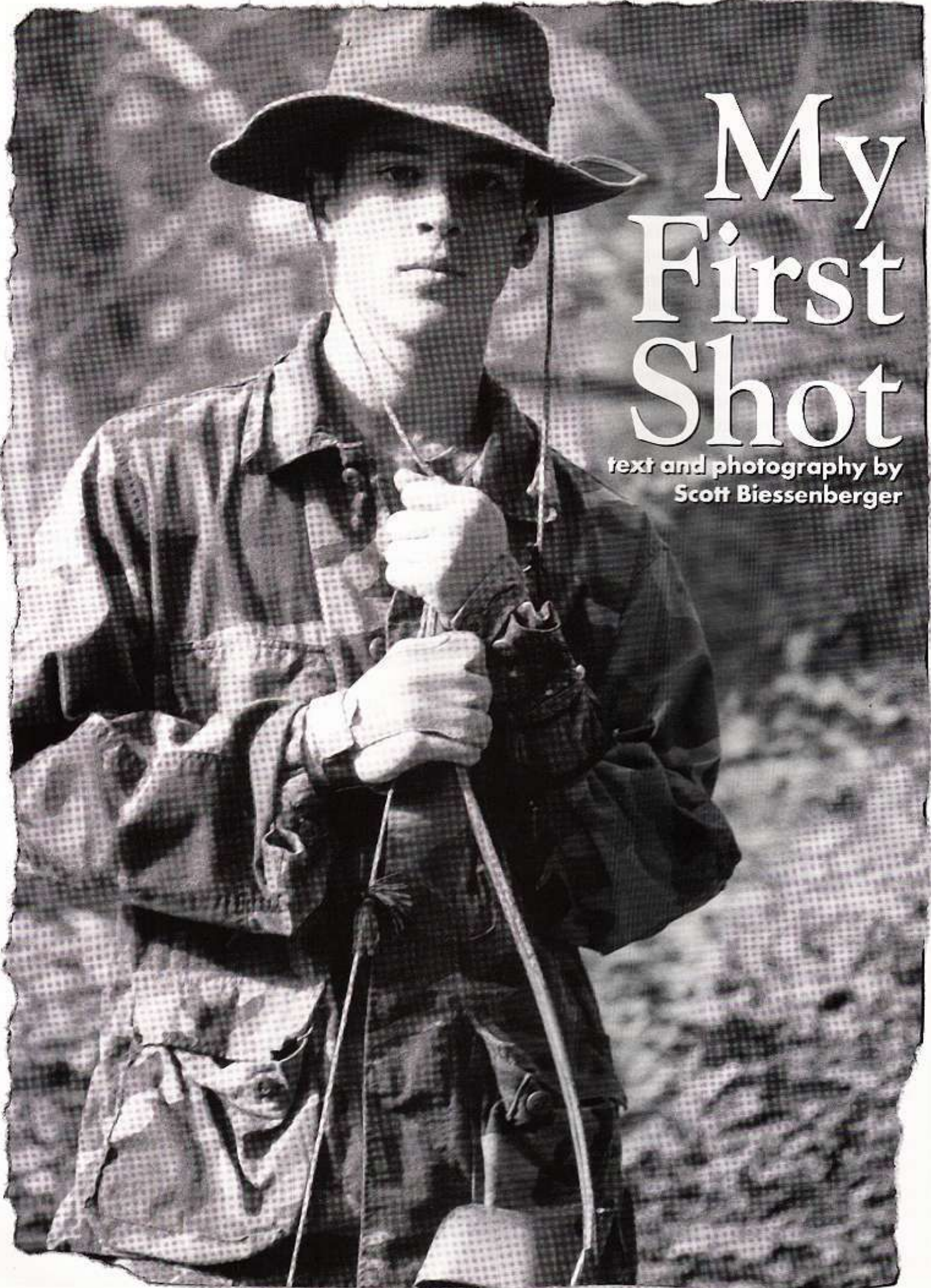
Netiquette

A few words about electronic etiquette, or "netiquette" are necessary. Absolutely no obscenity or strong language is permitted on any of these sites. Even distasteful or derogatory comments will be deleted by the moderators that maintain these bulletin

boards. Humor is perfectly acceptable, but be warned, it is hard to properly convey irony, sarcasm, or inflection-based humor in print. Humor is best followed by a parenthetical note (joking) or a smiley face :) to convey your intentions. It is fine to disagree or debate issues, but it is very poor taste to let disagreements become personal.

Criticize the message if you must, but not the messenger. Appropriate topics include all things archery related, but advertising and promotions are considered commercial endeavors and are handled differently by moderators.





My First Shot

text and photography by
Scott Biessenberger

The year was 1972. I was fourteen years old, armed and dangerous. So I thought. I had practiced my shooting for almost a year. Today was the very first deer hunt of my life and I would never be the same.

My bow was without a doubt my most treasured possession. She was a Shakespeare, sixty inches long with a forty-five pound draw weight. She was a real beauty, with a rosewood handle, and long slender limbs backed in dark green fiberglass that tapered into a graceful recurve. She was mine. I had bought her secondhand from a friend for twelve dollars. My arrows were Easton gamegetter 2018s and they were each tipped with a wasp broadhead. It would be many years before I would appreciate the feel of a wooden shaft.

I hunted that day with one of my best friends, Daryl, and our mentor Jay who was several years older than we were and had his driver's license. I feel it important to note that since neither Daryl nor I had actually seen a wild deer before, having Jay with us was a real plus. We arrived at Thistlewaite wildlife refuge well before dawn. This Wildlife Management Area is located near Washington, Louisiana and is composed of mostly hardwood, some cypress, and a lot of palmettos. Much of it is often under water. Thistlewaite is known for its healthy deer herd and very large-bodied bucks. Except for a very few days each year it is an extremely hot and miserable place to be. This day was no exception.

We had walked a few hundred yards down a power line when suddenly Jay stopped and quietly whispered to me, "You'll hunt here. Remember what I've taught you. Hold still and no noise." I stood and watched as he and Daryl disappeared down the trail before I turned and entered the woods. In addition to my bow, I carried a small folding stool, high hopes, and little else. With no flashlight I walked in only a few yards and opened my stool against a tree. As the sun rose and cast its first light I thanked God for another day and the chance to hunt his deer. Moments later I heard them coming—mosquitoes! There must have been millions of them. I was totally unprepared for their attack. I had no headnet, no repellent, and no hope to avoid their onslaught. My first impulse was to slap, but in my mind Jay's last words echoed, "Hold still and no noise. *Hold still and no noise. Hold Still. No Noise.*" It was awful. I thought I would run at any minute, but I somehow held on. After a few minutes I buried my face in my hands and tried my best not to move.

After what seemed like a very long time I slowly looked up and opened my eyes. I sat there in a stupor staring dumbly into the thicket. As I daydreamed, my eyes unconsciously fixed on what appeared to be the branch of a small tree near the ground. I must have watched it for a couple of

minutes before I realized the branch was moving. My mind shifted into high gear as I realized these were antlers. Even with my limited experience I knew that there must be a deer on the other end. But try as I might I could not pick out the body of that deer. He was only fifteen yards away. I wondered if I might be imagining the whole thing. Suddenly I relaxed a little and he appeared as if by magic. Now I was nervous. My heart pounded so hard my head began to ache.

Now what should I do? Jay had said nothing about this situation. I imagined for a moment that the buck might be able to hear my heart, but he never stopped feeding. The excitement was almost too much for me to contain and I let out a little sigh. He jerked his head up and looked my way. We were eye to eye. I was frozen. I didn't breathe, didn't blink. My heart was pounding harder, like a hammer striking an anvil. He stared at me, looking into my soul. Finally, just when I thought he had me pegged, he looked away and

began to browse again. This was impossible, I thought. The pounding continued. I could hardly breathe. He was too close! My hands were sweaty and it felt as though my arms were made of lead. I lifted my bow, which had been lying on my lap. Why was it so heavy? It felt as if it weighed a hundred pounds. The buck's head snapped up, his ears searching for the source of the noise. Did I make a sound? I think my heart stopped! He held his head high, straining to locate me while his tail twitched nervously back and forth. I sat there absolutely

"I held for a split second. Then, as he looked up I released."

motionless. My heart continued to pound. He was feeding again. I was doing better now. I believed I might have a chance. I turned my bow from horizontal to vertical. His head jerked up and just as quickly dropped down again. I had no time to lose. My moment of truth had arrived. I drew my bow—shaking a little. Shaking a lot. I held for a split second. Then, as he looked up again I released. There was a blur of motion as the buck ducked and whirled in the same instant. I watched in amazement as my arrow sailed harmlessly over the back of the little four pointer. He bolted further into the thicket to my right, and stopped to look over his shoulder. I looked on helplessly as the young deer trotted out of sight.

Later, I could hardly contain myself as I told my story to Jay and Daryl. At first I felt that I had missed the chance of a lifetime and was the victim of bad luck. But, as I grew older, I realized that my experience on that steamy October morning could not have been any better had I killed that buck. The excitement of that day ignited in me a love of the outdoors and hunting that would last a lifetime. Besides, as it turned out there would be many more chances of a lifetime. ■



I Became A

by Mel Toponce

The lead buck's nostrils dilated as he looked at me. He was a sleek and handsome four-pointer, followed by a little forked-horn. Scarcely breathing, I stood motionless among the aspens. We were separated by no more than fifteen paces. A "year" passed, then another. Still no movement—only the solemn piercing gaze between hunter and hunted. My thoughts flashed back to that day in the blind, ten thousand feet up on the slopes of Mt. Kenya, when professional hunter David Allen and I lay watching a magnificent male mountain leopard feeding on a zebra-and-warthog smorgasbord we had hung as bait. The excitement and suspense I was experiencing were the same as they had been that day in Kenya. Each moment seemed like an eternity.

As the gentle air currents tossed about man scent, and the rays of the afternoon sun filtered through the trees and directly onto my face, I wondered if the Indian Buck Lure doused on my clothing was all that it claimed to be, and whether the dark makeup I wore really fooled my quarry. Then it happened. Quietly, the bucks moved off. The larger one was still in the lead—sixteen paces, seventeen paces. Passing directly in front of a large aspen, the four-pointer turned slightly to the left, presenting in the process an excellent opportunity for an angling lung shot. Slowly, the fifty-five pound pull Super Kodiak recurve came to full draw and began to track its target. Now! The string slammed home its full fury, and twenty-nine inches of Bear Razorhead tipped 2018 streaked on its way....

Nevada High Country Bound

It was late August. Norman Marks, Hank Roberts, Larry Crew, and I had come from California to Nevada's high country near the Idaho border to bowhunt the huge trophy mule deer bucks that inhabit the region. Since the area was inaccessible to motor vehicles of any sort, we had decided to take a back-packing expedition.

After an all night drive from Oakland, we entered Elko, Nevada, at daybreak, and turned north. A few hours later we stopped briefly to fill our canteens from an icy stream, then bumped and jostled the last few miles to our staging point.

Hank pulled up his faithful Chevy pickup at the base of a towering mountain, set the handbrake, and climbed out. "End of the line, you guys. From this point on, you're all pedestrians," he announced.

Since Hank and Norm had hunted the area in previous years, they ran the show. "We'll make our ascent now, while it's still cool," Norm advised. "The hunting season has been open for some time now, but I think it advisable that we push

on directly into camp rather than attempt to hunt while en route. We have plenty of hunting time ahead of us. Besides, you can never depend on this weather up here. It's unpredictable. Best we make camp first."

The Long Climb Begins

We shouldered our packs and headed for the back country. I went a short distance ahead to scout the trail. Norm and Larry, at each end of our heavily-laden, bicycle-wheeled deer cart, were in the middle. Hank brought up the rear.

As we climbed higher, the air became cool and fresh-smelling, and we began to detect that certain wonderful exhilaration—that indescribable feeling of freedom—one gets when "on top." I thought to myself, "This is basic. This is real. This is life!"

The barren mountain slopes, dotted here and there with small clusters of trees, reminded me of Kiavak Bay on Kodiak Island, Alaska—surely one of the places on earth where God has reached out to touch the land.

Believer

One hunter's
conversion from guns
to traditional bows



Photograph © Lon E. Lauber

But, there was no rifle with me this time. In its place was a wonderful new weapon—a new experience—a new way. In two short months prior to this trip Hank and Norm had made me an archery enthusiast.

Camp at Last

Late that afternoon we neared a large grove of quaking aspen, nestled snugly in a saddle between two peaks. "There she is," Norm whooped. "Let's take her on in from here at full gallop!" With cart, packs, bows, and all, Larry and Norm shifted into overdrive and, like two school kids just out for the summer, sprinted the last one hundred yards to camp. Hank and I stood by in amazement. Camp was a pretty little place, bordered on one side by aspens and a gin-clear streamlet, and on the other by a large fallen tree, to which had been attached a few small boards to form a table of sorts, and a crude framework of aspen boughs to create an overhead shelter. The leaves, stirred by cool breezes from the valley below, shimmered in the sun, spelling out a message of welcome to a place that was to be our home for the next seven days. It was magnificent just to be sitting there.

"This is the kitchen," declared Hank. He was pointing to the framework. "We built it several years ago." Then, from his pack, he produced several large squares of plastic sheeting which would serve to rainproof the cooking and sleeping areas. The spell broken, we set to work.

The First Sighting

"There are five nice bucks feeding just above us!" exclaimed Norm as I was putting our sleeping bags and other gear in the pup-tent. "One of them is a real good one," he added. I couldn't believe what I was seeing! There, in plain view stood the band of muleys. "We'll leave them for another day," advised Hank. "To try and approach them across that open hillside would spook them out of the country," he added.

By actual count, during that idyllic week, we saw over seven hundred bucks. Allowing for repeat sightings, we must have looked at five hundred different bucks. We noted that the males stayed to themselves, avoiding the does completely. In



ABOVE: Hank (L) and Norm (R) in camp, discussing hunt strategies. (Note lean-to under tree.) BELOW: Mel (L), Larry (C), Norm (R) bringing down Mel's buck with the bicycle-wheeled cart. Backpacks on each hunter carry bows and spare arrows.



fact, there were very few females to be seen. The primary social unit seemed to be a small cluster of from five to eight bucks, which fed, drank, bedded, and traveled together. Except when feeding, they always moved in single-file. A few were real bruisers. I counted three that were sure record material.

In a Nutshell

Each afternoon in camp we practiced shooting field points at targets with deadly accuracy. While each morning we sallied forth, only to return with a look of chagrin on our faces. We shot at game and missed because of bowstring "twang." We missed because the deer saw the arrow coming. We missed just because we missed.

In the evenings, while cooking dehydrated food on our tiny propane stove, we would whisper to the others about the day's events. We would have enjoyed a campfire, but that had been declared taboo along with normal volume conversation. We were splendidly dirty, happy, and wired for bucks.

One day Norm pointed to a spot where, on a previous hunt, he had killed a muley buck. He then explained our strategy for the day. Immediately beside Stand Three, as was the case in each of these rocky areas, ran a natural and heavily-used deer trail. Norm would take Stand Four. Hank would cover Stand Two, while Larry and I drove the side hill in a westerly direction in an attempt to push the deer through the appropriate passes. Our archers, lying in ambush, would do the rest.

Murphy's Law

The plan worked admirably. Eight good bucks, the first two of which were four-pointers, walked single-file through Stand Four. By some hard running I had herded them there, after thwarting their attempt to get through at Stand Three. Radiating self-satisfaction, I waited for Norm's victory yell. But, nothing happened! As I walked the trail through the pass, I looked around for Norm, but he was nowhere to be found. Slowly, the bitter realization that we had failed to assign a number to one of the outcroppings came over me. What I had believed to be one stand was in reality another, and I had driven the game through the wrong pass! Norm had been waiting exactly where the deer would have gone through!

On a later day, our quarry went through the correct pass and Hank was waiting. As five bucks slowly filed past within twenty-five yards of his sagebrush blind at Stand One, Hank calmly arose to his feet, took deliberate aim, and unleashed a Zwickie-tipped shaft. When we approached from below, we found Hank quietly sitting there. "What happened?" Larry asked. "I missed," Hank said.

...As the speeding arrow made contact, the buck lurched forward, then bolted across a small creek directly below us, the arrow shaft visibly protruding from behind his right shoulder blade. "Good hit!" I said softly and scampered to a place where I could look down the ravine in the direction the animal had gone. The little forked-horn had vanished. However, I could see the bigger deer, and he was plainly in trouble. About seventy-five yards downhill he veered sharply to the left, faltered, and dropped while attempting to clear the stream. It was all over.



Now A Believer

I say candidly to you, the reader, that a trophy deer kill with a longbow or recurve, especially while hunting on the ground, on a one-on-one basis, ranks in achievement above a bull elephant kill with a .450 Nitro Express. I can speak with first hand experience in both cases. Never in my over forty years of worldwide hunting have I been so jubilant over a trophy, with the possible exception of a beautiful Blue Sheep I once took in the high Himalayas of Nepal. As I stated earlier in this story, Hank and Norm had made me an archery enthusiast. At that moment, I became a believer.

It took only a few minutes to field dress the animal and hoist him off the ground so the cool night air could circulate around the carcass. Then, in the waning light, I slowly made my way back to camp, thinking as I went about something the great naturalist-philosopher Henry David Thoreau once said. It was something about how basic man's needs truly are.

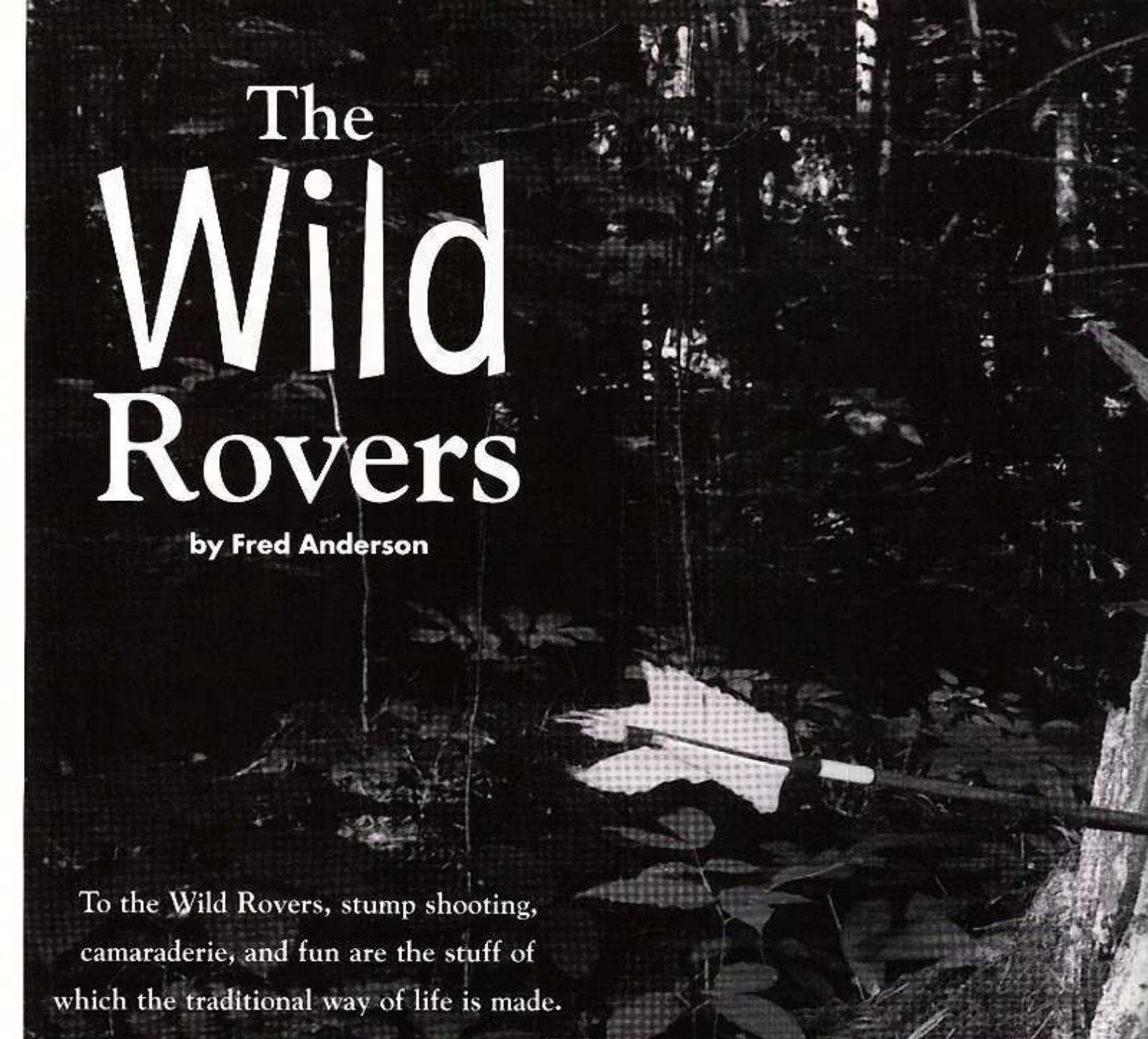
The fellows were all at camp when I arrived. I haven't thought about the incident from that day to this without seeing in my mind's eye the satisfied expression on Hank's and Norm's faces when I showed them the arrow and recounted what had occurred. Their pupil had scored. It was their day as well as mine. Later, as we lay in our down bags, we listened to the wind in the aspens, and sleep was not far off.

Back to Civilization

The days rolled by. Finally, the time came to bid farewell to a place which had become part of us. We lashed our trophy and all our excess equipment to the aluminum frame of the cart, donned our packs, and readied ourselves for the winding journey down the mountain. "You take the front Mel," Larry suggested. "I'll take the rear handles and see if I can hold this thing from running wild on the steep places. Norm, you tie one end of this nylon cord to the buggy and the other end around your waist. Follow at a few paces, and when she starts getting away from us, dig in!" The idea sounded good. Larry was as strong as a Cape buffalo, and just the man for the rear handles. Hank volunteered to go on ahead and ready the truck for loading.

The trip down was rough. Our bodies, toughened by a week in the rugged terrain, were ready for the challenge. In a few hours we were greeted at the pickup by the smiling, bare-chested Hank. Before departing, we paused for a moment of contemplation. We said goodbye to the Pope and Young record book muley I had missed when the wind took my arrow and to the grand solitude where we had seen no other hunter. Hank broke the silence: "Come on, troops. I know of a small little Basque restaurant in Elko." 🍷

Editor's Note: This article appeared in *Traditional Archery* magazine over twenty years ago and is reprinted here with permission from the author.

The background of the page is a black and white photograph of a forest floor. In the lower right, a bow and arrow lie on a large, light-colored leaf. The forest is dense with trees and undergrowth.

The Wild Rovers

by Fred Anderson

To the Wild Rovers, stump shooting, camaraderie, and fun are the stuff of which the traditional way of life is made.

It often starts at a greasy spoon restaurant early on a spring morning. About a half dozen "Wild Rovers" will start the day with a big breakfast and pleasant conversation. Next, we head to a remote forest stump field to carry on a truly unique activity native to bowbenders around here.

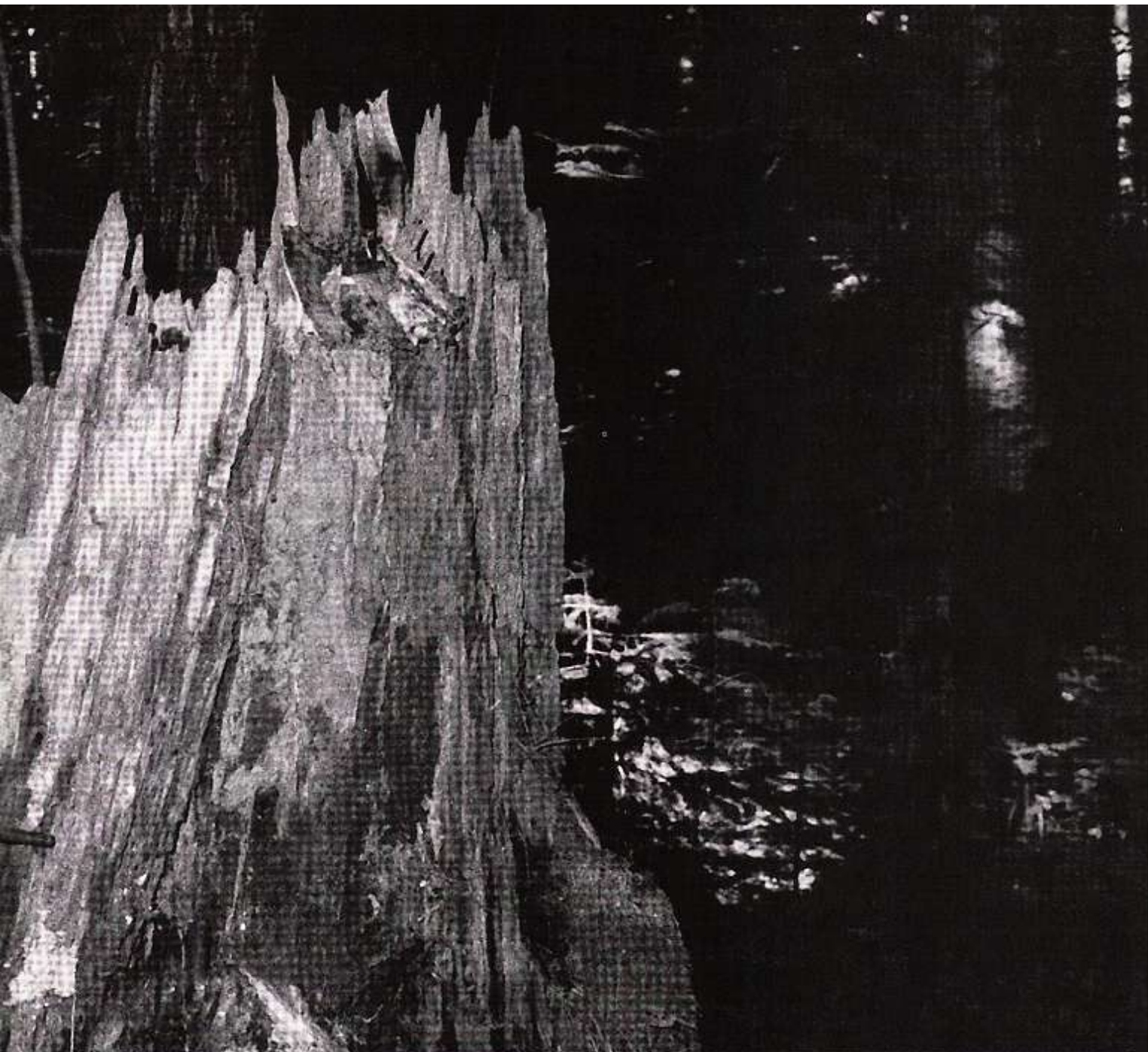
Near the Pacific Ocean, here in the Northwest, the giant conifers stretch towards the heavens. Mild climate and refreshing rains water and nourish them. This rich evergreen empire has provided lumber to the world for over a century. There are many places where old-growth timber was cut eighty or ninety or more years ago. Since then, the forest has started to regenerate itself, and tall trees again reach towards the sky. The remaining stumps are still standing, freely decorating the forest floor. Because the early foresters used handsaws, the stumps are generally large. Of course they have decomposed somewhat, making

them more soft and spongy. Flowers, mosses, ferns, soft duff, and other assorted flora comprise the forest understory. Animals, large and small, are abundant here. Elk, deer, bear, and mountain lions freely prowl.

Over fifty years ago, archers discovered that these places made top notch sport. The stumps provided excellent targets. Hunting bowman began to gather in small bands and attack these stump areas in a frolic they called "roving." We call it "stump shooting" today. I have participated in it for over thirty years.

American traditional archery as it is practiced today, is a rag-tagged sport. It has many facets. There are numerous new people participating in the sport that have no idea of its history or why it is even traditional. Knowing some of the sport's foundations is edifying and unifying.

As archery entered the twentieth century, most of its American devotees lived in the East. They practiced



archery as it was performed in Europe. On the West Coast, there was a smaller number of bowmen whose archery influence was inspired by the Native American. These westerners liked their target archery and all, but many had a bend for shooting in the wilderness. They especially liked making their own equipment from wild things that were harvested by themselves, unlike the domesticated equipment purchased from eastern archery suppliers. It was natural for the Northwest archers to gravitate to the sylvan stump fields to exercise their shooting, because they discovered that it made them better hunters.

Another thing happened to our archery forefathers in the stump patch, even as it does to some of us now. A social bonding occurred. Archers looked forward to the time when they gathered under an evergreen canopy with a handful of friends to rove through the wilderness greenwood. They wore their colorful outdoor clothes,

oftentimes made by themselves and oftentimes patterned after Robin of Sherwood and his pack of benevolent thieves. The gatherings were so enjoyable that sylvan archery clubs were formed. One of the best clubs was in Oregon. These archery clubs were different in that they emphasized hunting. The popular evolution led to the formation of field archery organizations and the start of the National Field Archery Association in the late 1930s.

The complexion of field archery was radically changed by the mid-1970s with the advent of compounding, and now it is a high tech, nontraditional sport. But ripe, old stumps still exist among giant conifers, and there still are small numbers of faithful, unbridled bowmen who gather to slay the mighty stump with blunt-pointed arrows. Genuine stump-killers that I know are, for the most part, oriented the same way as former stump pioneers. Their equipment is sometimes homemade, often with wild

things. Their objective is to have fun and enjoy the companionship of other kindred spirits. Most are temperate people who do not indulge in unwholesome worldly excesses. They usually are philosophers, pontificating at the drop of a hat about world events, politics, or the price of tea in China. Those of my acquaintance describe themselves as "experts," especially when it comes to the archer's craft. In the wink of an eye, they will inform me of all my shooting mistakes or why I will never be a great hunter. Of course, I always try to humor them in my modest way.

The spring and summer months are great for stumping. Typically, a brigade of my wild rover friends will gather at a preselected area. As we leave our cars, it may be quite warm, but when we enter the forest, it will be cooler and darker. There is an informal protocol we usually follow. A stump is selected, and each archer shoots one arrow at it. The shooter who gets the best hit selects the next stump, and so it continues from stump to stump. Seldom does one bowman dominate the shooting. In every assemblage there may be some who do better on long shots and some who excel on close ones. Quite often a casual contest is agreed upon wherein the loser will have to provide a soft drink or whatever. I have witnessed many times when the better shooters misjudge a stump and have to pay off to poorer shooters. All of our contests, however, are done in fun.

Most every stump has some distinctive feature, whether it is a hole, dark spot, or other marking. This is the aiming spot. Seldom do we shoot at the whole stump. Sometimes we attach paper plates to our stumps. These make great bullseyes, but it takes extra work to remove them when we are done.

Most of our equipment is quite simple. Our arrows are blunt-tipped to keep them from penetrating too far. They have highly visible colors on them also. Our bows are either hunting weapons or lighter roving bows. Sometimes we'll shoot hundreds of times in a session and, therefore, lighter bows are more advisable. Often times, we will swap bows for a few shots. Back quivers are favored by most of us because they hold a larger selection of arrows.

In our gang, woe be unto any who wears camo clothing. We are very traditional in our outlooks, and we shun high tech clothes. Again, many of us wear wild things that we have collected and crafted ourselves. It is just more enjoyable that way. The modern forms of commercial archery tend to dress participants in similar uniforms, but we wild rovers are very individualistic in our attire. The hat really sets a lot of us apart. Sometimes the more outrageous it is, the

The objective of stump shooting is to have fun and enjoy the companionship of other kindred spirits.




better we like it. Some call us elitists and snobs because of our dress and attitudes. This doesn't bother us because we do not choose the direction of modern arrow shooting and feel that the older, truer methods are better.

We are always vindicating each other. Often we will meet at a pleasant spot for lunch. After a morning of shooting stumps, we feel exhilarated from our adventure afield. There is no such thing as a dull stump shoot. Discussions will emerge about the joys of shooting the bow and arrow in the time honored way. With our archery paradigms reinforced and our bellies full of grub, we go back for an afternoon in the forest.

Stump busting does not help us acquire better shooting form. Diligent practice in front of target butts does this, and it is beneficial to have our forms in place before we go afield. What stump shooting does, however, is to make us better at hitting randomly selected targets at all distances. We have found that a few sessions of stump shooting prior to hunting season will be manifested in increased game harvests.

Many modern arrow flingers are never blest with the joys of uninhibited arrow shooting. They miss out on watching a well aimed shaft course an arc over one hundred yards and smack a resonant snag, or shooting until the muscles cannot pull the cord another time. Yet there still stands another vestige of a rotting tree trunk tantalizing the tired, traditional toxophilite.

The joys of roving can be distracting too. My friend, Ron Hoiland, and I went out deer hunting in an area that was new to us looking for the overgrown clear-cut fields that black-tails are so fond of. As we drove along, Ron said, "Boy! Look at all those stumps in the trees there." Soon we were in more and more stumps. We came around a bend in a logging road and could see a stump valhalla. I stopped the Trooper, and we piled out with our bows and some blunts. Deer hunting was suspended as we launched ourselves into the forest. After a couple of delightful hours and with our stump-shooting satiated, we then proceeded to a cleared area for an evening deer hunt. Perhaps the most positive benefit about stump shooting is being distracted from worldly cares. The great outdoors is very therapeutic physically, mentally, and spiritually.

The bowman with a romantic nature can come and join our medley for wild roving in the Pacific Northwest forests. He should put on his colorful clothing, take his roving bow and leather quiver of arrows, and proceed through the wildwood as a man was meant to do. It's a most unique aspect of pure traditional archery. 

photograph by Rod Hoiland





LONGBOWS & EQUIPMENT GUIDE 1998 RECURVES™

Equipment selection for the traditional archer is a decision based on personal and functional requirements, and for most of us traditionalists, form follows function. When selecting a longbow or recurve and a set of matched arrows, shooting style, body size, performance requirements, and personal preference all play a part. Other equipment selections are generally based on function, necessity, and finances. *Longbows & Recurves* believes that the proper selection of each piece of equipment increases the safety and enjoyment derived from time in the field.

Longbows & Recurves equipment editor, **Sam Fadala**, helps us see how technology increases the success and safety of our hunting trips while our traditional values remain intact. The choice between shooting the longbow or the recurve is a tough one. Sam provides some important points to consider.

Having selected a bow, straight flying wood arrows are required. **Don Stokes** gives us an understanding of arrow woods which includes some technical information, history, and men behind our present-day knowledge. **Paul Brunner** takes us step-by-step through the arrow making process and shows us some of the finer points of constructing a true set of custom arrows.

Having a sharp broadhead instills confidence in every bowhunter. **Joey Buchanan** shares his method of sharpening broadheads to insure a clean, ethical, and quick harvest, while **Butch Winter** with over forty years of experience, takes you through the proper method of sharpening knives and the hones to do the job right.

Gale Wisdom and **Biggie Hoffman** give us guidelines in this section for choosing clothing and footwear. Do you really know how to layer clothing for warmth and personal safety? Gale sheds a layer or two of information on this important aspect of our survival. When it comes to selecting shoes, Biggie has tried almost every style and material in many climates and terrains. See what he has to say about what to wear wherever and whatever you are hunting.

TRADITIONAL BOWS FOR MODERN ARCHERS

by Sam Fadala, Equipment Editor

Today's longbows and recurves are arguably the best ever. While good bows existed early in this century, they seldom possessed the arrow speed or the handling qualities inherent in today's sticks. How could this be true with something as basic as longbows and recurves? Two reasons: know-how and materials. Modern bowyers understand the geometry and physics of longbows and recurves extremely well. They also know how to apply these principles for greater performance, not only in swiftness of the shaft, but also "manners" of the bow, which are often more important. I've spoken with bowyers who don't seem to know just how much they know.

Bowyers may not talk in scientific terms, but in five minutes they'll explain exactly why they use certain designs and materials. Other bowmakers do speak scientifically, some employing the computer in creating specific designs. Add the best materials ever to great designs and it's no wonder modern stickbows are so good. As for materials, adhesives have improved significantly. Fiberglass has also improved. My latest bow uses Ebias glass in its limbs, while its riser is impregnated with epoxy under high pressure. Even today's bowstrings are superior. Blend smart design plus space age chemicals and components, and it's no wonder current bows are great.

This is all very well, but it doesn't make choosing a bow any easier.

There are so many good sticks to consider. For example, yesterday's longbows usually took a back seat to recurves in performance, but the gap has narrowed significantly. Chronographing proves that some longbows actually shoot faster darts than some recurves. The fastest recurve still holds an edge, but it's not wide enough to tip the balance in favor of recurve over longbow. The choice should be made not on how fast either shoots, but rather which one suits the individuality of the bowman. I shoot both longbows and recurves, seeing no reason why anyone can't do the same successfully. Longbows are usually lighter in weight, smaller in overall mass and slender-limbed. They handle differently from recurves, like a piece of cloud in your hand.

It's not easy to put a finger on it, but even blindfolded an archer can tell the difference between a longbow or recurve that's handed to him, the two feel so different. Of course, there are exceptions. Some companies offer recurves with longbow features. Longbows can be light, quick, responsive, fast-handling, and pointable—all wonderful traits. Nonetheless, recurves suit some archers better, with a more "solid" feel in the hand generated by greater center mass in the grip. For these bowbenders the recurve is more stable. While the longbow may seem prone to fly away with the arrow, the recurve tends to settle after the dart is away.

The riser on the author's latest bow, a Pronghorn Ferret, is made of impregnated hickory, which is handsome, but also very strong.



TOP: "Feel" is hard to define, but in choosing a bow, how it shoots for the individual means everything. There's also carrying to consider. Some bows simply carry nicer than other bows for specific individuals. BOTTOM: Fadala uses the appropriate Skyline camo pattern to hunt the cool high country.

HANDLING AND "MANNERS"

These points are extremely difficult to explain. Every bowshooter has to try individual bows, deciding for himself if he's going to be a longbow or recurve devotee, or a person who loves both. So, after deciding on longbow or recurve, what else should the archer look for? Let's call it manners. But be careful. There are bows that have uncommonly bad manners; however, their owners know how to control hand shock and recoil. They don't mind the buzz in the palm after turning an arrow loose, and they know how to manage the grip so the bow doesn't feel like it's trying to leap away after the shot. Be that as it may, the "average" archer should test handling over all other aspects, especially if he's a newcomer to longbows and recurves, and so many are these days.

Ideally, good performance in a bow is combined with smooth handling. Today, well-designed longbows made of the best materials shoot arrows in the one hundred ninety-plus feet-per-second range. I've chronographed some that break the two hundred feet-per-second barrier with arrows weighing over five hundred grains. It's impossible to put an exact figure on it, but the best longbows shoot roughly ten to fifteen feet-per-second behind the best recurves, with some longbows shooting faster than some recurves. So what to look for in a stickbow? Go for handling qualities first, then arrow speed.

NEW OR USED?

In the 1960s and 1970s I keenly fired various compounds. At first, they were interesting. Later on, wheels



and pulleys lost their appeal and I turned to black-powder shooting dropping the bow, except for a couple of longbows I simply couldn't part with. Then something happened. Stickbows were back! Memories and nostalgia hit me hard.

So I got back into archery big time, but I made a mistake—two, actually. First, I bought a new and somewhat expensive recurve that certainly didn't live up to its reputation. Maybe I'd been away from stickbows for a while, but my new bow was heavy in the hand and longer than it had to be. It also suffered the malady of recoil with hand shock. Second, I ordered too much draw weight. My last compounds were all over seventy-pound pull, so I went with a seventy-pound draw stickbow. Getting back into the game, I should have restarted with a forty-five to fifty-five pound model. I should also have gotten a used bow. Because a used bow is more economical, it encourages an archer to start light and build up, reselling his first bow(s) as he moves onward toward one that suits him ideally. He can also test different styles to see what he does best with. Then it's time to order that fine custom bow, that special partner—and hang the price. A good bow costs only a few bucks a month to own.

3-D SHOOTING AND HUNTING

Another choice facing traditional archers these days is 3-D or hunting. It's not a problem for me, because I'm not into 3-D seriously. I enjoy the sport as a get-ready for hunting and I use my regular hunting bows. However, if I were doing 3-D

Sam says, "I think bow quivers fit recurves nicely, but I don't like them on the slender, lightweight longbow."

competitively or at least seriously, I'd choose a bow just for that activity. It would draw around fifty-five pounds, because I can handle that weight all day. I'd probably shoot carbon arrows for the extra velocity and flatness of trajectory. I think 3-D targets make sense for instinctive shooters. Personally, I don't care for regulation targets with bull's eyes. They do not, for me, represent what I do with a bow which is going for game and roving. My personal archery range consists of straw bales—with no aiming point. A deer does not wear a bull's eye. Neither do my straw bales.

DRAW WEIGHT

After experimenting with used models, if possible, it's time to settle on a choice. Draw weight is a huge factor. I find that after sixty or perhaps sixty-five pounds of pull, a law of diminishing returns steps in. Certainly, an eighty-five pound bow shooting a seven hundred grain arrow is formidable, but let's not forget that, just like a bullet, the major factor in "power" is missile energy, which is measured primarily as kinetic. In the kinetic energy formula, velocity is squared. Another way to look at arrow energy is momentum, which is mass (not weight, but mass) times velocity. Either way, it boils down to how fast a given arrow flies out of a particular bow. Furthermore, it's better to fully draw a fifty-five pound bow than short-draw a seventy pound bow.

I've tested lighter-draw bows that were more efficient than certain heavier-draw models. So we can't look at draw weight alone for "power." If a sixty pounder shoots a 525 grain arrow at 205 feet per second, while a seventy-five pound



draw throws the very same arrow at 190 feet per second, the first bow delivers more arrow energy than the second—period. "Maybe so," some will say, "but the seventy-five pound bow may have more cast." Not true. Cast is how far an arrow flies. All things being equal, the faster arrow flies farther than the slower one. Anyone who doesn't think so can test for himself, chronographing the same arrow out of two bows, slow and fast. The faster one will shoot farther than the slower one.

WOOD SELECTION

Another big factor is wood selection. Maple in various forms is popular, as it should be. Hard maple in Superflex Actionwood (SA) is an excellent bowmaking material, for example. It's quite predictable in energy storage, and hence, draw weight. On the other hand, there

are dozens, if not hundreds, of different woods in use, not only for limb laminations, but also risers. Red elm, for example, produces excellent results in terms of stored and delivered energy in a bow limb. Meanwhile, my latest bow uses Tonkin bamboo, which produces one of the smoothest-shooting bows I've ever tried. I cannot say that it whips red elm in performance. That would require more testing than I've done.

Veneer is also an option. As this is written, I'm having another recurve built. It will have red elm limb laminations with a veneer of Mexican bocote. However, the veneer will not detract from arrow speed, and may even improve stored and delivered energy, as one bow did with bird's-eye maple veneered over a red elm core.

Risers can also be constructed of many different kinds of woods. The riser must resist breakage, of course, so the first criterion is strength. I recall one beautiful longbow with a French walnut riser. While super to look at, that particular riser did not hold up. It cracked in two. Perhaps with more fiberglass laminations, it would have survived. My latest recurve has an impregnated hickory riser. Hickory is strong, reasonably handsome, and when impregnated makes an even more reliable riser. My next bow will have an ironwood riser, which is dense and a real heavyweight. Years ago, when my children were young and we lived in Arizona, I used to cut ironwood for them with my power saw. They delighted in the sparks created by the hardness of that wood.


But wood cannot be selected on the basis of strength alone. For

example, ironwood is strong enough, but it has problems with cracks and checks. It is also expensive and hard to find. Plus, not everyone appreciates its heavy weight. Hickory, on the other hand, is not as pretty as ironwood, but much easier to find, far less costly, and entirely workable, especially when impregnated under pressure with epoxies. The choice between "plain old hard maple" and handsome woods is personal and based mainly on aesthetics, not performance. Strips of laminated SA form a wonderfully sturdy riser, for example, but without the beauty of

bubinga, bocote, zebra wood, or bird's-eye maple. There is no doubt that many bows are selected on the basis of looks over other details.

The incredible Native American archer believed that the arrow had to be much more special than the bow. There's a basis of fact in that notion. An arrow is to a bow what a bullet is to a gun. Bad bullet, lousy accuracy and killing potential. Bad arrow, poor grouping and field results. But it's not that simple. The bow has to be right before the arrow can perform. That's why choosing a specific bow is so



important, but never easy. I understand firearms ballistics pretty well, but bow science is tough. The "simple stick" is loaded with variables explained only by the hard science of physics. Fortunately, there are two ways a longbow or recurve can be tested. One is by a chronograph to learn how fast it shoots. The other is by "feel." It either feels right, or it doesn't. If it doesn't, no matter how fast it fires an arrow, it's the wrong bow. 

UNDERSTANDING ARROW WOODS

by Don Stokes

There is a magnificent array of wood shafts available, covering the spectrum from lightweight species favored by target shooters to the almost indestructible, heaviest hunting shafts. Making an informed choice for hunting and target shooting can be difficult, given the lack of current archery-related wood technical information. In some ways archers of the 1930s and 1940s, before alternative materials pushed wood into the background, were better informed than we have been in recent years.

HISTORICAL PERSPECTIVE

We are indebted to Robert P. Elmer (*Target Archery*) for his excellent history of early archery in America. Before "Chief" Compton moved to the West Coast at the turn of the century and sparked the archery revival that stimulated Art Young

and Saxton Pope to achieve their remarkable successes, choosing arrow wood was simple. Norway, or Scotch pine ("red deal") imported from England was about all that was available. The famed bowyer and fletcher James Duff moved to this country from England and settled in New Jersey at about the same time that Compton was spreading the word out West. Duff tried various woods from old building timbers, looking for another red deal, but found hemlock instead, and white and yellow pines, which were not as good. He eventually found the white spruce native to the northeastern United States to be excellent for target archery. It was also used by Whitman, the only other professional fletcher in the country at the time.

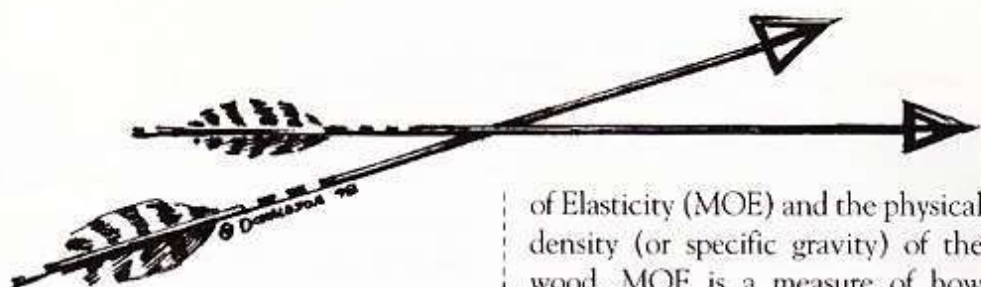
As the West Coast archery boom developed and hunting with the bow grew in importance to

archers, several new species were found to make serviceable arrows for either targets or hunting, or both. These included Port Orford cedar, Douglas fir, Sitka spruce, and a smattering of other species with minor followings. Bamboo flight arrows were also available. Norway pine was still being imported, and the first metal arrows (both steel and aluminum alloy) were being manufactured.

REVELATION AND REVOLUTION

During the 1920s and 1930s, significant advances in the understanding of the physics of archery took place which changed the sport to an unprecedented degree. By the mid-1940s, an extensive series of articles had been published, primarily by the toxophilite physicists C. N. Hickman, Forrest Nagler, and Paul E. Klopsteg. With assistance from





experts in various other aspects of archery, they brought our understanding of bow and arrow design into the modern age. W. J. Rheingans' article, "Debunking Spin," in *Archery Review* in 1933, gave us the basis for understanding how arrow performance relates to the stiffness and mass of the arrow and the power of the bow. Dr. Klopsteg, using high-speed photography in the same year, was able to accurately explain the archer's paradox (the flexing of the shaft during the shot necessary to clear the bow handle and keep the arrow aligned with the target) for the first time. As understanding grew on how bows and arrows actually worked together, the designing of bows and arrows to achieve specific performance goals became more practical.

RATING SPINE

Rheingans' work with arrow spine included the development of the concept of a spine rating system that could be used to compare the characteristics of various woods for arrow material.

"Spine" is generally understood to be the combination of mechanical and physical properties of wood that determine how suitable a particular type of wood might be for arrows. The mechanical properties that determine arrow performance are stiffness and the speed with which the shaft will recover from being deflected during the shot. Both of these can be shown mathematically to be directly related to the Modulus

of Elasticity (MOE) and the physical density (or specific gravity) of the wood. MOE is a measure of how much load the wood can take in simple bending without losing strength or permanently deforming. Rheingans and his contemporaries conducted exhaustive tests to prove that the static bending test by which MOE can be determined is a reliable indicator of the dynamic properties of arrow performance when density is taken into consideration as well. Their work shows that a spine rating number that combines MOE with specific gravity of the wood is a valid method of comparing different woods to predict average arrow performance.

A CURRENT UPDATE

We are fortunate to have much better information available now for such comparisons in the excellent collection of data found in the *Wood Handbook: Wood as an Engineering Material*, a publication of the U. S. Department of Agriculture (Agriculture Handbook 72). The values for MOE, specific gravity, and radial toughness in the accompanying table are taken directly from the most recent edition (1987) of that book, with one exception. The values for Norway (Scotch) pine are from the *CRC Handbook of Materials Science*, Volume IV, Wood, by Summitt and Sliker (1980).

The spine rating number used in the accompanying table was determined by dividing the MOE number by the specific gravity, ignoring units. Since the spine rating number includes both the stiffness (MOE)

and the weight (specific gravity) of the wood, a stiffer shaft may not have a better spine rating if the wood is very heavy. Osage orange, for instance, has a stiffness similar to white spruce, which has one of the highest spine ratings listed, but the specific gravity of osage is so high (0.85) that the spine rating is only 1.6. It makes very poor arrows. Among woods with the same stiffness, the lighter average weight shafts will have a higher spine rating, and will shoot faster and flatter. Woods in the table are listed in order of highest to lowest rating.

HARDWOOD OR SOFTWOOD

Hardwoods and softwoods are listed separately, mainly to illustrate the difference in radial toughness of the two groups. Toughness values, which can be used to compare the likelihood of arrows breaking behind the point on impact, are not available for all the species listed. However, the difference in toughness between hardwoods and softwoods is clear from those that are listed. In times past, softwood arrows were routinely "footed" with a tougher hardwood piece to strengthen the critical area just behind the head. There is little wonder that many experienced hunters, following the lead of Saxton Pope, prefer the toughness of hardwoods for hunting arrows, even with the loss of trajectory predicted by the usually lower spine rating. Of currently available hardwoods, only one species group, the Magnolia family, has a spine rating equal to the better softwoods. This family includes only the genus Magnolia and yellow poplar.

OTHER COMPARISONS AND LIMITATIONS OF THE TABLE

For further comparison, the weight of a twenty-nine inch, 23/64 parallel shaft has been calculated from the specific gravity of each species, assuming a moisture content of eight percent. Please note that this is not a comparison of shafts with equal stiffness. When comparing shafts of the same size, those with higher MOE will be stiffer. Compared on an equal stiffness basis, shafts with higher MOE will be smaller in diameter. Those with a higher spine rating will also be lighter in weight.

It should also be noted that the values listed are averages, and the variation can be considerable. Species also vary regionally. Douglas fir, for instance, has four different sets of values listed in the Wood Handbook, based on regional variations. Species groups or regional variations with averaged values are indicated by "(Avg.)" in the table.

In a normal distribution, a certain percentage of shafts of any species will be extra light or heavy, weak or strong. That's why shafts can't be properly matched by stiffness or weight alone, but must be matched both ways for consistent performance.

WAYS TO IMPROVE PERFORMANCE

There are several proven ways to maximize performance with your chosen type of wood. Most important is the proper matching of the bow and arrow to each other and to the archer. Most people are better shots when shooting an arrow that has been bare-shaft matched to their bow and shooting style. When the arrow flies true without feathers, the fletched shaft normally flies perfectly, and shoots to the same point on the target whether fitted with field points or broadheads. Perfect arrow flight improves accuracy and may be more important than velocity for maximum penetration.

Proper arrow construction is also critical for the best accuracy. The most common reasons for "fliers" that don't shoot with the group when the spine is matched, is nocks set slightly off center. This is usually caused by nock tapers that are not perfectly aligned with the axis of the shaft. If the nocks are on straight, spine matched wood arrows will be accurate even if a little crooked, unlike tubular materials. This relates to the rotating center of mass in flight, which is closer to center in shafts with a solid cross section.

FASTER, FLATTER SHOOTING ARROWS

Flatter trajectories can be achieved by having your shafts tapered on one or both ends. The flattest trajectories are found with breasted (or chested) arrows, which have a long forward taper to a very small point and a shorter rear taper. The thickest portion is eight to twelve inches from the nock. This is the

WOOD ARROW SPINE RATINGS CHART

	Specific Gravity	Modulus of Elasticity (MOE)	Calculated Weight of 29"	Radial Toughness	Spine Rating (million psi) 23/64 Shaft (grain) (in-lb) (MOE/ SG)
SOFTWOODS:					
Port Orford cedar	0.43	1.70	345	---	4.0
White spruce	0.36	1.43	289	---	4.0
Sitka spruce	0.40	1.57	321	---	3.9
Douglas fir (Avg.)	0.48	1.76	385	170	3.7
Norway (Scotch) pine	0.46	1.59	369	---	3.5
E. white pine	0.35	1.24	281	110	3.5
Yellow pine (Avg.)	0.55	1.89	441	160	3.4
Lodgepole pine (Chundoo)	0.41	1.34	329	---	3.3
Western hemlock	0.40	1.20	321	140	3.0
HARDWOODS:					
Cucumber magnolia	0.48	1.82	385	---	3.8
Yellow poplar	0.42	1.58	337	220	3.8
Yellow birch	0.62	2.01	497	500	3.2
Black walnut	0.55	1.68	441	---	3.1
Black cherry	0.50	1.49	401	---	3.0
Hickory (Avg.)	0.72	2.13	578	700	3.0
White ash	0.60	1.74	481	---	2.9
Sugar (hard rock) maple	0.63	1.83	505	370	2.9
Osage orange (example only)	0.85	1.34	681	---	1.6

Sources

Some of the species listed in the table may not be commercially available, but many can be found advertised in this and other magazines. Barreled and tapered shafts are available from many dealers and distributors in several of the species. Footed shafts, compressed shafts, and laminated shafts are also available from several advertised sources.

design used for flight arrows, and is relatively fragile.

Next best in trajectory is the barreled shaft, which has the front and rear thirds tapered, with the center third parallel. Before arrow shafts became mass-produced in parallel, nearly all shafts were barreled to maximize performance. It is the stiffest shaft for its weight, and the shape is the most efficient at absorbing energy from the bow, since the stiffer center portion stays closer to the line of thrust of the bowstring.

Shafts tapered in the "shaftmond" ornock end also typically perform better than full-length parallel shafts. In the old literature, references to parallel shafts usually meant this design, because archers of old considered a tapered shaftmond a necessity, and the parallel description referred to the foreshaft. The tapered shaftmond is probably not as important for handle clearance when shooting bows with a near


center-shot sight window, but the lighter tapered shaft will still recover faster and shoot flatter.

OTHER FACTORS TO CONSIDER

Wood arrow shafts can be manufactured in several ways. Shafts produced from commercially sawn lumber should be avoided because commercial sawmills deliberately saw across the grain at a slight angle in the first pass, "squaring up" the log. Perfectly straight grain in commercial lumber is accidental. Arrow shaft wood should be split or sawn parallel with the grain for quality arrows.


The drying of arrow wood must be done very carefully. Kiln dried wood, unless dried at low temperature with stability and low stress as the goal, tends to have stresses locked into the wood that make straight shafts difficult to make and maintain. After straightening, stressed wood tends to return to the

crooked state with time. Stress-free wood will stay straighter. Also, the higher the specific gravity of the wood, the more difficult it is to keep the shafts straight. Moisture content of the shafts should be no more than six to eight percent before finishing.

The textures of the woods listed in the table vary considerably. The ring-porous species (ash, hickory, and walnut) are coarser in texture, and may require a filler coat for a smooth finish. The pores of the other hardwoods are generally smaller and more evenly distributed. Some variability of texture will be found between the softwood species, but not to the degree found in hardwoods. Softwood species with proportionately more summerwood (the darker portion of a growth ring) which changes abruptly to the lighter springwood part of the ring may tend to separate between rings (split or "shake") more easily than those with less distinct summerwood rings. 

PERFECT ARROWS

by Paul Brunner

A large number of bowhunters are of the opinion that they can't build their own arrows. For some, it is simply not knowing how. For others, it is the lack of funds necessary to set up a shop with the proper equipment "goodies." From traveling around and meeting other traditional bowhunters, I have found that to the vast majority it just remains a mystery.

Building perfect hunting arrows is simple, once someone shows you the ropes. I will run through the

entire process of building arrows, but remember that I may do something one way, and another arrow maker may do it another. As you gain confidence and skill creating arrows, experimenting with different methods will be both productive and satisfying.

SHAFT PREPARATION

Let's make an arrow. I start with a cedar shaft and inspect it for flaws and cracks. I then hand sand it with 220 grit sand paper and taper the nock. I do enough arrow building to

justify the expense of a high quality, electric tapering sander such as the Woodchuck.

I take one shaft and slide a nock on it without gluing. That way, I can measure from the bottom of the string groove to determine my shaft length. My draw length is twenty-six inches. All my arrows are cut 26 1/4" from the string groove to the back of the point. I make sure that I allow for the taper. I actually cut my shafts 27 1/4" because the taper is one inch long. Once I have one measured, then I run them through the band

LEFT: Arrow being crested for Paul Brunner by Ray Perkins of Arrow Art.
RIGHT: A dozen finely crafted arrows made by Arrow Art next to a bow made by the author.



saw. A hand saw works just as well. I then taper for points.

NOCKS

There are many choices available for nocks. I do not like a nock that goes on the string with an audible "snap." Noise in the woods is a killer. I do, however, want a nock that will grip the string and stay on, since I hang my bow in the tree with an arrow nocked. I only use speed or "index" nocks. This nock has a ridge that sticks up so that I can feel with my thumb where the cock feather is. With this, I do not have to look down to nock the arrow, so I can keep my eye and my concentration on the critter's rib cage. The nock I use has been around for donkey's years: the Mercury Speed nock. I've never had a failure with it.

DIPS AND STAINS

The next step involves the dip or stain. I used to dip all my arrows with a crown ten inches long. I had to dip first in white, then dip again in another color. My opinion is that this method is a hassle! It is messy, with different colors of paint in dipping tubes and lots of cleanup. I don't do it anymore. I now mask off the upper ten inches of the arrow

and rub red Bohning paint on with a cotton rag as a stain. It dries almost immediately. I then have a red crown through which I can see the grain of the wood. It's very pretty, effective, and also really easy to do. I then mount the nocks with the string groove in the nock ninety degrees to the growth rings in the shaft for correct spine.

Dipping the shaft in Bohning Fletchlaq is the next step. I used to crest first, but found that the crestring would sometimes run after the first lacquer dip. Now I dip first and then do my crestring over the dip. This procedure works perfectly every time! Drying time varies with locales and weather conditions. I also do my dipping near a wood stove, so I have a pretty quick drying time. The finish should feel totally dry before moving on to the next step.

CRESTING

Once the lacquer has dried, we move on to crestring. Bohning makes a good crestring machine, but there are also other good custom crafted machines on the market.

The crest is a way to make the arrow personal. It is also a help when a bull elk has two arrows in it—one in the lungs and the other in the

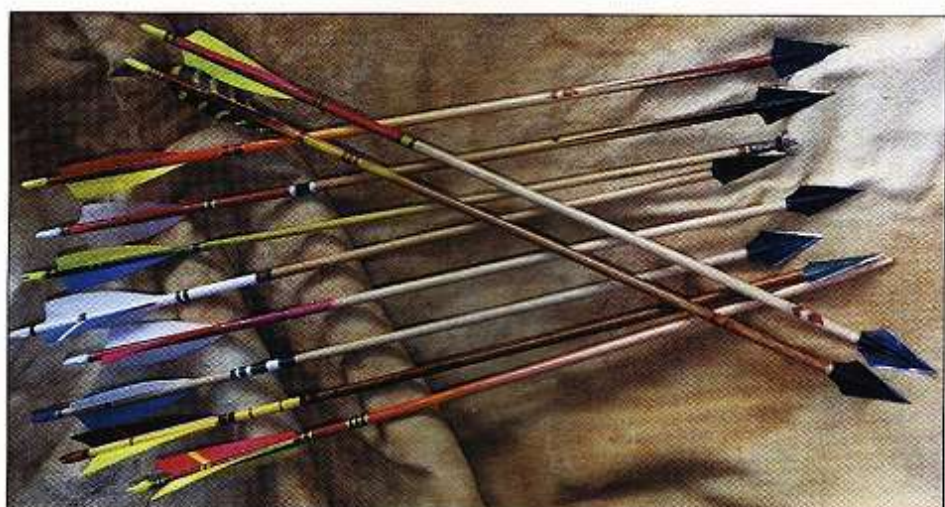
neck. With a nice crest, I know which arrow is mine. Again, I use Bohning paints. My crestring brushes are all pinstriping brushes available in catalogs and in automotive stores. Trust me, to get beautiful crestring, use the #00 striping brush. It lasts forever, and does great crestring. At first, just take a raw shaft and experiment with doing crest lines. In ten minutes anyone can learn how much paint to use on the brush and how to do fine lines and wide lines like a pro.

Once the shaft is crested, it is best to let it dry for several hours. This insures that the crestring won't run. At this point, I make a switch from what is considered normal procedure. I don't finish lacquer dipping in Fletchlaq. I switch to a product called VanFlex. The stuff is expensive, but gives the finest finish available. It is impervious to weather too. I found one of my shafts in the jungle in Hawaii a year after I lost it. The feathers were a mess, but the shaft was still straight and flawless. I do two dips in VanFlex, allowing each to dry for several hours.

FLETCHING

The next step is the fletching. I have several thoughts, here. I don't throw

LEFT: The rewards of taking a trophy with a self-made arrow are worth the work.
RIGHT: Ten arrows made by the author. Note the footed shafts, the vivid colors, and the sharp broadheads.



Photographs courtesy of Paul Brunner

my money away on "brand X" feathers. True Flite is the only company producing quality feathers. Personal options for the fletching feathers include length, height, and feather shape. For hunting, I recommend either five inch or five-and-one-half inch feathers. I can get shield cut, parabolic, or high parabolic. Personally, I stay away from the high parabolic which tend to whistle in flight and kick and drag a little when shot off the hand with a selfbow. I can also get full-length feathers and cut or burn my own design. I use both pre-cut and full-length feathers, but mostly the five inch shield cut. I still need uncut feathers if I want to make flu-flu arrows. Burning my own is more work, but I can come up with some neat feather cuts. If you plan to burn your own, get the Young Feather Burner.

There used to be a rule that a right-handed shooter always shot left-wing feathers. Today, they tell us it does not matter. I shoot left wing because there is better selection in left wing. If you use left-wing feathers, you must use either a left-wing clamp or a straight clamp on the fletching jig.

There are many different fletching jigs available. My choice is the Bitzenberger. My "Bitzy" jigs are

thirty years old and still work flawlessly. I use a hard left helical on my feathers which give me a strong twist to the left. The more twist, the more stability, especially in windy conditions. All fletching jigs come with set-up instructions.

FEATHER ATTACHMENT

There are two different methods for attaching feathers to arrows. The old reliable way is fletching cement. Bohning makes good stuff, and it is compatible with their paints and dips. It is also compatible with the VanFlex dip. Then there is the new kid on the block, fletching tape. I curled my lip up at it, but the stuff is great and fast. No waiting for the glue to dry. Tape the feather, slap it on the shaft, and on to the next one. Remember to leave clearance when positioning your feathers for fat-gloved fingers. I place the back of the feather 5/8" from the shoulder of the nock. If your fingers hit a feather, you have set up an alerting noise.

Always put a drop of fletching cement on the front end of the feather and at the back end. If you shoot off your hand, as I frequently do, this is really important. Without the glue, the feather can lift and run

right through the web of your hand when you shoot.

POINTS

Mounting a point is simple, although there are a few little tricks you should know. Almost everyone uses Ferr-L-Tite heat glue to mount all kinds of points, field tips, Judo heads, and broadheads. One common mistake is to smear the hot glue on, jam the point on, and think you have a good bond. This, however will not work; you will lose points. You need to heat the point itself so that the glue actually sizzles when you put the point on.

Another point (no pun intended) to consider is this: it makes absolutely no difference, in arrow flight, which way you mount a broadhead. There is, however, a good reason to mount a broadhead vertically instead of horizontally. When the broadhead is mounted horizontally, it is very visible in your peripheral vision. This can distract you when aiming at a spot on an animal's rib cage. Mounted vertically, the broadhead is almost invisible. Think about that one.

To sum it all up, basic arrow making requires paints, dipping

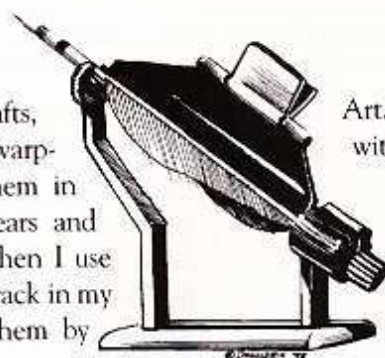
tubes, thinner, lacquer dips, a cresting machine, cresting brushes, and fletching jigs. Wood shafts can be bought pre-cut and tapered. I prefer doing my own work, so I would not be without my tapering machines. I also use a little torch called the blazer. This thing is great and has a self-igniter which I use around my house for other things as well. A good pair of articulating pliers is important. Installing broadheads with bare fingers is dangerous. The articulating plier will hold a broadhead and allow you to lay it down while you are heating your glue.

I have found since switching to the VanFlex dip that I get no more

moisture in my shafts, and therefore, no warping. I can store them in arrow boxes for years and they are straight when I use them. I also built a rack in my den, and I store them by the dozen standing up.

One last comment. I have mentioned products here that I use to make arrows. I receive no pay from any manufacturer. I mention these products because they have always worked well for me. I am sure that there are other products that will do a good job.

When I don't use my own arrows, I prefer finished arrows from Arrow



Art. They build their arrows with the same attention to detail and finish as my own. This is my recommendation to those of you who want a quality arrow, but lack the time or the resources to

acquire the specialized equipment for building your own.

Fine hunting arrows are not magic and can be made at home. I like knowing what I have and how it shoots, not to mention the pride and self-satisfaction in taking a critter with an arrow that I built from start to finish. ■

SHARPENING TRADITIONAL HEADS

by Joey Buchanan

One of the most important responsibilities of a bowhunter is to keep the business end of his arrow extremely sharp. Fixed or cut-to-point heads come either two-bladed, three-bladed, or four-bladed, can be sharpened easily, and have always been a favorite for the traditional bowhunter. The four-bladed head is always a two-bladed head with two bleeder blades. Broadheads come from the factory with a dull edge so the bowhunter must hand-sharpen each broadhead before going hunting. There are dozens of cheap "snake oil" contraptions sold to aid the sharpening process, but the plain ol' mill bastard file is really the "ticket" to get the job done.



TWO-BLADE

The two-blade head is probably the most popular. It has long been the most widely used and is also the easiest to sharpen. Fine examples of these heads are the Zwickey, Magnus, Journeyman, Bear, and Simmons. Sharpening these heads requires a quality mill bastard file that has been scored single cut. Any hardware store will have these files in a variety of lengths. You will find that the eight and ten-inch models will suit your sharpening needs. Please stay away from any double cut, rat tail, or angle files. You will also need a felt tip black magic marker to test your file progress, but more on that later.

To sharpen the two-bladed head, hold the head attached to the shaft in your left hand. Point the shaft away from your chest and parallel to the

floor. A good approach is to glue your head onto a partial shaft and then transfer the sharpened head to your hunting shaft after you have finished. Hold the file in your right hand with the pointed end of the file in your palm. Your local hardware store also sells handles for the files. I opt to use duct tape wrapped around my file. Start from the back of the left side of the head and stroke forward to the point. Next, begin at the back of the right side of the head and stroke forward to the point. Then flip the head over towards the right. Be careful not to round the back of your broadhead when you start (see picture 1 on the next page). Now that you have flipped the head over, repeat the above sequence and flip again. What you have done is filed all four sides of the head once. We will repeat the sequence again and again, until the



1. Rounded back edges of Zwickey two-blade head. 2. Black felt marker line that is partly filed off. 3. View of burr shining at bottom part of head. 4. Successfully sharpened edge. 5. Edge view of burr.

file has started filing at the very edge. To check your progression of the file strokes toward the edge, take a black felt tip marker and color the shoulders and edge of each of the four sides of the blade. Then file the head one complete sequence, four strokes. Each side gets one stroke. Wherever the file rubs the ink off, the scuff mark of the file serves as a visual chart of progression of your file's path towards the edge (see picture 2). Continue the one-stroke-per-side sequence until your file has removed all the ink on the very edge of each side. A word of caution here, be extremely careful not to remove metal from the ferrule of the head. This will weaken the head and could cause the shaft to blowout the side upon impact, thus ceasing penetration.

Once you have the file removing metal from all four sides at the very edge, you are close to burr conditions. At some time during the sharpening process, your file will get to the very edge on one side before the other. When that happens, the file will slightly bend the edge over to the opposite side, thus producing a burr (see picture 3). An easy way to check to see if a burr exists is simply to rub the blade with the suspected burr pointing down, across the top of your fingernail. The burr will scratch the top of your nail. Another way is to shine a light source across the edge. The burr will reflect light differently than the rest of the edge. Take your file and stroke the edge of the head that the burr leans toward. This flips the burr over to the other side. Now stroke the other side, flipping the burr once again to the opposite side. With just a few rotations, the burr will flake off, producing an extremely sharp head

that is serrated in quality (see picture 4). Take your light source again and shine down the edge. The total length on the edge should be the same reflective intensity. If this is not the case, repeat the alternating finishing strokes until the reflection is consistent.

In summary, file your heads until you are reaching the very edge. Always stroke the file in a systematic rotating system. Never stroke one edge twice in a row. Use a felt tip marker to check the progression to the very edge. Know when burr conditions exists (see picture 5). Once the burr has flaked off, the head will be razor-serrated sharp. With practice, you will find the time it takes to sharpen a head will decrease dramatically.

THREE-BLADE

Over time there have been many traditional cut-to-point, three-bladed traditional heads. The Snuffer manufactured by Delta Industries has predominately owned the present three-bladed market. Because of the three blades and the angle being preset, flat sharpening the head always produced a less desirable shoulder angle for me. TruAngle makes a superb sharpening block. The sharpening block has two mill bastard files mounted at the desired angle to give the edge's shoulder a flatter angle. TruAngle includes a leather strop block and complete instructions on sharpening. Always heat your Snuffers with a butane torch to soften the metal for easier stock removal. If the Snuffers start skipping down the files then they are harder than the files. This is when you need to torch the head, producing a shade of blue



6. Blue edge made by a torch on this Snuffer indicates blade is soft enough to sharpen. 7. Unsharpened Snuffer with rounded edges.



flat on the filing block. With medium pressure push the head forward by holding the shaft just behind the head. Stroke one side, then rotate the head. Continue doing this until the files have successfully reached the very edge. Check your progress by using the felt tip marker trick. Be careful not to apply uneven pressure to the files. Too much forward pressure will produce a needle nose head (see picture 7). Also, heavy back pressure on the head will result in the back of the head being rounded off (see picture 7). Once burr condition is produced, lightly continue stroking the head on the block in rotating fashion. Shine a light source down the edge to check for uniform brightness. You can stop the head backward across the provided leather block stop with some jeweler's rouge applied. This will smooth the jagged burr sides.


Remember these tips to consistently produce razor-serrated sharp Snuffers. Heat the heads to soften so they will grab the file better. Always rotate the head after each stroke down the Snuffer Tamer. Once the burr is present, lighten up your stroke pressure to successfully flake off the burr. Periodically check the file's progression with a felt tip pen.

across the total length of the edge (see picture 6).

To produce a razor-serrated sharp Snuffer, the procedure is very similar to that for the two-blade. Mount the head on a half shaft and lay the head

FOUR-BLADE

There are a couple of four-bladed cut-to-point heads on the market. Magnus and Zwickey each have excellent models. Both of these heads are actually two-bladed, cut-to-point heads with bleeder blades attached perpendicular to the main blade. Zwickey's bleeder blades are permanent and Magnus' are removable. The Magnus four-blade is sharpened exactly the same as the two-blade by removing the bleeder blades with pliers. However the Zwickey model will be more challenging because file will have to negotiate the fixed bleeder blade. The same sharpening procedure as with the two-blade applies here also.

Nothing accelerates the learning curve like practice. Once heads become dull, they can easily be resharpened to razor quality with some light alternating strokes of the file. Always coat your sharpened heads with a petroleum base gel. A stick of Chapstick makes an excellent applicator for this. The Chapstick will retard the heads from rusting during the season. A large magnifying glass also aids in seeing the edge more clearly when sharpening. In closing, producing razor sharp results on traditional heads should not be viewed as a talent, but as a skill and a responsibility. 

RESPECT YOUR KNIFE... LEARN HOW TO SHARPEN IT

by Butch Winter

Why is it that our knives, which hunters began using long before they discovered the bow and arrow, get no respect? Of all the pieces of equip-

ment a bowhunter takes to the field with him, his knife often receives the least bit of recognition.

No hunter wants to be without a trusty knife. When the decision is

made to acquire that knife, however, too many times he will pick the least expensive he can find. As with so many other things, the buyer gets what he pays for in knives as well. A



The EZE-LAP flat hone is one of the most affordable diamond hones on the market and does a bang-up job of sharpening.

cheap knife won't cut long because the steel in the blade has not been treated properly. Practically every knife has good steel in it. There simply is no such thing as "bad" cutlery steel. But it's more difficult, or more complex and expensive, to properly heat-treat the steel than it is to purchase it. Therefore, heat-treating cheap knives becomes a slapdash affair. More expensive, better-made knives have more attention given to the heat-treatment of their blades and hold an edge longer.

Knives get no respect because very few hunters learn how to sharpen them properly. The person who can sharpen a soft blade with a cheap hone cannot sharpen (or it takes him longer to sharpen) the harder blade. Here is where a lot of knife sharpening problems occur.

For some strange reason, sharpening a knife can turn a normally well-adjusted adult into a blithering idiot. This simple task, once so necessary in our culture that every child learned it almost as soon as he could walk, has become a thing of mystery. Still, all that's necessary is a hone and a bit of know-how.

THE HONES

Modern technology has come to the rescue with diamond hones such as the DMT (Diamond Machining Technology), EZE-LAP, Ultimate Edge, and others.

DMT and EZE-LAP hones have been around for several years now and are the standard by which the other diamond sharpeners are measured. DMT hones look like a honeycomb because of the way they are made. A steel sheet is perforated with small holes. The steel sheet is then injection-molded into a

colored base (different colors indicate different size grits) of glass-fiber reinforced polycarbonate plastic. The plastic fills the perforations, creating islands that dot the whetstone's surface. Precision-sized monocrystalline diamonds are imbedded in nickel, then bonded to the steel, not the plastic.

The plastic-filled holes are lower than the surface of the diamond-studded nickel plate to serve as an interrupted cutting surface and to collect the fine particles removed from the knife edge during sharpening. This allows the DMT hone to be used without oil or any other kind of lubrication. Washing the fine particles away with soap and water is recommended because it enhances the cutting surface.

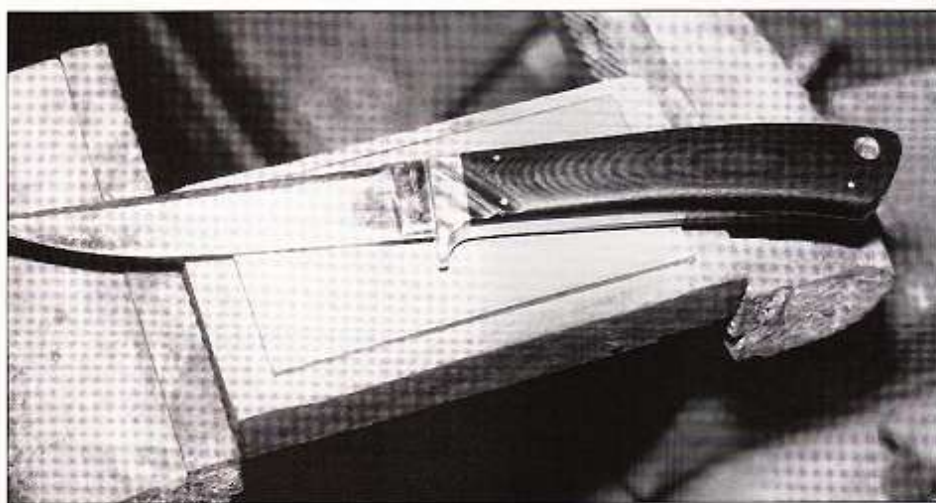
EZE-LAP's diamonds are DuPont's polycrystalline diamonds and are imbedded in a precision steel substrate covered fully and evenly with diamonds. This means the diamonds will not pull out and the surface will not dish or groove and will remain true as long as the hone lasts. Neither oil nor water is required for EZE-LAP or DMT hones during the honing process, but may be used if desired. After use, EZE-LAP hones

may be cleaned with soap and water or with any cleansing solution, thus removing steel residue and restoring the diamonds to their original cutting surface.

DMT and EZE-LAP produce a vast array of different sized and shaped hones in a variety of grits. A bowhunter needs the largest size hone he can afford because a large hone is easier to use. A smaller touch-up hone is also suggested if the bowhunter is expecting to be in the field for any length of time and is anticipating a lot of knife use.

The Ultimate Edge system approaches sharpening from a different direction. Their sharpeners are shaped like the familiar sharpening "steel" or rod. Ultimate Edge's "steels" are oval shaped steel shafts with monocrystalline diamonds bonded to the steel with nickel. The advantage of the shaft type sharpener is that it is lightweight, versatile, and easy to use. For touch-up during use, stroke the edge of the knife once on each side. Like the DMT and EZE-LAP, Ultimate Edge sharpeners require no oil or water.

Other sharpening systems are available and their number is legion. Razor-Edge sharpening systems is



Photograph courtesy of Butch Winkler

one of the oldest, and it is based on a clamp that fits on the back of the blade which maintains a true angle. The system comes with three hones (coarse, fine, and finer) that take the edge through the various steps required to attain what the system's name says—a razor edge.

Lansky is another well-known sharpening system. Lansky's system locks the blade into a vise-like holder while various hones are passed through guides along the blade.

Razor-Edge and Lansky can be used at the first of the season to establish proper edge angle. They are time consuming and are only for the person who has or is willing to spend the time required for the process.


Then there is the Firestone system. It's nothing like any of the above. The Firestone system is based on ceramic rollers imbedded with aluminum silicate, installed in a handle. The angle of sharpening is dictated by the size of the rollers. It is one of the easiest systems to use because all one has to do is pass the blade back and forth through the rollers until it is sharp. The new Firestone "handle" is comprised of two sets of rollers, one of aluminum

silicate for heavy sharpening and another of polished ceramic for final finishing. This system is usually used by those who do not have the time to sharpen a knife with a hone.

And then there are the old standbys, carborundum and Arkansas hones. Either of these will wear with time, even the best of them. They don't cut as well as the newer hones do, and as they wear, their surfaces become uneven making it doubly difficult to maintain a constant sharpening angle.

I learned to sharpen knives on my father's Norton Cradle, a cast iron "cradle" filled with oil holding three different grits of carborundum stones: coarse, medium, and fine. It is still one of the best methods, and if I couldn't have a diamond hone of some description, then I'd take the old Norton Cradle.

Each year a good new sharpening system appears on the market, and you are promised that it will be the best yet. That may be true. Whatever you use, take the time to do it yourself and give your local sharpening "guru" a chance to sharpen someone else's knife.

Respect yourself and your knife by keeping it sharp. 

THE TECHNIQUE

1. It is easier to learn with a hunting or similar fixed-blade, or large folding knife. A right handed person grasps the knife in his right hand, blade away from the body, edge to the left, with the right thumb pointing toward the blade, on the left side of the handle.

2. Place the blade, edge down on the right end of the largest hone available. Move the back of the blade down until there is an angle of ten to twenty degrees from the back of the blade to the surface of the hone.

3. Move the blade across the surface of the hone from right to left in a slicing movement. The stroke should end with the point of the blade leaving the surface of the hone on the extreme left end. Try to keep the angle of blade to hone constant.

4. Turn the handle one quarter turn so that the thumb now rests on the back of the handle and repeat the above maneuver from left to right, maintaining as near as possible the same angle of blade to hone.

5. Repeating these simple instructions will sharpen the knife, eventually. Practice with knife sharpening is like anything else. The more practice, the easier it becomes.



FOOTWEAR FOR BOWHUNTERS

by Biggie Hoffman

We all make fun of how many pairs of shoes most women keep lined up in their closet. Why would anyone need so many different pairs? I considered this phenomenon the other night while oiling, cleaning, repairing, and changing laces in the pile of rubber

and leather that is my hunting boot closet. There are boots for walking on level terrain here in Georgia and boots for climbing the hills of Colorado. Boots for the dry sands of Texas and boots for the wet swamps of Florida. I have boots for all weather conditions from below

minus twenty degrees to all other temperature ranges in twenty-degree increments. Boots for tree stands with the smooth soles and some with air bobs for traction. In another pile are all types of liners; wool, poly, and a host of other materials for different



LEFT: Hip boots can be an important part of your equipment. RIGHT: Boot dryers are a must for knee high rubber boots.



conditions. Two pairs of each so I can change them out every day and keep a dry set installed. Add to that my polishes, waxes, cleaners, dyes, and extra laces and I could fill up the bed of a small pickup truck! I started to go through them and see which I really needed and which could be put in dry storage. I think I need them all. Here's a list and what their respective uses are. Which do you need?

PAC BOOTS

Pac boots are basically leather, or synthetic tops with rubber bottoms. Bowhunters prefer rubber to minimize scent. Most come with replaceable liners for extra warmth and they can, as I already mentioned, be changed out on a daily basis to keep your feet dry. Hey, sounds good to me, dry feet are warm feet. Although there are several types of soles available, we will classify them all into two categories: lug type soles and air bobs. The air bobs are better in loose mud and seem to cushion the feet somewhat, but are noisy in tree stands where you have an expanded metal platform. The air bobs will catch on the metal and

"ping" when you move your feet. Big Cid won't let you get away with that. The lug soles are generally heavier and you'll bust your butt on a slick mud road, but they are quieter on the stand and seem to last longer. The pac type boot is probably the best all around boot on the market, although even with leather uppers, they are not much in the way of ankle support. They basically keep your feet dry and warm, are lightweight, and available at almost any sporting goods dealer.

RUBBER BOOTS

Hunting the swamps of the Southeast requires a boot that will keep your feet and ankles dry. When wading through water in the summer chasing wild pigs, the all rubber boots are lightweight and most are knee high so you can get through the shallow sloughs without too much trouble. Tuck your pants inside and ground scent is kept in check as well. Some brands are cut to fit tight around the ankles, won't pull off in mud, are less tiresome to walk in, and allow you to "feel" your tree steps as you climb up or down.



Again, most manufacturers offer both types of soles and I have a pair of each. They are available in insulated and uninsulated and the latter will keep your feet fairly comfortable above thirty degrees. With the snug ankle fit, however, there is no advantage to extra socks because you will restrict the circulation to your toes. These boots are probably the best choice for bowhunters because they cover all the concerns bowhunters have and can be worn under a variety of conditions. The all rubber ankle fit boots do cause perspiration as there is no way for heat to escape. You'll want plenty of clean dry socks and a good pair of boot dryers are a must. Never pull these boots on without socks! Damp feet and a tight fit will produce a vacuum that will make removing them very difficult.

BUNNY BOOTS

Bunny boots, otherwise known as Mickey Mouse boots, are of military design. The military has come up with several items over the years that seem to fit a bowhunters needs and these boots are the best. The secret is that the felt liners are encased in

rubber which doesn't allow them to get damp. As I said before, dry feet are warm feet. I recently spent a week in Montana deer hunting. There was snow on the ground when we arrived, and it snowed every day while we were there. The temperature never got over twenty degrees and was below zero for the morning stands. I wore my bunnies all week and my feet didn't get cold once. For me, when my feet get cold, I'm done for. The bunny boots are heavy and slightly cumbersome and you need to be careful climbing in and out of tree stands. If you plan on doing much walking, they add about one and one half pounds to each leg with a size twelve. They have air bladders in the sides which, I am told, help keep your feet warm. I don't buy that theory so I never put air in mine. Just keep the little nozzles closed to keep cold air out and you'll be fine. The good thing I see about the air bladders is that you can add air to make the boot fit more snugly. It's hard for us fat guys to put a boot on and then bend over far enough to blow air in the valves. Here's a little tip. Buy a couple of feet of surgical tubing. You

can put one end over the valve and blow through the other end to add air.

Pretty smart for a country boy, eh? These boots are getting progressively harder to find and they are expensive, but in thirty some odd years of bowhunting, they are the only boots I've ever owned that keep my feet warm.

HIGH-TOP TENNIS SHOES

Tennys. The ultimate hunting shoe of all time may be the high-top

tennis shoe. Several of my friends hunt in them nearly year round. They have soft rubber soles and no one can dispute the advantage the lightweight shoes offer the stalker and the stillhunter. The type we use even have drain holes built into the sides to let the swamp water out! We like canvas uppers as they are cool and quiet. They also come in a variety of colors for the fashion conscious! In the summer when they become wet, they air dry on your feet in a matter of an hour or so. They are rough on the feet when hanging tree stands though and they ain't much for snake protection but hey, you've got to give up something, right? Down south where it stays warm enough that we never have to cover our swimming pools, these shoes are hard to beat. You guys in New York or Wisconsin probably won't have much use for them although I have hunted mulies in Colorado in them.

LEATHER BOOTS

Most bowhunters generally aren't too keen on leather because they transmit foreign odors to the ground. There are times, however, when leather boots with good ankle support are necessary. Elk hunting generally requires lots of legwork over varying terrain in some very inaccessible country. No one wants to turn an ankle eight miles back in the wilderness. A strong leather boot that fits over the ankles can help prevent such a disaster, and the better quality boots are lightweight. There is no need to worry much about leaving your scent on the trail unless you are as bad an elk hunter as I am and have them coming up behind you as you are watching out

Typical south Georgia swamp country requires special footwear.



ahead. I haven't had the experience of hunting sheep or goats, but I imagine the same footwear would be required. There are several sole types available on leather boots. I prefer a soft bottom of some type so I can feel what's underfoot. The hard soles tend to slip on smooth hard surfaces like rock or hard clay.


HIP BOOTS AND WADERS

The few days we have here in Georgia that are too cold for wading in tennis shoes, we pull the hip boots out. There are many different brands available and some are better suited to walking than others. Try to find something that fits your ankles well so they are not a problem when trying to pull your feet out of the

mud. There is a danger here, all fly-fishermen know well that if you go in over your head, they will fill up with water and pull you under. Watch out for those stump holes! The last pair I bought have the neoprene tops that fit tight against your skin to help prevent them from filling with water. The downside is they sweat pretty badly and your pants are going to be wet when you remove the boots at the end of the day. They are surprisingly tough and

don't tear as I feared they would when you get into the briar patches, but they don't turn those briars either. If you'll just go slow, the pain is not so intense that you can't take it. Of course they are not made to turn briars, and you must consider that when purchasing them. They will hurt your feet and rub your ankles and won't last long at all. Do yourself a favor and get as good a pair as you can afford. Of course that's good advice for any boot you buy,

but especially hip boots. A good pair will last you for years.

Which boots do you need? As you can see, boots are available to meet any outdoor conditions a hunter will face. Our traditional methods of hunting require dry feet, warm feet, and steady feet. The right footwear makes it all come together. The choice is yours. If you live to hunt as I do, you'll need them all—sooner or later. 



LAYERED COMFORT

by Gale Wisdom

Staying warm and dry is all about sensible, well-chosen clothing layers.

One of the coldest places in the world can be a tree stand.

Staying warm in cold weather is accomplished in a manner similar to the way you keep your house warm during the winter months. Different levels of insulation and the materials used in home construction are required for the particular climate you live in. The same is true for your particular hunting climate and construction of clothing.

A layering system that requires carrying a lot of extra clothing is no system at all. My requirement, in all but a few situations, is that I put on my clothing, and go about my daily business. The only layering I want to be bothered with for the rest of the day is to put on, or take off my jacket. I may add or remove rain gear, but only if it is a serious down-pour. I may unbutton my shirt while

walking around, and take off my hat, but I want to concentrate on my hunting, not on changing or adding layers because the sun went behind a cloud, or a light drizzle started falling. It is far too much fun to "stump shoot" or watch for game slipping through the woods.

REGULATING BODY TEMPERATURE

Cold is felt by everyone, but everyone feels it differently due to different metabolism rates. What feels cool to one is comfortable to another.

Your body works to maintain "core temperature." This means that vital core areas (head, neck, and chest) are maintained at optimum temperature, at the expense of extremities. When core areas lose too much heat, blood flow is restricted to extremities. The general order that the body follows is the further away from the heart, or "core", the faster it gets cold. The circulation system will cheerfully sacrifice a few fingers or toes to

maintain temperature in the core area. When this condition occurs, discomfort is sure to follow.

What actually keeps you warm is a layer of trapped dry air next to your skin. Without that layer of trapped dry air, you will soon be very cold. One of the main causes of chilling is perspiration moisture evaporating off your skin. To stay comfortable, you should dress in layers. A layering system will keep you warm if you have the proper layers in the correct order. From the hunter's viewpoint, the layers should not restrict movement or require frequent changing. You will have to learn your personal metabolism rate and layer accordingly. What is correct for one hunter may well be too much or not enough for another.

The correct layering system is really quite simple. You have to have a moisture vapor regulation layer, a bulk layer, an outer layer, and in some instances, a storm layer for extreme weather conditions.

TOP: For moderately cool weather, a layered combo of silk, Thermax, and wool works well.
BOTTOM: In cold temperatures, gaiters always help quiet the "brushrattle" when stalking.



VAPOR REGULATION LAYER

The vapor regulation layer will make the difference as to whether you stay comfortable or not. For the vapor regulation layer to be successful, it must allow moisture to pass on to outer layers without trapping that moisture next to your skin. The vapor regulation layer lets moisture lay on your skin only long enough to provide cooling when needed. Then the moisture is passed to the next layer.

Silk is the ideal moisture vapor regulation layer. A natural fiber, it is very light with little density, and since it quickly dries, silk makes an ideal layer next to your skin. Perspiration is trapped for a few minutes, allowing your body to cool down naturally. It cools the body during exertion, but retains no moisture after the exertion stops. Side benefits of silk long-handled underwear are that it doesn't tend to accumulate body odor the way the polys do and nothing feels better on your skin.

Cotton is a natural plant material that absorbs and traps moisture but is very slow to dry and should not be worn in cool or cold weather as a vapor regulation layer. Cotton is an ideal choice in warmer temperatures as a vapor regulation layer because it aids your body in cooling off.

BULK LAYER

The bulk layer provides trapped dry air to keep you warm. Varying the thickness of this layer according to your individual metabolism rate has to be learned. It is better to have one heavy layer of synthetic underwear than many thin layers,

because in some weather conditions, condensation may occur between layers. If a thicker, warmth/bulk layer is needed, you should choose wool blend underwear as opposed to synthetic. The middle layer should contribute warmth, block the wind, and keep you dry.

Of the poly-type underwear, I prefer Thermax (polyester) rather than polypropylene. Polypropylene requires cold water washing and hang drying. Polyester is the same material spun differently. It has a higher melting point and can be washed in warm water. Some brands may even stand some machine drying. Over the course of time, polypropylene underwear will build up body odor. The warm water washable polyester will get cleaner with less accumulated odors.

Unlined synthetic fleece (Polar Fleece, Arctic Fleece) is best used as a middle layer in bitter cold weather. It passes moisture as well as any of the synthetic underwear, and traps a thick layer of dry air. Unlined fleece is very warm until the breeze picks up.

Synthetic fleeces are somewhat water repellent, and dry quickly when it is not raining. Fleece does have a slight amount of warmth-retaining ability when it is damp. It does an excellent job in passing body moisture to the atmosphere. It does that so well that it will actually chill you. Fleece has little, if any, wind blocking ability. That is why synthetic fleece is commonly lined with something else. If you are caught in a rainstorm in fleece garments, you will have to get to a sheltered area to dry out, or the rain will have to stop.

OUTER LAYER

I prefer heavy wool in the outer layer. Wool is quiet, naturally water repellent, and tends to diffuse light. Many fabrics are smooth or shiny and return light directly from where it came from. The coarse texture of wool scatters the light resulting in a dimmer return of light in the direction from which it came. This is exactly the same reason animal fur is so hard to see.

Wool fibers consist of an absorbent core surrounded by a non-absorbent shell. This shell is very similar to fingernail type material, and is made up of many overlapping platelets. When you move, the platelets open, allowing the absorbent core to trap moisture-laden perspiration vapor. Moisture coming off your

skin is full of heat. If you ventilate all the moisture away, the heat goes with it. This is the reason people find themselves shuffling their garments to get comfortable. When wool is worn, the absorbent core traps the moisture while the non-absorbent shell prevents evaporation chill from occurring. As the day warms and more heat is available, excess moisture in the wool will be evaporated by the day, preventing you from over saturating and becoming wet. Wool doesn't seem to accumulate body odor the way many other materials do.

Wool is a natural animal fiber. Virtually all animal coverings are naturally water repellent. You must choose your wool garments carefully. Wool is quiet regardless of temperature, and keeps almost all of its warmth-retaining ability, even when it is saturated with water. Wool does have its own odor, but it is a natural animal odor. I have learned through experience that the only wools to purchase are rated by the manufacturer as being "machine washable." Not because of the ability to wash it in a washing machine, which is a decided advantage, but because the time to find out if your wool will shrink is after you take it from the washing machine, not after you dry it out in a hot cook tent ten miles from the nearest road. I learned the hard way what "dry clean only" really means. It means, "don't get it wet!"

STORM LAYER

I do not recommend a storm layer unless extremely harsh weather conditions are involved. Most often, garments purchased for this layer are made of synthetic materials which are not very breathable. Synthetic membrane type garments (Gore-

Tex, Kool Dri, etc.) are one hundred percent wind proof. Unless you are exerting a great deal, you probably cannot generate enough heat to drive the vapor through the membrane, leaving you in an unhealthy cycle since the exertion will cause you to perspire more. Because these garments are totally windproof, they do not promote evaporation well, especially when walking and perspiring. Some evaporation may occur to keep you dry, but it is a very slow process under the membrane garment.

GARMENT CHOICES

I typically only wear three layers, silk, poly, and wool. In warmer weather, I forgo the poly layer. The silk layer still performs the function of cooling my body down, then I dry off after exertion is ended. The wool provides my shelter layer. It is easy to stay comfortable in warm or moderate weather. The wool is over-kill in some conditions, but it is so quiet I choose to wear it anyway, and if a rain or drizzle occurs, the wool keeps me dry. In colder weather, I add the correct weight poly-type underwear to match the temperature. I may add a wool jacket or sweater, but only if it is needed.

When using this system, you will wear less clothing and remain comfortable. Most importantly, you will discover that you do not constantly have to adjust your layers or carry a lot of extras. No system is perfect. It will take a short period of experimentation to discover what is the correct weight layer mix to wear according to local conditions. After a few hunting trips you will learn the best ways to apply this system to custom-fit your needs. ■

OVERHEATING

Bibs in any material are warmer than the same material in pants. Many times coveralls are too warm. When wearing bibs, you oftentimes can remove the jacket, tie it on your fanny pack, and walk to where you need to be, then put on the jacket as you need to without overheating.



Your body will restrict as much blood flow from your arms and legs and feet and hands as it needs to keep your head warm. If you can wear your "hunting" hat in warm weather and not overheat, then it is too light for cold weather. I prefer a very heavy wool hat with a synthetic fleece lining and long ear flaps.

A WHIRLWIND LOOK AT TRADITIONAL BOWHUNTING EQUIPMENT

by Sam Fadala

Our equipment editor, covers everything else you need to know about bowhunting tackle.

Traditional bowhunting is essentially a game played with longbows and recurves, along with old-time values and a deep respect for the sport, but that's where it ends. Hunters reach their destinations by motor vehicle and jet airplane. Camps are equipped with modern gear. And at least some of our tackle is comprised of up-to-date materials. So it's a mix of old and new. Now here's a whirlwind tour of a few important items useful to modern day traditional bowhunters.

BACKPACKS

Good backpacks for bowhunters abound. The Remington pack and frame is a prime example. It holds enough gear for a few days on the trail, including extra arrows in the sleeves on either side. It also has a shelf for a bedroll or a mountain tent. Since I do a lot of my bowhunting out of a backpack, it's great to have the new ones, which are lighter than ever, strong, and comfortable. Day packs have also come a long way. My Idaho Pack, with straps, stays out of my way so I can shoot my bow, but it holds enough gear to get me by in style for an entire day in the field and longer if necessary. With stick-free cook gear on board I can cook up a mountain grouse or desert cottontail easily. Or if I don't want to cook, today's MRE (Meal Ready to

Eat) package is good. It's not gourmet food, but it whips the old army C-Ration and K-Ration from here to the moon. And the entree can be heated with an ingenious device that requires only a couple of ounces of water to activate. I can stop anywhere and have a hot and nutritionally-balanced meal in minutes with the new MRE and its heater.

BELT KITS / HUNTING BELTS

For years, I have used a belt kit made from a U.S. Army pouch. Now belt kits are commercially available. They come in various styles, sizes, and materials, and they hold essentials a bowhunter should never be without: stringer, extra string, nock, points, etc. Hunting belts are a new concept in fanny pack style containers. Martin Archery currently offers a padded model that holds essentials for bowhunters.

BINOCULARS

High optical resolution binoculars, especially on a small tripod, can pay big dividends in finding game to stalk with a bow. Good glasses are lifelong investments well worth the price. Binoculars have been excellent for generations, but I can safely say that today's "eyes of the hunter," as I fondly call them, are optically better than ever. My Bausch & Lomb 10x42 Elites have found a heap of game for me, and game spotted before it sees the hunter can often be stalked

successfully, a real boon for the archer. That's why I rank today's high tech glass so high on my list of hunting gear, even though the bow I carry represents a back-cast to yesterday. (Refer to the article, "Binocs for Bowhunters," in the Spring 1997 issue of Longbows & Recurves for more information on binoculars.)

BOW CASES

Bow socks are good enough for normal car travel. But they don't cut it on airplanes or pack horses. Hard cases are much better, including the latest models made of PVC pipe.

BOWSTRINGERS

Particularly good are bowstringers made for recurves with wide limbs. The upper end of the stringer does not go over the bow tip. Rather, it's a rubber contact plate, and it works great.

CALLS

Call makers today study the real thing very carefully, making their products more realistic-sounding than ever. There is also a greater variety available, including antelope, hogs, javelina, and more. The Primos' Coyote/Bear Buster is typical of the new calls on the market.

CAMOUFLAGE

Camouflage once meant a pattern dyed on standard or Army clothing. Today, fine outdoor apparel in camo patterns is commonplace. Recently, I field-tested an array of Skyline

The big Coleman tent in the background makes a snug harbor for the bowhunter to return to and live in. In the foreground is Fadala's Remington pack/packframe, a medium-sized unit that holds enough gear for several days on the trail.

camouflage clothing on a Colorado elk hunt. Each garment compared with my old-time apparel like a rock versus a rocket ship. The clothing was well-designed with pockets in the right places, comfortable, camo-patterned for real concealment, and quiet, while providing good protection against the elements. Lightweight long underwear, plus a pair of Thorlo socks, added to my comfort. Field & Stream boots complemented the package, also comfortable and defiant of invading water from the clouds above or the stream below. Was I ever set up to concentrate on putting my recurve to work!

ASAT 3-D is another good idea in camo. The moving leaf pattern tends to break up human outline, while giving a bush-like appearance. I've had deer and other game come within twenty yards of me when I was wearing this camo and staying dead still.

CAMP AND TRAIL STOVES

Ingenuity comes through again with a multitude of camp and trail stoves. One of the best is a no-gas model that burns small pieces of wood, cow chips, or whatever. It's called the Sierra Stove and it has a battery-powered fan below to deliver oxygen to the fire.

CELL PHONES AND RADIOS

I also do not own a two-way radio system, nor do I carry a cell phone. However, I can see the value of both, and I don't think these high tech items detract from a hunt with traditional, or even primitive bows. As with the GPS, these tools can lend



confidence, so the bowhunter feels freer to go that extra mile into the unknown where a game-rich mecca may exist. On longer hunts, I've found contemporary lightweight radios enjoyable to have in camp. Mine has VHS bands to grab television stations for news and an occasional sporting event. While my regular radio is for entertainment and information, my weather radio is strictly for the latter. Today's forecasting is better than ever. If the weatherman reports a wet sky for the next day, you can bet I'll be ready for it.

GLOBAL POSITIONING SYSTEMS

While Steve and I didn't have one with us on the elk hunt, because he knows the territory like his own backyard (which it is) a Global Positioning Unit (GPS) unit can open a path to the wild places like no other instrument. Today, there are models that make sense for hunters who want to explore the back country. A Garmin 12XL is going along with me on a bowhunt for Coues early in 1998. That unit will allow me to head into a wilder-

ness area with topographic map in hand and big confidence. I'm backpacking a camp into the area before season, and with the GPS, will have no trouble finding it again when the hunt opens. Then I'll be able to settle into the niche and live with the deer for a week. (Refer to the article, "Global Positioning System—Would Howard Have Approved?" in the Summer 1997 issue of Longbows & Recurves.)

GLOVES

I have an old pair of pigskin gloves with extra leather on the shooting fingertips. They offer warmth and protection without loss of bowstring feel. Similar gloves are again available from Kustom King Arrows, item number 1801. (Refer to the article, "Glove or Tab, Which is For you?" in the Premiere issue of Longbows & Recurves.)

HATS

Short-billed caps are ideal for bowhunting in warm weather, while real cold calls for more protection, such as the balaclava helmet, which can be worn as a knit hat that also rolls down over the face. On cold days in a tree stand, the "helmet" is especially welcome, warming air for the lungs, while acting as a face mask. The watch cap is also useful where a brim is unnecessary. It's nice at night too, to keep the pate warm in a tent camp.

KNIVES

Obviously, there is no special knife for traditional bowhunters, but just as obviously, a good knife is vital. For backpacking in, a folder is ideal. Fixed blades, however, can be counted on for more stringent tasks.

(See the article, "Respect Your Knife... Learn How to Sharpen It," in this issue of Longbows & Recurves.)

LIGHTING

I'm also amazed at how small things have gotten. I have a compact Browning flashlight, for example, that outshines anything I owned in the "good old days" at a fourth the size. It's a comfort to have that light on a dark trail. I have another light that has made backpacking more enjoyable. It's a regular Eveready Area Flashlight until the front portion is extended, then it floods the inside of my backpack then with sufficient illumination to read by, sort gear, or sharpen broadheads. Also interesting and useful is the Snap Light. This little tube of liquid glows when bent in the center. The one I use generates mild light in a tent for about twelve hours. Today's flashlights are excellent, but so are lanterns. I was happy to see Coleman come out with a small butane light recently. It's light in weight, sixty watts bright, and mighty welcome at night. I've had an Italian-made butane lighting up my life in the woods and mountains for years. It's good to see an American product to match.

QUIVERS

There's no such thing as a perfect quiver. It's a matter of matching to bow and circumstances, as well as personal preference. Bow quivers on longbows? Not for me. Bow quivers on recurves? That's just fine. There are three basic styles: back, bow, and hip or side quiver. The first is historical, capacious, often with an



accessory compartment, and yet can interfere with a daypack. The second is as handy a way to carry arrows as imaginable, but can unbalance a bow. The third, especially in a well-designed model like those from Jack's Traditional Archery of Randle, Washington can take some getting used to, but many archers love them because they're off the bow.

RANGEFINDERS

As an instinctive (reflexive) bowshooter, I don't have to know the exact distance to my target to hit it. However, I still use a Bushnell Laser Rangefinder. My 800 model has been a pleasure to own. I like knowing how far it is from a tree stand perch to a likely come-by spot for game because sometimes distances can be misleading. So, while I won't use the rangefinder to help me make a shot, it has been useful in determining yardage in the field. Also, I admit having a lot of fun with it as I try to guess how far a ridge, bluff or draw is, putting the lightweight unit to my eye for the truth in a couple of seconds.

SPECIALIZED WATCHES

Steve Pike, one of the finest elk and mule deer guides I've run across spends hours in the woods with bowhunters as part of his Tenderfoot Outfitting operation out of Gunnison, so I was interested in some of his high tech gear, which included a wristwatch with built-in altimeter and thermometer. Our camp rested at ten thousand feet altitude and we climbed to well over twelve thou-


sand. That information didn't promote success, but it was nice to know. The watch's thermometer, on the other hand, was more useful because it's always nice to know the temperature, not only for personal safety, but to protect the carcass after harvesting that buck or bull.

TENTS

Backpack tents have come a long way. I have two Peak-1 models that make those dreary army pup tents we use to carry look primitive, because they are— by comparison. The modern tent provides much more shelter with much less weight, and it's designed to be lived in. Tents have followed the same trend experienced by modern longbows and recurves— better designs and materials. A three-room Coleman was home for a week recently. It's many features made the camp out a pleasure.

WIND DETECTION POWDER

Primos' Wind Detector and similar products are ideal for stalking by bowhunters. A puff of odorless powder tells more than the general direction of the wind. It also reveals subtle changes and swirls important when stalking for that close shot. API Outdoor's Wind Floaters do an equally fine job without the powder.

No one reading this lives so far in the past that none of the modern hunting, backpacking, camping, and hiking tools and clothes are out of his reach. We love to shoot longbows and recurves, but we are products of the modern age. Therefore, we combine the best of tradition with the best of technology for better and safer bowhunting. 



GOOD TIMES!

text and photography by Krista Holbrook

3-D Archery Tournaments

Provide Great Practice and Good Times During the Off-Season



The hog came crashing through the foliage and raced across the clearing in front of me. Having drawn an arrow, my bow arm swung in a graceful arc leading the racing hog. I released and heard the satisfying thump as my 575 grain cedar shaft connected with the hog. As we approached the target to remove our shafts, a fellow archer slapped me on the back and congratulated me on a fine shot. While I didn't experience the thrill of harvesting a wild pig that day, I honed my instinctive shooting ability and enjoyed an exciting afternoon shooting with friends.

I was attending a 3-D archery tournament sponsored by the Traditional Bowhunters of Florida. This particular shoot consisted of a twenty target course which was shot three times throughout the weekend. The course included two moving targets, a running hog which was shot from the ground, and a running bob cat which was a tree stand shot. The targets, a combination of 3-D McKenzies and Pottingers, included a boar hog which could only be seen by leaning under a low hanging branch, a buck which was shot from a kneeling position, standing bears, antelope, peccary pigs, turkey, and many others.

Also included in the course, as a novelty shot, was a six arrow flu-flu competition with flying projectiles. The aerial launcher was ingenious in its simplicity and is picture (above) for those wishing to construct their own. It amounts to a sling shot of incredible proportions, launching large diameter fish net floats as projectiles.

Archery tournaments like this one, catering to traditional shooters, are rapidly gaining popularity with more and

more traditional clubs sponsoring shoots. There are many benefits from attending these shoots, and if you haven't been to one, you are missing out on a good time. Most courses are shot by small groups averaging six people. If you don't bring your own group, they will partner you up with one. During shoots lasting two days, the archer generally shoots with their competition the second day. The real appeal of traditional 3-D shoots, is that they are generally set up by hunters with realistic hunting shots in mind, thus they provide great practice during the off-season.

Traditional archery is a difficult sport to master. Those persons having an experienced archer to practice with have quite an advantage while developing their archery skills. Anyone reading the many fine books available on the subject realizes that proper form is a must. At a casual glance it may appear that the top archers simply pull back and "let her fly," but nothing could be further from the truth. The great Fred Bear once said, "One practice arrow shot with perfect form is better than one hundred practice arrows shot improperly." Proper form is the heart of archery and he practiced it daily.

Unfortunately, when shooting alone, one can develop bad habits without ever realizing it. Shooting with others gives us something of a sounding board or basis of comparison. We can study the form utilized by other archers at these shoots and hopefully learn from them. Seeing another archer creep several inches prior to the release, reminds us to push with the bow arm and maintain constant tension until the release. Another common problem which can be readily



Just for the Fun of It!

FAR LEFT: This cub is obviously pleased with the standing bear target.

LEFT: The Flu-Flu competition draws an interested crowd.

RIGHT: Cubs with trophy plaque.

observed is snap shooting prior to reaching the anchor point. Shooting with others can help us to recognize and correct problems in our own form.

One of the best aspects of attending a shoot is getting to see all of the various bows being shot. It is common to see people exchanging bows for a few trial arrows at the practice bails. You might have a chance to try that fancy custom bow that you have been thinking of ordering and marvel at the lack of hand shock and great arrow cast.

For the curious in the crowd, a chronograph is often available and for a nominal fee competitors can check their arrow speed. For those building their own tackle, that can be an exciting experience. I found that my osage self bow shot only a few feet per second slower than my laminated longbow of the same weight. Many of the archers present were equally surprised with this discovery.


Which brings me back to the my favorite feature of the traditional shoot, it's the participants. Where else can you spend the day in the field with a bunch of other traditional shooters doing what you love to do? Unlike archery tournaments of old, the emphasis is not on winning, but simply on having a good time.

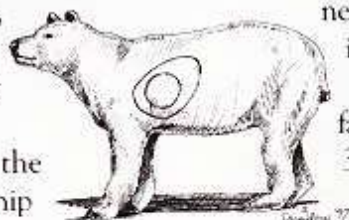
Traditional shoots provide inexpensive fun for the entire family. With categories for men, women, youth, and cubs, it gives everyone a chance to enjoy some lively competition. It is a great way to introduce new archers to the sport.

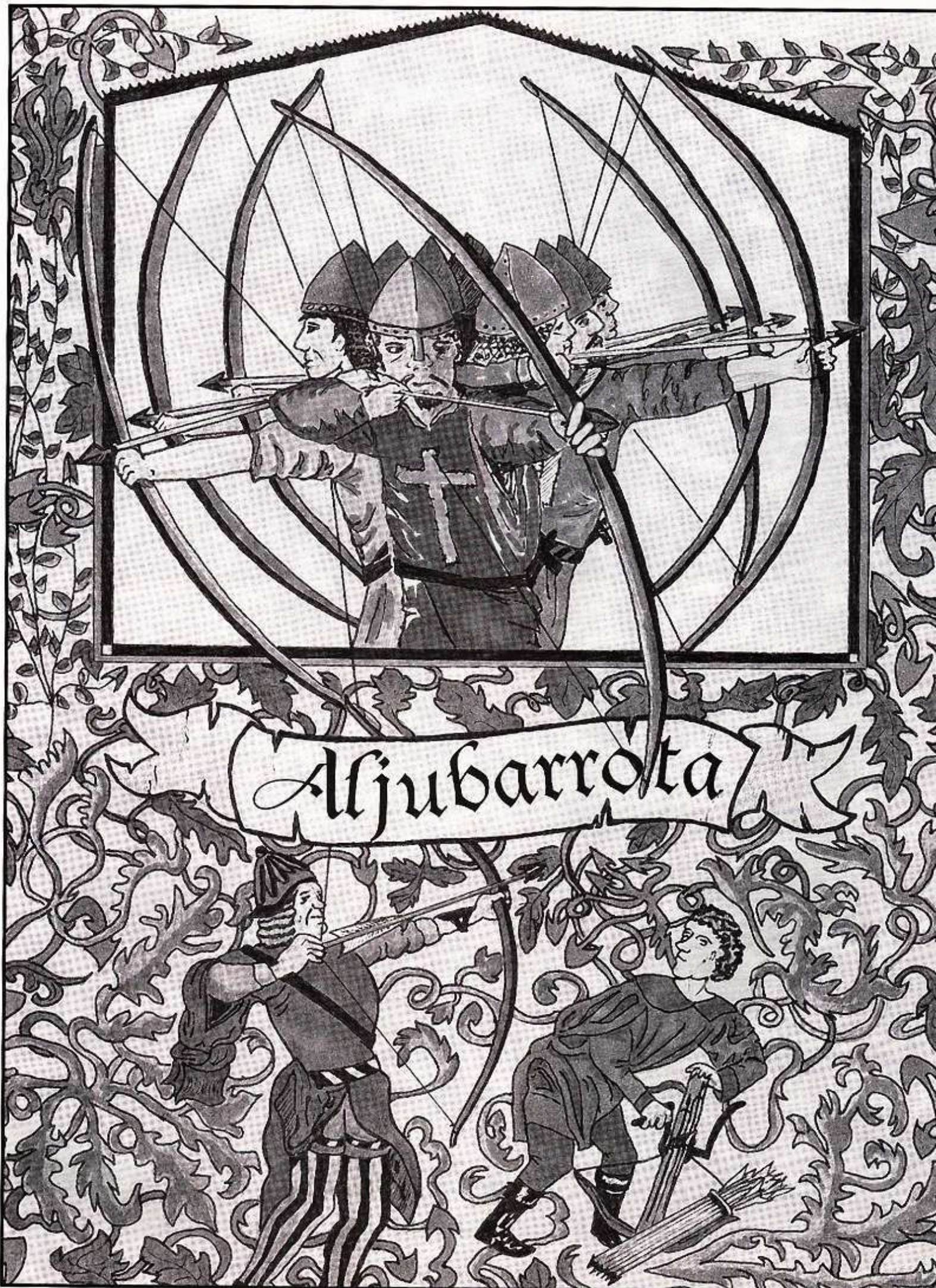
After my daughter-in-law attended the Howard Hill World Longbow Championship

with us as an observer, she promptly acquired a recurve bow and began practicing for the following year's shoot, where she took third place in the women's recurve division. Her father has since bought a recurve and attended the Hill shoot this year. With thirty moving targets including a charging elephant, a swinging monkey, and a running alligator, this shoot can only be described as the most fun you can have with a bow in your hand.

The various traditional equipment manufacturers have really been showing their support for these shoots by donating a variety of items for contests and door prizes. At past shoots promoted by the Traditional Bowhunters of Florida, Jim Bo Longbows donated a youth longbow to be drawn as a door prize among the participating cubs. Another outstanding door prize was a Warren & Sweat Osage tree stand. I walked away with the most coveted prize, an autographed copy of *The Horse You Rode In On!* by Gene & Barry Wensel. It just doesn't get much better than that.

The Alabama Society of Traditional Bowman had many excellent flint nappers demonstrating techniques at their spring rendezvous. A master at his craft, Norm Blaker came all the way from Michigan to knap a few points. Where else can you meet the experts, make new friends, try new equipment, learn techniques for making or improving your existing equipment, and improve your form. Spend a fun-filled day and bring the family along at a nominal expense. See you at a 3-D shoot soon. 





TACTICAL USE OF THE LONGBOW AT THE Battle of Aljubarrota

by Robert E. Dohrenwend

In mid-July 1385, Juan I of Castile invaded Portugal at the head of his army, accompanied by a contingent of French knights. Juan was determined to seize the Portuguese throne from João I of Portugal. The two kings met in battle at Aljubarrota on August 14, 1385, and although the Portuguese forces were badly outnumbered, they inflicted a shattering defeat on Castile. Portuguese independence and development as a separate Iberian nation were ensured for the next two centuries. All accounts agree that there were English soldiers with the Portuguese and most identify these men as archers. The best modern estimate gives from four hundred to seven hundred English soldiers present. Most of these were longbowmen, and their contribution to the Portuguese victory was decisive.

The Portuguese army moved north from Lisbon and occupied a strong position near the village of Aljubarrota in which to await the approaching Castilians. The Portuguese dug in across the end of a ridge with gullies on either side. There were streams in both gullies, and the eastern stream turned to flow west across the front of the Portuguese position. When the Castilians approached they decided that this position was too strong to attack and marched across the front of the Portuguese position, making a long circuit to the west to reach a more favorable battlefield behind the Portuguese, cutting them off from Lisbon.

The Portuguese turned and moved down their ridge to a second position where the ridge merged with the highland to the south. The gullies on each side were more shallow, but still offered effective flank protection. The Portuguese had much less distance to move than the Castilians and had enough time to dig in again and reorganize their defense. They put a field of small pits on each flank, deep enough to break a horse's leg or to really jolt the back of any armored opponent who might step in one. They also dug a system of trenches on each flank which they anchored on the gullies.

The flank positions were pushed forward well ahead of the center, where they left a clear avenue about two hundred meters wide and about two hundred meters long. The Portuguese stationed their baggage train across the ridge roughly two hundred meters behind this position to cover their rear. These field fortifications were the key to the Portuguese defensive tactics.

The Portuguese army divided into a left flank, a right flank, and a center. The (sling) missile troops deployed on each flank, the left flank occupied by the English contingent of longbowmen and the right flank by Portuguese crossbowmen. The center was held by two contingents of about seven hundred dismounted knights and men-at-arms each. The two contingents of men-at-arms formed a front line and a reserve at each end of the clear avenue through the Portuguese field fortifications. That is, these central elements were separated by about two hundred meters. A small number of these heavily armed and armored men dismounted and were detailed to stiffen each flank. There was a line of slingers across the Portuguese front. Infantry and crossbowmen protected the baggage train.

The Castilian army was largely composed of inexperienced young knights with a few older and wiser heads to keep them out of trouble. It was about three times the size of the Portuguese army, and was followed by a very long supply and baggage train and a lot of various camp followers. Their leader, King Juan I of Castille, was ill, possibly with malaria, and the Castilians were strung out for miles along their march route. When the lead elements of the Castilian army arrived at a point where they could again face the Portuguese, the Castilian artillery was brought into position, and King Juan I called his senior advisors and commanders to a council. This left the arriving young knights without responsible command or control, which was a fatal mistake. It was late in the afternoon, and there was little time left for a battle.

When enough Castilian knights and men-at-arms arrived for an assault party, some of these younger knights decided to attack the Portuguese position on their own authority. It was known that the Portuguese had longbowmen on the battlefield which meant that the Castilian attack would have to be carried out dismounted. They had to attack on foot down a gentle slope towards the Portuguese position, leaving their precious war horses back out of arrow range. Horses become uncontrollable when wounded by arrows, and a mounted attack would have rapidly dissolved into chaos.

The Castilians had to cover about three hundred meters on foot over rough ground before making contact with the Portuguese defense. This would take them at least four minutes if they wanted to arrive in any condition to fight. During most of their approach, they would be under attack by high-angle arrow fire. These arrows could easily penetrate thin plate or mail coifs and at the very least would force the armored Castilians to advance with visors down and shields raised. This factor added considerably to the fatigue of their advance.

The battle opened with a shower of sling missiles. Iberian armies could still field very effective slingers, and their weapons outranged both longbow and crossbow. These stones were not trivial missiles and could injure armored men. The Castilians responded with cannon fire which was virtually ineffective. Incidentally, this is one of the first confirmed instances of the use of artillery on the field of battle. The slingers continued to throw until the Castilian advance was about eighty meters in front of the Portuguese lines, then they moved back into their defensive positions to give the archers a clear field for flat trajectory fire against the advancing enemy.

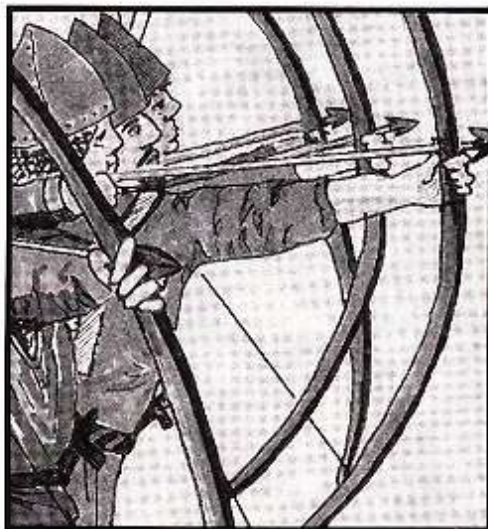
At close range, the arrows and bolts from the flanks could penetrate armor even at a considerable angle from the perpendicular. This was particularly true for the more lightly armored arms and legs. The Portuguese flank forces gradually withdrew into their field fortifications, and their fire forced the Castilian attackers to bunch up and speed their pace to get away from the murderous hail of arrows.

The Castilians were tired, off balance, and under no sort of command when they made contact with the Portuguese men-at-arms. The Portuguese, on the other hand, were waiting in a prepared position, possibly warming up and stretching, and much less tired than their opponents. This gave an enormous advantage to the Portuguese in the hand-to-hand combat which followed. With seven hundred front line defenders for a center of some two hundred meters, there were three to four men available for each front line position. This

allowed the Portuguese to replace fallen men, and to rotate tired fighters out of the front line whenever possible. The Castilians were unable to do this as they were kept in a state of confusion by the archers and crossbowmen on their flanks.

As soon as a Castilian warrior raised his right arm to strike with sword or axe, he exposed his armpit to the longbowmen on his right. The armpit area is a terribly vulnerable target to an arrow and an area notoriously difficult to protect effectively with armor. The target was exposed only briefly so such shooting required a speedy shot. This was the reason the longbowmen were positioned on the Portuguese left flank. The slow but powerful crossbows directed their fire from the Portuguese right flank, the Castilian's shield side. The men-at-arms in the Portuguese center fought the Castilians not only to kill them directly, but also to hold them in a killing zone for the archers on the flanks. The archers kept the Castilians bunched up and unable to rotate their frontline fighters.

This first Castilian assault was wiped-out to the last man. The noise of the fighting broke up King Juan's council, and his commanders rushed to put together a relieving attack.



The hastily organized second wave of attackers was composed of more men who were older and more experienced fighters. It is evident that this attack was better led and more serious than the first. A raid on the Portuguese wagon train by Castilian light cavalry reinforced with mounted armored knights was timed to coincide with this second attack. However, the defenders of the wagon train were able to beat off the raid on their own, and the second wave of Castilians still had to cross three hundred meters of open ground under the same conditions as the first

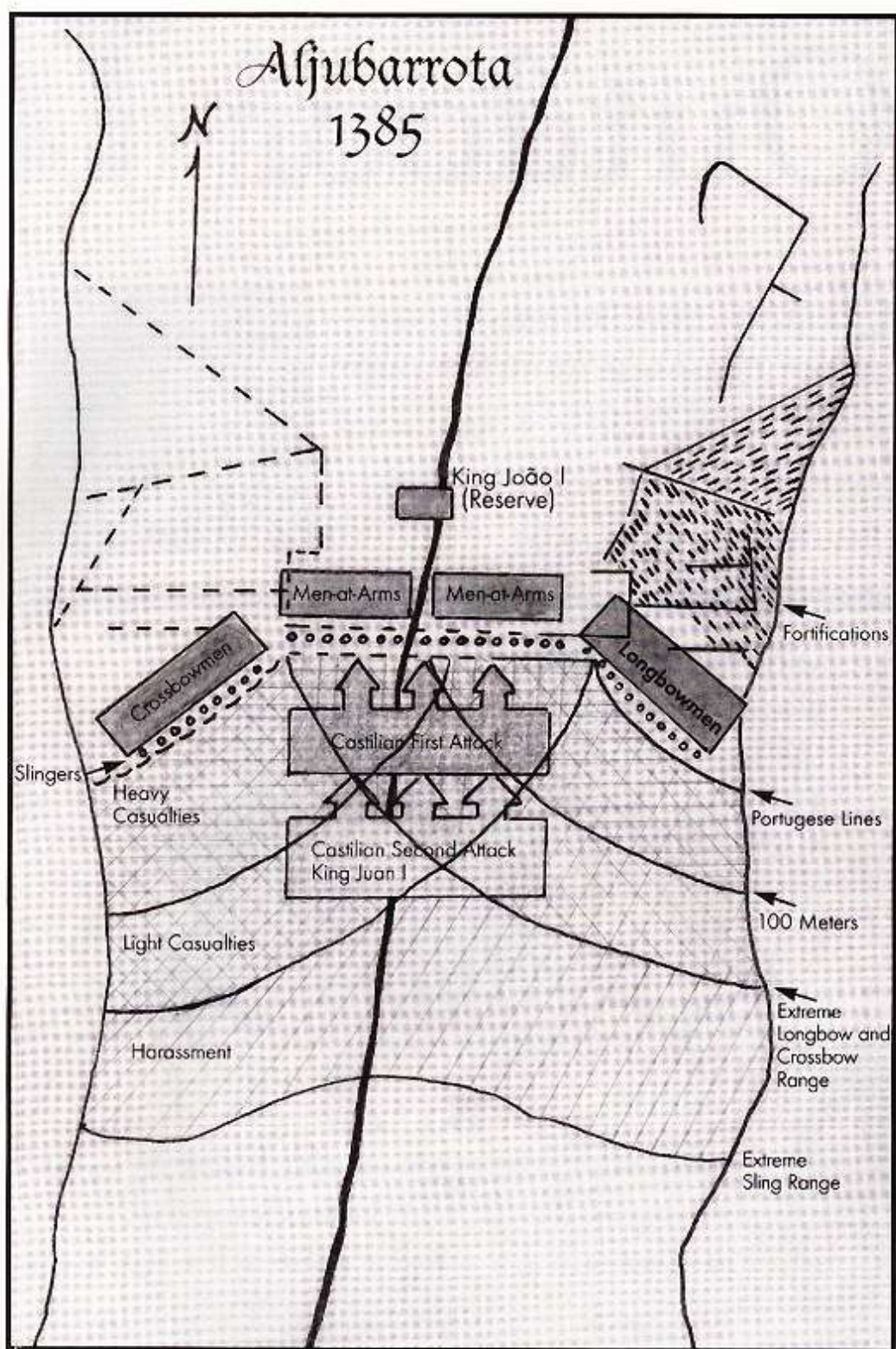
wave. Even so, they hit the Portuguese center hard enough to break through, in spite of an arrow storm which drove them over against the Portuguese right flank. At this critical point, the Portuguese King João led his reserve into the fighting and smashed into the Castilian fighters. The Castilians broke, their flag went down, and they fled the battlefield.


As usual, more Castilians were killed in flight than in battle. Their King was well mounted and escaped, although if night had not fallen so quickly, he and many more Castilians would probably have been killed or captured by their Portuguese pursuers.

The presence of the longbow on the field of battle robbed the Castilians of one of their most potent tactics, a charge by heavy armored cavalry. Mounted attacks were impossible in the face of archery. Long range volleys of arrows from these longbows were intended to force the attackers to advance slowly in the afternoon summer heat with shields up and visors down and to fatigue them as

much as possible during their advance. Such volleys were not intended to produce casualties, although this undoubtedly occurred and was welcome when it did. Only when the enemy came within range of relatively flat trajectory fire, about sixty to eighty meters, were arrows deliberately aimed to cause casualties. At these ranges, it was possible to penetrate mail and light plate armor. After contact was made with the armored men-at-arms, and both sides were hewing away at each other, the longbowmen were still active, shooting at the vital armpit area every time a Castilian lifted his arm to strike. During this phase of the battle, they worked in cooperation with the men-at-arms to produce the maximum number of casualties among the attackers. The slower, heavier crossbows worked against the attackers' more stoutly protected left side, also causing casualties on that flank. Here, power was more important than speed.

The English longbow archers were critical to the Portuguese defense, but these archers had to work in close, prearranged cooperation with the other elements of that defense, and in order for them to be able to make the critical contribution that they did, they had to have been well supplied with arrows. It is evident that there had to be a prearranged arrow supply system within the Portuguese field fortifications and personnel assigned to keep the archers from running out of arrows. How many arrows did they have to have? We may assume an average of one-hundred-twenty arrows per archer expended during this battle or a total of forty-eight thousand arrows, although this is no more than an "educated" guess. This number of arrows would require about five wagons to carry. This is far from impossible, especially when we consider that these English "mercenaries" had to have at least the tacit approval and support of their own king. Archers were forbidden to leave England without royal license. Such approval would have made the procurement of large numbers of arrows much easier.



Although a great deal is still obscure, and probably always will be obscure, concerning the Battle of Aljubarrota, the battle must be considered one of the more decisive and important battles fought in the 14th century, due to the enormous strategic importance of the Iberian Peninsula, and Castile's position as a seaport in the larger context of the 100 Years War. A close examination of this battle destroys the myth that medieval commanders were military blockheads, capable only of mass charges of armored knights. This battle is unsurpassed as an illustration of tactics in this era, containing examples of both extremes of tactical competence, and it is especially valuable in the insights that it offers into the use of longbow archers. 

Outdoor Trivia

Sharpen your pencil and your traditional wits, and take a shot at the last installment of our not-so-trivial outdoor trivia. Answers to trivia quiz are on page 71.



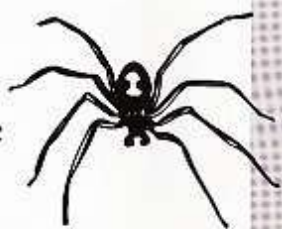
1. Who was the archer who patented both the sight window on a bow and the automobile windshield wiper?

2. A grooved piece of horn was used as the first over-draw shelf by Turkish archers. What was it called?

3. Who was Bear Archery's first bow designer?

4. What is another name for a bow stave?

5. Who were the original owners of the Black Widow Bow Company?



11. What was Howard Hill's actor/buddy Errol Flynn's boat named?

12. Other than Errol Flynn, name two other actors who regularly hunted with Howard Hill?

13. Where was Fred Bear born?

14. What Star Trek actor took a grizzly bear with his bow?

15. Who wrote "Sand County Almanac"?

6. Who was the author of "Deliverance"?

7. What musical instrument did Art Young play professionally?

8. A split-fingered grip on a bow string is called what?

9. What is a "three-fingers under" bowstring grip called?

10. What was the name of the boat Fred Bear hunted brown bear from?

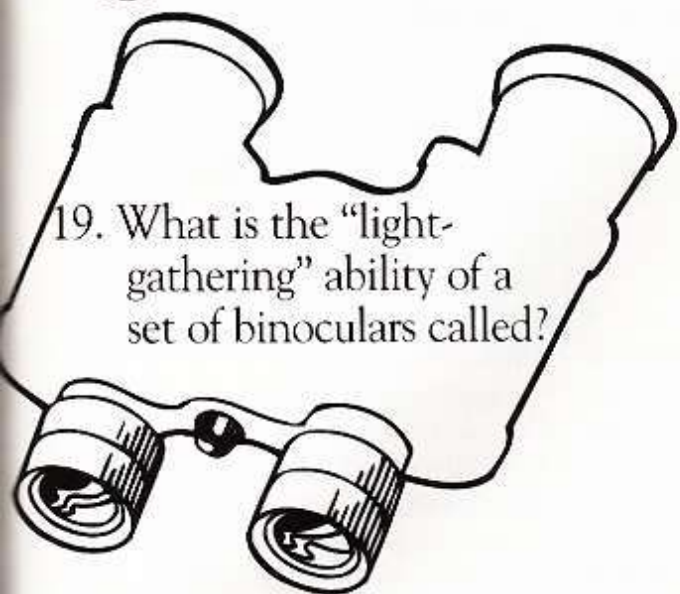
16. Where was Ben Pearson's hometown?

17. How many colors have Zwickey broadheads been produced in?

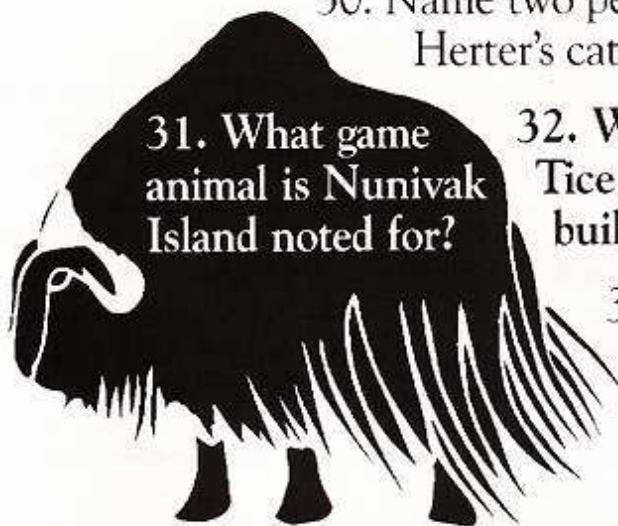
18. Who invented Judo points?

Quiz PART III

BY GENE WENSEL



19. What is the "light-gathering" ability of a set of binoculars called?
20. What is the proper term for energy absorbed in a bow during drawing?
21. What is the commonly used word today that was originally the exclusive archer's ancient call?
22. Does a giraffe have feet like a horse or a cow?
23. Are most sibling fawns fraternal or identical twins? (Are two different eggs fertilized or does a single egg split?)
24. What length arrow did Howard Hill use on his elephant?
25. A wood arrow with a hardwood splice jointed to the front end is called what?
26. What is the stiff retroverted end of an Oriental bow called?
27. Dr. Dave Samuel and his twin brother coauthored a bowhunting column years ago. What is Dave's twin brother's name?
28. Who was Larry Bamford's favorite hunting bow made by?
29. What state was Lyme disease first noted in?
30. Name two people in the Herter's catalog family.
31. What game animal is Nunivak Island noted for?
32. What state were Tice & Watts bows built in?
33. What town is the Traditional Bowhunters Expo held in?
34. Who was the author of the book "Turkish Archery"?
35. What is the side of the bow nearest the string called?
36. What is the study of bows and arrows and/or archery called?
37. What is the light wood next to the bark of a tree called?
38. What is the dark wood that forms the center of a log called?
39. What was the original name for a jointed take-down bow?



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A Traditional Education by Frank Malik

"Hey Les, see that stump over there? Try to hit that knot dead center." Twang, hiss, thunk! "Nice hit, watch this shot." Twang, hiss, crack!

This is a sound all veteran stump shooters hate to hear. Upon closer inspection, my suspicions were confirmed. I had sacrificed another marriage of judo point and cedar shaft. I paid no mind to Les' chiding and laughing, for I knew the odds were in my favor that my jovial friend would experience casualties on one of the next twenty stumps.

Upon cresting the next ridge, Les posed the question, "Would you consider participating in one of my lesson plans?" Les happens to be a language arts teacher and

teacher's consultant. Recently his class has been studying a story about the Iroquois Indians called *The Sign of the Beaver*. I promptly told Les I had no desire to dress up as a beaver, but would like a little more information before committing to anything. Les said, "I want to reinforce the class's comprehension by providing the students with a hands-on activity for *Sign of the Beaver*."

In brief, the story is that of a settler boy who, through some misfortune, finds himself at odds with nature without his musket. He attempts to construct a bow, but his efforts are fruitless, and he is forced into what seems a desperate situation. Through this adventure, he befriends a young Indian

brave who shows him how to properly build a bow. He is shocked to find that the Indian's bow is made from the same wood (ash) as the bow he failing at making. Finally, he learns to use the bow as efficiently as his musket and lives in harmony with nature like the Indians.

Les went on to propose that I present the class with an ash bow, similar to the one in the story. This proposition sent the wheels in my head turning. I readily agreed, and we finished our afternoon hammering stumps and planning the presentation.

The weeks passed quickly, and soon only one stood between me and the presentation. Little did I know I was in for a setback. I had roughed out an ash self bow and asked my brother for his opinion of it. The phone rang and I left the room for a moment. Suddenly, I realized I had



You can play a key role in encouraging the young to try archery—just ask Frank Malik.

MORE FROM THE FIELD

forgotten to tell him that this bow's draw was only twenty-four inches. Sure enough, when I returned, he had an awful look on his face. As I had feared, the bow was in two pieces. This sent me back to the drawing board.

The next day I culled through one hundred board feet of eight quarter ash stock and found the perfect stave hiding at the bottom of the pile. I penciled in the bow after inspecting the grain, crown, and rings, and set the drawknife in motion. Four days was plenty of time to rough out another bow. It just might be shy a few decorations.

Presentation day started out with many raised hands. Twenty-eight fifth graders were all fixed on my every word, all seeming to pick up readily on the correlation between *Sign of the Beaver* and the process of building a bow.

Questions ran amuck, from "why does an arrow have feathers?" to "what hand do I hold the bow with?" Even though they were attentive throughout the narrative, you could see that they were all anticipating the last section of this presentation, the chance to shoot. Our last topic covered was safety. When Les and I were confident the kids had absorbed all the precautions for a good round of clout, they all lined up and proceeded to the field like soldiers. Prior to my arrival that day, the children had drawn a huge seventy-two inch poster, representing the bear in the story, as a target. It looked like the gingerbread man with a snarling pig's face. It was menacing to say the least.

Once in the field behind the school, after the line of fire had been drawn, the children were ready to begin the shoot-

ing competition. Closest to the bullseye would be the victor. Of course, there would be no prizes. It was a gentlemen's/women's competition, and aimed more at maintaining the kids' attention after they finished shooting. Soon the group was strafing the bear target in all imaginable locations. Some shots even drew gasps from the crowd.

Earlier in the session a girl had expressed that archery was a boy's sport. I quickly rebutted with the example of the female Olympic archer medalists and the many women enjoying the sport. Ironically, the girls ended up outshooting the boys two out of three arrows. I think friendly competition had the girls focusing on the victory more than they would admit.

As the competition came to an end, Les and I were hopeful that we succeeded in converting at least one youth over to the enjoyment of archery as a pastime.

There were moments when this event presented some constraints. It would have been easy to decline the offer. Today I am glad I stayed with the program. I sincerely feel this presentation opened the doors for some of these children to a viable skill-building hobby that will provide them decades of enjoyment with friends, family, and the outdoors.

History can be an excellent tool to stir curiosity, as seen through the *Sign of the Beaver* story. Remember, he who presents his message as not to teach it, but as to share it, will convey his ideas tenfold. I encourage all who participate in traditional archery to take the time to propagate our sport by encouraging the young to experience archery. ■

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THE BOW I CARRY

by Bob Krout

Little Sure Shot

Like many traditional archers I own more than one bow. One wall rack holds three longbows; one that shoots good, a later one that looks good, and finally, an Abbott that looks great and shoots even better.

The other wall rack holds more bows. These are the bows of whimsy, the fun-to-shoot oddballs that I just couldn't live without. At the end of this rack are the two "good" recurves, the obligatory custom three piece take-down from one of the better known custom bowyers, and the bow I carry when things get down to utter dependability, consistent accuracy, handiness, and just plain good shooting. This is the bow that would be in my hand if I was stuck in the northwoods for a couple of years and could only take one bow and a quiver full of arrows. It is a Bear one-piece Kodiak recurve, sixty inches long and fifty-six pounds at my twenty-eight inch draw length.

I acquired this bow new in a trade about seven or eight years ago. It is a current style Kodiak, one of the last with the factory camo finish. I immediately replaced the "stick-on" rest with a good, honest piece of leather for a shelf and strike plate. The endless string went in the trash and I made a new green and yellow flemish string with



"Little Sure Shot" is the most forgiving bow Bob Krout has ever owned.


yellow serving. It went on the bow complete with a small pair of brush buttons and a set of cat whiskers. A little adjusting soon had the brace height at 7 1/2 inches from the belly side of the shelf and the nock point at just about 1/4 inch high.

How does it shoot? It is dead quiet and the least sensitive bow about what I "feed" it. Although I use wooden

arrows exclusively, I have tried aluminums in sizes 2016, 2018, 2117, and 2219. Wooden arrows have included cedar, fir, chundoo, ash, ramin, and hardware store dowel rods. I have yet to find any arrow that did not fly straight and true as long as the spine did not drop more than fifteen pounds below the bow's draw weight.


The Kodiak is the most forgiving bow I have ever owned. Sometimes through lack of practice or "evil spirits" I have been known to achieve a less than perfect release. I pluck the string, "double-clutch" the release, release prematurely—you name it, I've done it. The bow still shoots. It is the obvious answer to just about any shooting problem I have ever had.

When I do manage to get everything right I feel just about unbeatable! This was the bow I used the first time I ever broke 220 on the 3-D range and the bow that got me my first ringneck.

The only thing it lacked was a proper name. After much consideration I thought of one of my personal "heroes," a lady of much talent, beauty, grace, and dignity: Miss Phoebe Annie Moseley (Annie Oakley). So the bow became "Little Sure Shot" and she is truly living up to that high standard. 



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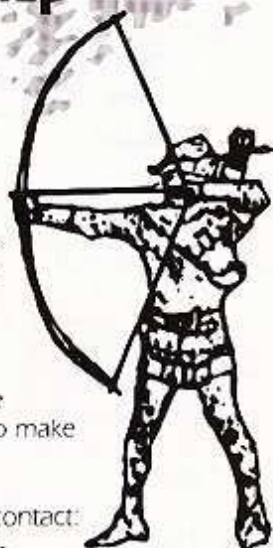
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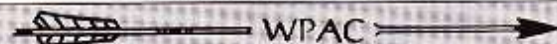


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- 1982 Howard Hill World Archery Champion
- 40 Year Veteran of Archery
- Archery Instructor and Holds Many State Titles



CLUB EVENTS

Please send Longbows & Recurves™ your updated local and state club events to include in our next issue.

Event: Bowhunter Education
Certification Courses
Sponsor: *Traditional
Bowhunters of Georgia*
Dates: January-August, 1998
Contact: Mickey Wilson
Phone: 770-536-9700
Phone: 770-534-3399
Call to schedule an event in
your area

APRIL, 1998

Event: Southern Zone Shoot
Sponsor: *Traditional
Bowhunters of Georgia*
Date: April 18, 1998
Location: Rosee' Plantation,
Macon, Georgia
Contact: Joey Buchanan
Phone: 770-270-9424

Event: Traditional Multiround
Sponsor: *Alabama Bowhunters
Association, Inc.*
Date: April 18-19, 1998
Location: Highway 75 N.,
Village Springs, Alabama
Contact: Jim Crow
Phone: 205-251-5056

Event: 1998 Sterling Harrell
Memorial 3-D Shoot
Sponsor: *Louisiana Traditional
Bowmen*
Date: April 25-26, 1998
Location: St. Francisville,
Louisiana
Contact: Wayne LaBauve
Phone: 504-626-8824

Event: Children's Hospital
Benefit
Sponsor: *Alabama Society of
Traditional Bowmen*
Date: April 25-26, 1998
Location: Tannehill State Park,
McCalla, Alabama
Contact: Terry Harris
Phone: 205-822-3563

MAY, 1998

Event: Lofton Classic
Sponsor: *Mississippi
Traditional Archery
Association*
Date: May 2-3, 1998
Location: Grenada Lake,
Mississippi

Contact: Terry Morgan
Phone: 601-226-4831

Event: ASA Qualifier
Sponsor: *Mississippi
Bowhunters Association*
Date: May 3, 1998
Location: Legion Lake at
Eupora, Mississippi
Contact: John Paul Lucas
Phone: 601-387-4522

Event: Traditional Invitational
Sponsor: *Concho Valley
Archery Association*
Date: May 2-3, 1998
Location: San Angelo, Texas
Contact: Jim Shannon
Phone: 915-653-1882

Event: Pro-Am Classic
Sponsor: *Cenla Bowbenders*
Date: May 3, 1998
Location: Alexandria, Louisiana
Contact: Grover Walker
Phone: 318-487-0797

Event: Second Southern
Sectional Traditional 3-D
Rendezvous and Shoot
Sponsor: *Santa Ynez Pistol and
Bow Club*
Date: May 9-10, 1998
Location: Chamberlain Ranch
in Los Olives, California
Contact: Paul Palmer
Phone: 805-737-6177

Event: 1998 Senior Games
Sponsor: *Concho Valley
Archery Association*
Date: May 9, 1998
Location: San Angelo, Texas
Contact: Jim Shannon
Phone: 915-653-1882

Event: Open Multiround
Sponsor: *Alabama Bowhunters
Association, Inc.*
Date: May 9-10, 1998
Location: Highway 75 N. at
Village Springs, Alabama
Contact: Jim Crow
Phone: 205-251-5056

Event: Mid-Atlantic Traditional
Classic 3-D Shoot

Sponsor: *Traditional
Bowhunters of Maryland*
Date: May 15-17, 1998
Location: Baltimore, Maryland
Contact: Rich Lopez
Phone: 410-552-3031

Event: Southeastern Traditional
Championship
Sponsor: *Robin Hood Archery*
Date: May 15-17, 1998
Location: Elberton, Georgia
Contact: John Hood
Phone: 706-746-9987

Event: Archery Clinic/ Fun Day
Sponsors: *Traditional Bowhunters
of Georgia, Nat'l Wild Turkey
Federation, and J.A.K.E.S.*
Date: May 16, 1998
Location: Charlie Elliott Wildlife
Center, Covington, Georgia
Contact: Joey Buchanan
Phone: 770-270-9424

Event: 1st Traditional 3-D Shoot
Sponsor: *Rochester Archery Club*
Date: May 16-17, 1998
Location: Rochester, Minnesota
Contact: Terry Bannitt
Phone: 507-932-3632

Event: 1st Leg of IBO
Sponsor: *White River
Bowhunters and IBO*
Date: May 15-17, 1998
Location: Bedford, Indiana
Contact: Ed Miller
Phone: 812-278-3148

Event: Buckhorn Rendezvous
Sponsor: *Stockbridge
Sportsman Club*
Date: May 15-17, 1998
Location: Stockbridge,
Massachusetts
Contact: Dave Cobb
Phone: 413-232-4466
Speakers: Frank Scott and Dan
McMahon

Event: *Iowa Traditional
Bowhunters Society
Rendezvous*
Sponsor: *Iowa Traditional
Bowhunters Society*
Date: May 23-24, 1998
Location: Ames, Iowa

Contact: Gene Winter
Phone: 319-234-0292

Event: Regional Tournament
Sponsor: *Mississippi
Bowhunters Association*
Date: May 23, 1998
Location: Eupora, Mississippi
Contact: John Paul Lucas
Phone: 601-387-4522

Event: WV State Traditional
Championship and Pig Roast
Sponsor: *Huntington Archery
Club*
Date: May 23-24, 1998
Location: Barboursville, West
Virginia
Contact: Bob Fruda
Phone: 304-743-0496

Event: World Traditional
Championship
Sponsor: *World Traditional
Archers*
Date: May 23-25, 1998
Location: Youngsville,
Pennsylvania
Contact: Dan Locke
Phone: 508-278-3416

Event: Carolina Traditional
Championships
Sponsor: *Carolina Traditional
Archers*
Date: May 29-31, 1998
Location: Hickory, North Carolina
Contact: Herb Reynolds
Phone: 704-263-4564

JUNE, 1998

Event: Northern Zone Shoot
Sponsor: *Traditional
Bowhunters of Georgia*
Location: Jeff Harris Farm,
Jefferson, Georgia
Date: June 6, 1998
Contact: Mike Kenney
Phone: 706-354-1983

Event: Fifth Annual Traditional
Bowhunter Shoot
Sponsor: *Pine Lake Archers*
Date: June 6-7, 1998
Location: Eldora, Iowa
Contact: Ruth Pearson
Phone: 515-752-2065

Event: Traditional Multi-round
Sponsor: *Alabama Bowhunters Association, Inc.*
Date: June 6-7, 1998
Location: Highway 75 N. at Village Springs, Alabama
Contact: Jim Crow
Phone: 205-251-5056

Event: First Annual Traditional Stick and String Fling
Sponsor: *Eagle's Wings Archery*
Date: June 6-7, 1998
Location: Lenoir City, Tennessee
Contact: John T. Stang
Phone: 423-986-2567

Event: Annual 3-D Shoot
Sponsor: *Alaskan Bowhunters Association and Golden North Archers*
Date: June 6-7, 1998
Location: Fairbanks, Alaska
Contact: Libby Ludvick
Phone: 907-235-5602

Event: Annual Marked Yardage 3-D Championship
Date: June 7, 1998
Sponsor: *Cenla Bowbenders*
Location: Alexandria, Louisiana

Contact: Triz McKneely
Phone: 318-445-4617

Event: 9th Annual 3-D Shoot
Sponsor: *Pennsylvania Longbow Association*
Date: June 13-14, 1998
Location: Sheshequin Buckskinners in Marsh Hill, Pennsylvania
Contact: Jessie Miller
Phone: 610-917-0216

Event: Traditional Rendezvous
Sponsor: *Virginia Traditional Bowhunters Association*
Date: June 13-14, 1998
Location: Sandy Point Archery Range
Contact: Steve Wooten
Phone: 804-674-0150

Event: 2nd Leg IBO
Sponsor: *Gem City Outdoorsmen and IBO*
Date: June 12-14, 1998
Location: McKean, Pennsylvania
Contact: Gene Bihler
Phone: 814-476-1370

Event: 3-D Traditional Shoot
Sponsor: *Nebraska Traditional Archers*

Date: June 13-14, 1998
Location: North Platte, Nebraska
Contact: Roger Atkeson
Phone: 308-534-3811

Event: NC Traditional Archery Rendezvous and Games
Sponsor: *Piedmont Traditional Archery Club*
Date: June 13-14, 1998
Location: Saxapahaw, North Carolina
Contact: Don Ward
Phone: 919-563-2682

Event: Traditional Archery Nationals
Sponsor: *Indiana Bowhunters Association and Cloverdale Conservation Club*
Date: June 12-14, 1998
Location: Cloverdale, Indiana
Contact: Jim Voyles
Phone: 765-342-3047
Contact: Dan Halcomb
Phone: 765-676-5483

Event: Washington State Archery Association 3-D Tournament
Sponsor: *Washington State Archery Association and the KBH Bowmen*

Date: June 13-14, 1998
Location: Belfair, Washington
Contact: Roy Shultz
Phone: 360-876-8544

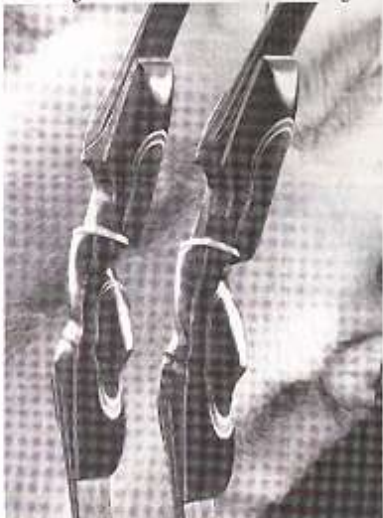
Event: Eighth Annual Traditional Bowhunter Shoot
Sponsor: *Rapids Archery Club*
Date: June 20-21, 1998
Location: Coon Rapids, Minnesota
Contact: Ray Kukowski
Phone: 612-571-7029

Event: Summer Classic
Sponsor: *Indiana Traditional Bowhunters Association*
Date: June 27-28, 1998
Location: Austin, Indiana
Contact: O.J. Cornett
Phone: 812-752-6264

Event: Traditional Shoot and Swap Meet
Sponsor: *Antler Archers and Wisconsin Traditional Archers*
Date: June 27-28, 1998
Location: Eau Claire, Wisconsin
Contact: Dan Hanson
Phone: 715-831-1238

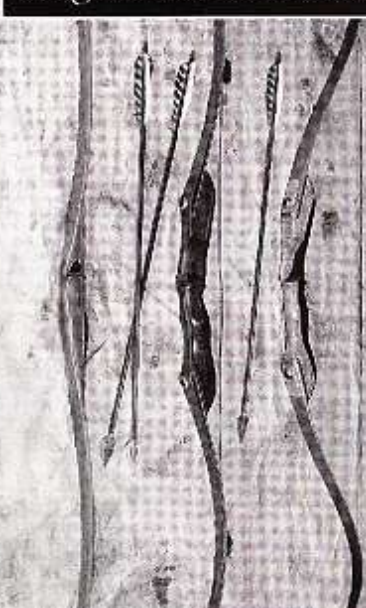
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Event: Michigan Traditional Bowhunters Jamboree
Sponsor: *Michigan Traditional Bowhunters*
Date: June 27-28, 1998
Location: Grayling, Michigan
Contact: Cindy Talbot
Phone: 517-835-1387

JULY, 1998

Event: Great Lakes Longbow Invitational
Sponsor: *Michigan Longbow Association*
Date: July 10-12, 1998
Location: Berrien Springs, Michigan
Contact: Brian Kocke
Phone: 517-887-7482

Event: 3rd Leg IBO
Sponsor: *IBO*
Date: July 10-12, 1998
Location: Hocking Technical College, Nelsonville, Ohio
Contact: Deb Fraunfelder
Phone: 614-753-3591

Event: Annual Poke and Hope Rendezvous
Sponsor: *Maine Traditional Archers*
Date: July 11-12, 1998
Location: Durham, Maine
Contact: Bob Jacobson
Phone: 207-273-2235

Event: Traditional Bowhunters of Georgia Championship
Sponsor: *Tomo Chi-Chi Traditional Archery Club*
Date: July 18, 1998
Location: Union City, Georgia
Contact: Keith Colvin
Phone: 404-582-7458

Event: Annual 3-D Tournament
Sponsor: *Tarheel Traditional Archery Club*
Date: July 18-19, 1998
Location: Troy, North Carolina

Contact: Ben Graham
Phone: 704-436-2509

Event: Pre-Season Shoot
Sponsor: *Traditional Bowhunters of British Columbia and Bad Shot Archers*
Date: July 18-19, 1998
Location: Golden, British Columbia
Contact: Don Mugford
Phone: 250-344-5336

Event: MBA Regional Tournament
Sponsor: *Mississippi Bowhunters Association*
Date: July 18, 1998
Location: Carrollton, Mississippi
Contact: John Paul Lucas
Phone: 601-387-4522

Event: Eastern Traditional Archery Rendezvous
Sponsor: *Wolverine and Grizzly Broadheads*
Date: July 23-26, 1998
Location: Ski Denton, Coudersport, Pennsylvania
Contact: Mike Knefley
Phone: 814-435-2115

Event: Eighth Annual Traditional Shoot and Swap Meet
Sponsor: *Antler Archers and Wisconsin Traditional Archers*
Date: July 25-26, 1998
Location: Wisconsin Rapids, Wisconsin
Contact: Bob Schuster
Phone: 715-423-0595

AUGUST, 1998

Event: Traditional Rendezvous
Sponsor: *Prairie States Traditional Bowhunters*
Date: August 1-2, 1998
Location: Hot Springs, South Dakota

Contact: Jim Dahlberg
Phone: 605-745-5650

Event: Annual 3-D Shoot
Sponsor: *Traditional Bowhunters of Florida*
Date: August 1-3, 1998
Location: Crooked Lake in Ocala National Forrest
Contact: John McCormick
Phone: 407-951-0535

Event: Sixth Annual Midwest Traditional Bowhunter Jamboree
Sponsor: *Pekin Archery Club*
Date: August 1-2, 1998
Location: Pekin, Illinois
Contact: Randy Steel
Phone: 309-382-1581

Event: Autumn Traditional/Primitive Rendezvous
Sponsor: *Piedmont Traditional Archery Club*
Date: August 1-2, 1998
Location: Saxapahaw, North Carolina
Contact: Don Ward
Phone: 919-563-2682

Event: State Traditional Archery Championship
Sponsor: *Alabama Society of Traditional Bowmen*
Date: August 1-2, 1998
Location: Tannehill State Park, McCalla, Alabama
Contact: Terry Harris
Phone: 205-822-3563

Event: 1998 Outdoor World Championship
Sponsor: *IBO*
Date: August 6-9, 1998
Location: Peek'N Peak Resort and Conference Center, Clymer, New York
Contact: Bob Rindfus
Phone: 814-796-3444

Event: Summer Blowout
Sponsor: *Cenla Bowbenders*
Date: August 9, 1998
Location: Alexandria, Louisiana
Contact: James Ballard
Phone: 318-442-8781

Event: Traditional 3-D Tournament
Sponsor: *Traditional Bowhunters of British Columbia*
Date: August 8-9, 1998
Location: Vancouver Island, British Columbia
Contact: Gord Eason
Phone: 250-720-4226

Event: Annual Bowhunters of Georgia Banquet
Sponsor: *Traditional Bowhunters of Georgia*
Date: August 15, 1998
Location: Athens Classic Center, Athens, Georgia
Contact: Joey Buchanan
Phone: 770-270-9250
Speaker: E. Donnell Thomas

Event: First Annual Traditional Shoot
Sponsor: *Kenosha Bowmen*
Date: August 15-16, 1998
Location: Kenosha, Wisconsin, 2 Miles West of I-94 on Hwy. 50
Contact: Steven Bata
Phone: 847-295-5000

Event: Sixth Annual Blackhawk Traditional Rendezvous
Sponsor: *Blackhawk Field Archers*
Date: August 15-16, 1998
Location: Shirland, Illinois
Contact: Harold Couch
Phone: 815-398-3985

Event: First CBA Caribou Hunt
Sponsor: *Christian Bowhunters of America*
Date: August 10-18, 1998
Location: Club Chambeaux,

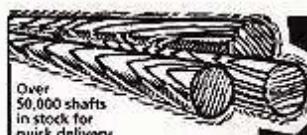
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Event: Traditional Shoot
Sponsor: *Huntington Archery Club*
Date: August 22, 1998
Location: Barboursville, WV
Contact: Bob Fruda
Phone: 304-743-0496

Event: Mississippi Bowhunters Association State Championship
Sponsor: *Mississippi Bowhunters Association*
Date: August 22-23, 1998
Location: Monticello, Mississippi
Contact: John Paul Lucas
Phone: 601-387-4522

Event: Traditional Bowhunting Booth at Buckarama
Sponsor: *Traditional Bowhunters of Georgia*
Date: August 20-23, 1998
Location: Perry, Georgia
Contact: Ed Sandefur
Phone: 912-987-9250

Event: Potter County Bowhunter Festival
Sponsor: *Wolverine and Grizzley Broadheads*
Date: August 28-30, 1998
Location: Ski Denton, Coudersport, Pennsylvania
Contact: Mike Knefley
Phone: 814-435-2115

SEPTEMBER, 1998
Event: Labor Day Weekend Traditional and Primitive Rendezvous
Sponsor: *Nebraska Traditional Archers*
Date: September 5-6, 1998
Location: Plattsmouth, Nebraska
Contact: Lonnie Iles
Phone: 402-296-9172

OCTOBER, 1998
Event: Second Annual Cohutta Wilderness Bear Hunt
Sponsor: *Traditional Bowhunters of Georgia*
Date: Oct. 9-12, 1998
Location: Cohutta Wildlife Management Area
Contact: Jeff Roberts
Phone: 706-485-9508



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WILD GAME RECIPES

by Claire W. Stanley



Recently, I met Miriam Jones in Ohio. It was a brief meeting, but I was able to find out about her cookbook, "Cooking for Your Hunter." Although it is not packed with game recipes per se, there are many recipes where ground venison, elk, or other game you might have on hand, may be substituted. Miriam's cookbook covers: meat, soups and breads, salads and side dishes, sweets and treats, outdoor cooking, and canning. This cookbook will be a great addition to any cook's library. It costs \$12.95 plus \$1.00 for postage and handling. Contact Wilderness Sound Productions at 1105 Main St., Springfield, Oregon 97477.

BARBECUED STEAK

- 2 to 3 pounds steak (elk)
- 3 tablespoons brown sugar
- 1 can tomato sauce
- 1 tablespoon dry mustard
- 2 tablespoons Worcestershire sauce
- 1 tablespoon garlic powder
- 1 onion, finely chopped
- salt and pepper

Place steak in flat plastic container with a lid. Mix ingredients together and pour over steak evenly, layering if necessary. Marinate for four to five hours. When you are ready to barbecue, be sure coals are very hot. Do not overcook meat. It should retain its moisture.



After squirrel hunter, Dave Stewart, explained to his wife that the monsters of McIntosh county were not their grandchildren, she graciously agreed to include two of her favorite squirrel recipes for your culinary consideration.

FRIED SQUIRREL

Cut squirrel into quarters or smaller pieces. Place pieces in deep pot and cover with cool water to which one quarter cup of vinegar has been added. Bring to a boil for five minutes. Throw this water away. Start over. Cover game with cool water and add one to two teaspoons of salt. Boil until tender. Remove pieces from water. Dip in flour and fry as you would chicken.

BRUNSWICK STEW

- 2 pounds squirrel meat
- 1/4 cup oil
- 1 onion, chopped
- 1 lemon, diced
- 1 cup tomatoes
- 1 cup lima beans
- 1 cup corn
- salt and pepper

Brown meat along with onions in hot oil until brown. Add one cup of water and tomatoes and cover. Simmer until tender. Then add the rest of the vegetables and cook ten to fifteen minutes until done. Add salt and pepper to taste.



Bob Brown sent me the following letter and recipe. Thanks, Bob.

Dear Claire,

I love your recipes in Longbows & Recurves. Some seem difficult to me as I am not much of a cook. I am sending you two recipes that are no-brainers for guys like me.

I spend the summer riding my horses and the fall and winter hunting with my longbow so I spend a lot of time cooking

over a campfire. These two recipes are so quick and easy that prep time is minimum.

All my friends love them. Keep the recipes coming.

DEER KABOBS

- 2 pounds sliced deer meat
- 1 package "Au Jus" gravy mix—I use Durkee brand.
- 2 cups cold water
- 1 tablespoon seasoned salt
- 1 tablespoon seasoned pepper
- 2 tablespoons lemon juice (real or bottled)
- 2 tablespoons Worcestershire sauce
- 1 teaspoon table salt
- 1 teaspoon ground pepper

Slice meat into thin strips and place on bamboo sticks (available at discount or import stores). Place meat into a food storage container with lid. Make the "Au Jus" gravy mix according to package instructions. Mix in the other ingredients and stir. Pour over the meat and seal with the lid. Place in refrigerator for twelve hours then turn container over and let stand twelve more hours to ensure all meat is covered. Take out and cook on the grill or under the broiler. It is the best—and is quick and easy. This marinade can also be used for making jerky.

DEER FILETS

Cut the loin into filets. Wrap with bacon and attach with toothpicks. Pour Italian dressing on top. Let stand about 1/2 hour then grill.

We would love to hear from you. Write to: Claire W. Stanley, LONGBOWS & RECURVES™, 1828 Proper Street, Corinth, MS 38834

Answers to Trivia Quiz

from pages 58-59

- | | |
|---------------------|--------------------|
| 1. Bill Folberth | 20. Hysteresis |
| 2. Siper | 21. Hey! |
| 3. Nels Grumley | 22. Cloven, like a |
| 4. Billet | cow |
| 5. Wilson | 23. Fraternal |
| Brothers | 24. 41" |
| 6. James Dickey | 25. A footed shaft |
| 7. Violin | 26. The ear or |
| 8. Mediterranean | siyah |
| grip | 27. Bill |
| 9. Apache grip | 28. Phil Grable |
| 10. Ed Bilderback's | 29. Connecticut |
| Valiant Maid | 30. George |
| 11. Sirocco | Leonard |
| 12. Rory Calhoun | (G.L.), Bertha, |
| and Guy | Christian, |
| Madison | Jacques |
| 13. Carlisle, | 31. Musk ox |
| Pennsylvania | 32. Huntsville, |
| 14. William | Alabama |
| Scharner | 33. Hastings, |
| 15. Aldo Leopold | Michigan |
| 16. Pine Bluff, | 34. Dr. Paul |
| Arkansas | Klopsteg |
| 17. Three (black, | 35. Belly |
| green, and | 36. Toxology |
| blue) | 37. Sapwood |
| 18. Cliff Zwick | 38. Heartwood |
| 19. Twilight factor | 39. Carriage bow |

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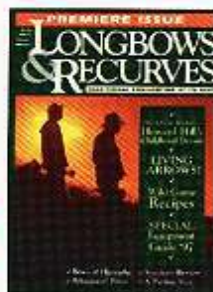
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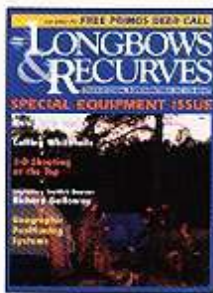
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☐ Premiere: Winter 1996



☐ Spring 1997



☐ Summer 1997



☐ Fall 1997



☐ Winter 1998



☐ Spring 1998

A PARTING SHOT



My glory will remain fresh in me,
the bow ever new in my hand.
Job 29:20