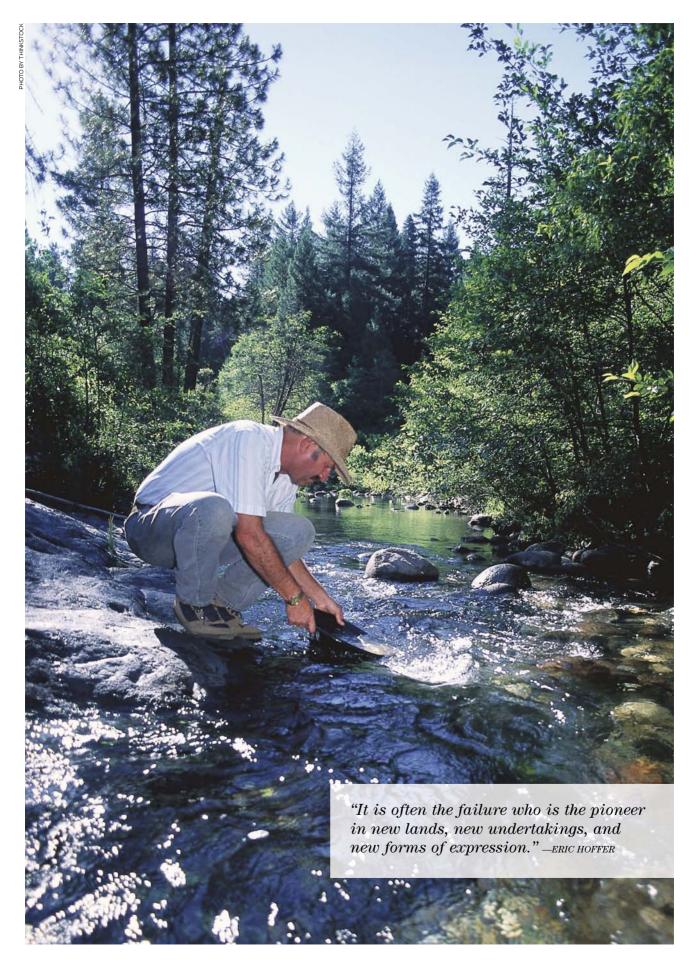






Designed to be comfortable for long, satisfying days at the range or in the field, the new Colt M2012 rifles offer more than durability, reliability and quality. They come guaranteed accurate, out of the box. The heart of this rifle is the custom match grade barrel, mated up to a smooth field-proven action, all built by Cooper Firearms of Montana. And every one is tested and comes shipped with the target that documents its accuracy. Make your Colt story more accurate than ever.





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from the editor



Embracing the Past

A FEW YEARS BACK, I backpacked into the Nevada wilderness with a friend. We hunted together for five days, and then he had to depart back home to return to work and his family. I was left alone, about eight miles deep in remote backcountry. There wasn't another soul around. Or so I thought.

After seven full days of intense spot-andstalk hunting for wide-racked mule deer, I was becoming tired and ready for some relaxation. I needed a break after ruining yet another stalk on a nice buck. I rested at the base of an aspen tree for a couple hours, trying to nap.

After that, I decided to engage in some casual archery plinking to get the hunting "juices" flowing again. Not far away was a large pasture dotted with some springs and some soft banks. I took a practice shot at one of the soft mounds along the riparian ditch.

As I retrieved my arrow, I noticed the reflection of metal near the clump of dirt I was shooting. Badly weathered and faded, it was an old aluminum arrow shaft. It was pretty crooked but more or less in good shape with a rusted broadhead at one end. The fletching and nock were completely eroded away.

Immediately upon noticing the arrow, I began imagining whether the arrow had passed through a mule deer or was it simply lost from another hunter doing the same as me—taking some time from the hunt to stump shoot. My sense, because of how it was bent in the middle, was that the arrow had gone through an animal, perhaps getting caught in the shoulder region, before it was pushed through by muscle force, something I've seen time and time again.

Being well beyond the trailhead marker as I was can be quite lonesome, but the sight of this arrow made me feel like I wasn't alone anymore. This arrow had to be nearly 20 years old, if not older, based on its dimensions and type, so maybe the hunter was still alive or maybe he wasn't. Regardless, I felt as though his presence was there with me or perhaps other hunters from the past were looking upon me as I examined the shaft.

Visions of the pursuit began flooding my mind, as well. I became intrigued with idea of how hunters from this era actually hunted. Did they approach things the same as we do

today? Was it easier to make a kill then or was it more difficult due to less wary game or less proficient gear?

Also, how did this guy get here? Did he backpack, as I did, or horseback? Did he hunt alone or with a group? What were his clothes and boots like? Did he use a manufactured bow or an old stickbow crafted by himself? Was he a true bushman? All kinds of questions flooded my mind.

Basically, I was curious as to the mindset of this hunter. This made me even think about bowhunters from 50 years ago and later. Were they a different breed compared to modernday doers?

The more I thought about it, the more I realized that in some ways they were, but in most ways they were not. I think passion, excitement, anticipation and preparation were a part of their fiber just as much as it is mine.

Sure, times are different and the gear we use is much more advanced, but the hunt and animals are more or less the same now as they were back then—that is unless we decide to rely on some sort of electronic tool to make it easier, which in many ways only shows disregard to the game we hunt and to how hunters from the past did it. Electronics such as two-way radios that guide hunters to game, remote cellular/satellite game cameras, night-vision devices, electronic game calls, thermal imaging equipment, and sights with built-in electronic range-finding capabilities are what I'm referring to.

My vow is to honor them and to keep the hunt traditional, no matter what tools we have at our disposal. We must use good judgment in this area. I never want to erase the skill and dedication that's needed to hunt game, all in a manner that defines complete fair chase. Really, this is our real connection to our fellow hunting brothers and sisters of the past ... to know and feel their spirit and presence and to keep it all alive.

JOE BELL

jbell@beckett.com



news

CABELA'S LAUNCHES INSTINCT HUNTING BRAND

CABELA'S IS PROUD to introduce its Instinct hunting brand, which represents the most innovative and precision-engineered hunting gear the company's product designers ever have produced.

Individual items that have earned the right to wear the Instinct brand are designed for a distinct group of Cabela's core customers: experienced hunters who demand innovative products and expect the highest quality and performance from all the gear they trust in the field.

Instinct products include two new hunting-apparel systems, new archery equipment, optics, waterfowl gear, backpacks, tents and more than 10 new boot models

The clothing layering systems include Instinct Backcountry and Instinct Reliant Whitetail to cover big-game hunters from coast to coast. Each piece in both systems is designed to work with the other pieces to allow hunters to perform in a wide range of weather conditions.

Instinct Backcountry, available in Cabela's new Zonz
Backcountry camouflage pattern, includes 12 garments, from merino wool base layers, to a lightweight layer, to an insulating layer, to a waterproof, packable outer shell.

Instinct Reliant Whitetail, available in Cabela's Zonz Woodlands camouflage pattern, offers nine items, including a base layer, lightweight layer, mid layer and outer layer.

New items in the archery category include the Instinct Lancer

Crossbow, Instinct Demon Five-Pin Sight, Instinct Dynomite Four-Finger Release, Instinct Provider Wrist Strap Release, Instinct ACComplice Arrows, Instinct Incision Broadheads and, later this year, a high-performance compound bow, the Instinct Xcite, a single-cam bow that sends arrows downrange at 338 feet per second.

Optics include Cabela's awardwinning Instinct Euro HD binoculars and spotting scopes, as well as Instinct Euro Riflescopes.

For waterfowl hunters,
Cabela's is offering Instinct
Accelerator Waders, which have
four-layer waterproof, breathable uppers that convert for
waist-high wear, as well as
lightweight, warm and durable
Zero Gravity Technology boots;
Instinct Warrior Waders; and
Instinct Accelerator Hip Waders
that convert to knee-high boots.

Backcountry hunters will want to take a look at the new Instinct Prestige 100L Frame Pack and the Instinct Fast Tracker Pack, as well as the Instinct Tent, available in two-person and three-person versions, and the Instinct Sleeping Pad.

Boot offerings include Instinct Backcountry Hunting Boots, Instinct Boa Upland Hunting Boots, six models of Instinct Reliant Whitetail Rubber Boots, and Instinct Accelerator Rubber Boots, with 9mm or 5mm neoprene uppers and soft fleece linings, and more.

For more information on Instinct, visit the website: www.cabelas.com/instinct

Passing on the Tradition

HUNTING IS A RICH American tradition often passed down from generation to generation. A recent survey by
HunterSurvey.com reveals that passing that heritage along to younger people is still alive and well with nearly 46 percent of surveyed sportsmen having taken at least one child hunting in the past year. The common perception that those children are almost always a son or daughter, however, may not be completely accurate.

When asked how many children they had taken hunting within the past 12 months, 21 percent reported they had taken one. Fifteen percent had taken two children in the past year, 5 percent had taken four, while just over two percent had taken five or more. Meanwhile, 54 percent reported they hadn't taken any children hunting in the past 12 months.

So what was the relation of these children to the hunter? Traditionally, it's thought boys and girls most often learn to hunt from a parent and in 59 percent of the reported cases that is absolutely true. But sportsmen aren't just teaching their kids how to track a buck, shoot a duck or call in a turkey. They're introducing the outdoors to other relatives and friends as well. After a son or daughter, the next highest response was taking an unrelated young person with 27 percent of respondents reporting they



had taken a girl or boy hunting with them that was not related to them, 20 percent took a nephew or niece and 17 percent took a grandchild. Nearly four percent took a child as part of an organized activity such as through scouting or as part of a church group event.

"Sportsmen have long sought to share their love for the outdoors with the people in their lives, particularly young people, and when it comes to hunting, introducing kids to the outdoors isn't limited to just immediate family members," says Rob Southwick, president of Southwick Associates, which designs and conducts the surveys at HunterSurvey.com, ShooterSurvey.com and AnglerSurvey.com.

To help continually improve, protect and advance hunting, shooting and other outdoor recreation, all sportsmen and sportswomen are encouraged to participate in the bi-monthly surveys at HunterSurvey.com, ShooterSurvey.com and/or Angle rSurvey.com. Every other month, participants who complete the surveys are entered into a drawing for one of five \$100 gift certificates to the sporting goods retailer of their choice.

news

Trout Unlimited Endorses New San Gabriel Mountains National Monument

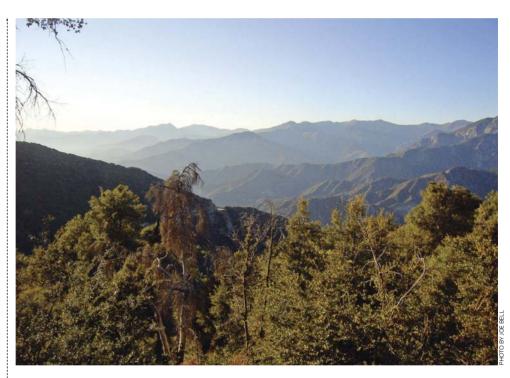
TROUT UNLIMITED (TU), the nation's oldest and largest sportsmen's organization dedicated to conserving and restoring trout and salmon and their habitat, today cheered President Obama's designation of the San Gabriel Mountains as a national monument.

Chris Wood, president and CEO of Trout Unlimited, said, "We strongly endorse this designation, which should help protect and enhance the unique fishing and hunting opportunities in the San Gabriel Mountains. We thank President Obama and Rep. Judy Chu for their leadership in protecting America's outdoor heritage."

Wood noted that the San Gabriel Mountains provide the closest trout fishing for millions of people. "The more we connect people with outdoor experiences, the better they will advocate for conservation. And we need more advocates for conservation," said Wood.

The East and West Forks of the San Gabriel River flow through the San Gabriel range, providing a rare opportunity for stream fishing in southern California and one of the region's few designated Wild Trout waters. Remnant populations of trout in their headwaters have been genetically linked to the native – and endangered — southern steelhead.

Jessica Strickland, TU's California Field Coordinator, said "The San Gabriels are a



unique and historic complex of public lands with high fishing and hunting values and in every respect deserve national monument status." Strickland attended President Obama's designation ceremony today at Bonelli Park in San Dimas on behalf of southern California sportsmen and women.

TU has worked for nearly a decade to support initiatives that would better protect the fish and wildlife resources of the San Gabriels. In particular, TU has helped to develop and advance legislation sponsored by

Rep. Chu that would establish new Wild and Scenic River designations and a larger National Recreation Area. Chu's legislation was developed over many years and is supported by a broad spectrum of stakeholders, agencies, and public officials.

Steve Moyer, TU's vice president for government affairs, noted that TU generally supports special designations that will improve protection for and sporting opportunities on public lands where such designations have been considered and endorsed by local stakeholders. "In

this case, we view national monument designation as a strong first step in a more comprehensive effort to protect and restore public lands habitat and fishing and hunting opportunities in the Angeles and San Bernardino national forests," Mover said.

A recent poll by Public
Opinion Strategies found that
73 percent of sportsmen in the
Los Angeles region support permanent protection for the San
Gabriel Mountains.

For more information about Trout Unlimited, visit TU.org. MP

SHOWCASE

Knowledge and skill will only get you so far as a modern pioneer and bushman. You also need useful tools to help you survive and conquer the backcountry. The following products offer supreme function when you need it the most.



LIGHTWEIGHT WILDERNESS TENT

Anytime you sleep away from the truck, shelter becomes a major issue. At the same time, so does weight. After all, you must carry everything on your back. This need demands a quality, lightweight tent, and KUIU has the perfect solution. It's found in their new Mountain Star tent, which is made using only the finest fabrics and components available. To do this, KUIU chose a unique Toray Airtastic 100-percent ripstop nylon fabric, which is super durable, tear-resistant and the lightest in its class. Next was the selection of Easton carbon poles, which have a much higher strength-to-weight ratio over the finest aluminum poles. Other top features include a free-standing design and a rain fly that stays attached to the body for faster, safer setups in the wind. It has a side-entry door and a large vestibule for storage. Available in two version, the 1P (1 person) and 2P (2 person). Weight is 2 lbs. 10 ounces, and 3 lbs. 5 ounces, respectively. \$399.99, \$499.99 for 2P.

> Visit KUIU.com

SERIOUS CUTLERY

The Carnivore by Camillus Knives is a handy, useful knife that was designed to handle big and small chores. This 18-inch knife that utilizes a 12-inch blade featuring a saw, slicer, digger, chisel and a wire cutter, making it perfect for virtually any backwoods chore. This large knife is strong, thanks to Titanium Bonded technology, through which the stainless-steel blade is treated with a formulation of titanium and chromium nitride, guarding against corrosion and making the blade threetimes harder than untreated stainless steel.

Also new from Camillus is the Elite Series of survival knives. used and made popular by Les Stroud, who is the star of the show "Survivorman," which airs on the Outdoor Life Network, Canada, the Discovery Channel and the Science Channel.

There are three knives total in the series, which are engineered with a full-tang 440c stainless steel blades. The Fuerza model is featured here. It has a large 4.5inch blade and an overall length of 8.5 inches.

> Visit CamillusKnives.com





SE SHOWCASE



REVOLUTIONARY BASE LAYERS

Wool makes an exceptional garment choice for the backcountry. However, Merino wool is the best of the best, because it's super soft, warm and incredibly moisture-wicking. For all these reasons, it makes for one incredible base layer garment.

Cabela's new Icebreaker Merino Thermal Zone 1/4-zip top and pants use some of the highest quality merino wool fabric available, but they just don't use one fabric thickness for the entire garment but three. The weights are strategically placed in bodymapped areas to provide the ultimate in thermal regulation. The heaviest weight is used in core and maximum-exposed areas to provide optimal heat retention for the most critical zones. The midweight fabric is employed in less critical areas that still receive substantial exposure. The lightest weight is located in high-heat output areas that are prone to excessive perspiration. The garments are completely odor resistant and retail for \$149 each. top or bottom.

GUIDE TO THE LONGROW Tops, Advice, and History for Target Shooting and Hunting BRIAN SORRELLS

EXPERT STICKBOW GUIDE

"Guide to the Longbow" by Brian Sorrells is perfect for both beginner shooters and archers with previous experience. This 160-page guide, which includes 60 photos, offers advice on all aspects of selecting and shooting a longbow, including buying custom bows and choosing arrows as well as tips for developing proper shooting form, improving accuracy, and fine-tuning equipment. Sorrells covers target and stump shooting, 3D archery, and hunting, and explores both the history of the longbow and its modern appeal.

Brian Sorrells spent four years in the U.S. Army before beginning a career in law enforcement that has spanned 25 years. His love for hunting and the outdoors began at a young age and has shot and hunted with the longbow for more than two decades. Sorrells is a masthead contributor for Traditional Bowhunter magazine and also writes regularly for many other archery and hunting magazines, including Bow & Arrow Hunting. He is the author of Beginner's Guide to Traditional Archery and Traditional Bowhunting for Whitetails. He lives in Bedford, Indiana.

> Visit Stackpolebooks.com

READY FOR THE FIELD

Some hunters prefer a no-nonsense knife, while others want their blade to have much more class. In that case, Browning's new Non-Typical Stag knife offers sporty elegance while offering all the function a diehard hunter could want. This knife has a genuine stag handle and a dependable 2½-inch 9Cr18MoV stainless-steel blade that holds a quality edge. It comes with a top-grain leather sheath. **\$122**

This same knife is also available in a skinner version as well.







SOLO LIFT & SKIN

Viking Solution's new LE Vator device takes the hassles out of getting a downed deer in the back of the truck. With the help of this tool, a single hunter can easily lift the animal from ground level, and then ratchet the device to the height of a pickup bed, easily sliding the deer into the compartment so you can head to the butcher. It's as simple as unfolding the unit, inserting two support cables into slots, and you're ready for action. Since the device is not attached to a vehicle, it can used anywhere. It has a 300-pound weight capacity and its lifting arms will handle even the largest deer or other large game animal. \$119

Another great device is the Buck Up, which is what the doctor ordered when it comes time to skin your trophy, whether in the field or back at home. It's especially useful in areas where hunters can't locate a sizable tree and branch to hang their deer from, to allow for easy skinning and quartering.

The Buck Up has a unique winch, cable, and pulley attachment that allows the hunter to set up the unit without having to rethread the cable and pulleys each time. Once the winch is bolted to the tubular leg section, the entire system can be assembled without any tools. It also has a 300-pound weight capacity. \$139

> Visit Vikingsl.com



ASSEMBLE AND COOK

Cooking over an open fire can be difficult with a flimsy grill. But with the SlatGrate that's just not the case. This fit into a backpack-pocket grill can be assembled in seconds and provides a safe, reliable, super-solid platform for cookware or heavy cuts of meat. The grate uses six-inch legs, 12-inch slats, and 18-inch rails—along with lightweight chains for easy handling over a campfire. Components are made of the same 304 stainless steel used in industrial ovens, so it can support a heavy cast-iron stewpot. It's also easy to clean up. It's available in three models, including the Mini (12x12-inch cooking surface), Griddle (12x18 inches), and Deluxe (12x18), which includes 16 slats that can be used to form a grill surface for cooking juicy steaks or burgers over direct heat. Retail \$29.95, Mini, \$39.95, Griddle, and \$49.95, Deluxe.



UNFOLD AND SHOOT

Primal Gear's CFSB Compact Folding bow is just the tool you need in wilderness-survival situations. It uses a black powder-coated aluminum riser and powerful, durable fiberglass bow limbs, designed to cast arrows from 160 to 190 feet per second. The bow is based on a traditional longbow design, and it can be converted for right or left-hand use. The bow is available in three draw weights. It measures 23 inches long x 1.5×1.5 inches when closed, and 56 inches in length when strung. It weighs a scant 2.25 pounds, making it lightweight and ready to go wherever you do. **\$149.99**

> Visit www.GoPrimalNow.com

SHOWCASE





Leopold's 5.8.44 McKilley billoculars leature high-quality, extralow dispersion objective lenses with Rare Earth element-doped ocular lenses to provide superb color rendition, exceptional low-light visibility and superb color rendition. This optic comes in either 8 or 10-power magnification, using somewhat large 42mm objective lenses — which serve to increase viewing brightness. Other features include multi-staged, variable height eyecups, and a fast-focus central focus dial. The McKinley uses a strong, lightweight magnesium alloy chassis for added durability and rugged utility in the field. They are covered under the Leupold Lifetime Warranty. **\$329**

> Visit Leupold.com

TOP PERFORMANCE WITHOUT THE COST

One of the most popular rifle scopes of all time is the Bushnell Banner and after decades of proven performance and acceptance, this famed, valueminded riflescope now has better features and a sleek cosmetic look. The new models feature mutli-coated optics for a bright, clear sight picture, and a durable one-piece aluminum tube. Dry nitrogen filled, every scope in the line is 100 percent waterproof, fog proof and shock proof. The new Banner scopes also use a new quarter MOA fingertip adjustable knobs. Additionally, a new rubber-coated fast focus eyepiece allows hunters and shooters to conveniently fine-tune the reticle focus. Banner riflescopes come in 12 configurations, with a total of 19 models available, including scopes for centerfire rifles, rimfires and slug guns. Retail prices range from \$108.95 to \$279.95.

> Visit Bushnell.com or call 1-800-423-3537



FEED 'EM RIGHT

If you like to feed the local wildlife, then you know a thing or two about feeders. Unfortunately, not all work like they are supposed to. However, Moultrie feeders are known for their affordability and reliability. A perfect example of this is the new 15-Gallon Directional Feeder, which offers a straight-feed pattern of 30 degrees for narrow feeding paths or trails. Its 100-pound capacity greatly decreases refill frequency, allowing big bucks to come in time after time. This feeder operates off a convenient 6volt battery and can attach directly to any tree with the included bracket and ratchet strap. The directional shroud has been engineered for maximum casting distance of feed. This distance combined with timer capability for feeding six times a day will result in healthier, bigger robust bucks. Retail \$99.99.

> Visit MoultrieFeeders.com



HEAVY-DUTY PLANTER

Kasco Manufacturing's new 10-foot KED-120 Eco Drill uses a unique seed-metering system and is excellent for planting pastures, food plots, waterways and for mine reclamation. It features a 15-bushel capacity hopper and handles a wide variety of seed types including corn, soybeans, oats, wheat and more. The device is also able to plant seeds in 15 rows with 8-inch row spacing.

It uses 16-inch straight coulters to slice the ground, 13-inch concave openers to form a seedbed trench and cast press wheels to firm the seedbed, ensuring germination. A three-speed transmission and precise adjustment of the seed metering slots allow for a wide range of seed rates. It will fit Category II or III tractors. Other widths of six or eight feet are also available. **\$17,500**

> Visit Kascomfg.com or call 1-800-458-9129

OFF-ROAD VEHICLE PROTECTION

CarCapsule is an inflatable bubble that completely seals and protects utility vehicles and all-terrain vehicles from dings, dust, dirt, corrosion, mildew, musty odors, and pests. Inflation of the CarCapsule is maintained by a high-pressure fan that provides continuous airflow to keep the vehicle dry and prevent condensation. Air inside the bubble is completely exchanged with filtered outside air 3 to 6 times every hour—keeping the temperature inside consistent with the temperature outside and eliminating moisture that could condense on the vehicle. The bubble creates a cushion that protects the vehicle from casual bangs or scratches or from falling objects. The bubble is easy to use and sets up in less than 10 minutes. Indoor versions are made with durable 100mil clear PVC. Outdoor versions use 16-mil PVC for weather-resistance and blockage of vehicle damaging UV rays. Both versions feature a floor made from 18-mil PVC that is mildew, abrasion and flame resistant, as well as impervious to oil, gas and antifreeze.

> Visit CarCapsule.com or call (219) 945-9493.



Top-Water Wooden Mouse

Here's how to make your very own traditional fishing lure—one you can no longer buy in the store today. > By Darryl Quidort

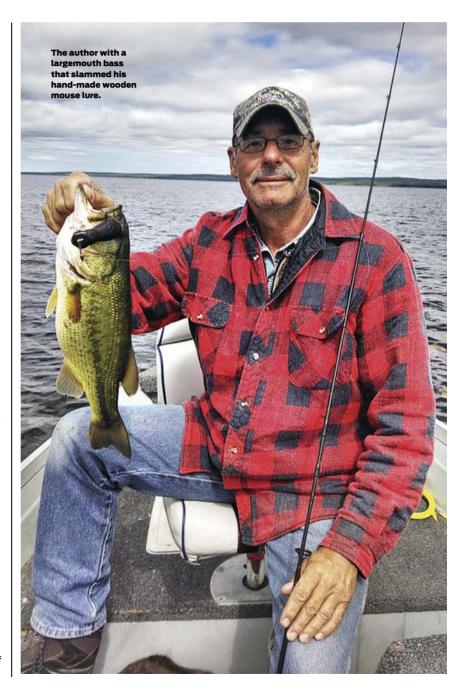
When I was a kid my dad and I often fished a little lake near home we called the Bass Pond. We would row our boat slowly along the shoreline of the secluded lake and cast our lures as close as possible to every sunken log, fallen tree, and weed bed trying for largemouth bass. We'd fool around, trying different lures, until darkness finally started to settle over the pond. Then, when the Whip-Poor-Wills started singing, it was time to switch to our favorite lure, a wooden mouse.

We'd cast our wooden mouse lures toward shore and let them sit on the surface until all the ripples had vanished. Sometimes a largemouth would smash the floating lure off the surface in a spectacular, water spraying jump. Other times we would slowly "swim" the mouse back to the boat, leaving a slight wake for a bass to follow to the moving lure. It seemed as if those bass would hit our wooden mouse lures just as hard as they could.

Sitting there, in the darkness of a warm summer night, we couldn't even see our black-colored lures floating out there. At the tremendous splash of a big bass hitting a surface lure, dad and I would both set the hook hard, one of us into a nice largemouth bass, the other into thin air. That was always good for a laugh... at least for one of us.

If the slow approach wasn't working, a splashy cast and a fast retrieve, with the mouse wobbling back just under the surface, would sometimes result in a jarring strike. The lure would suddenly stop, as if hung up on a log, but the "log" would then break the surface in a head-shaking aerial show before splashing back into the water.

Although a lot of years have passed since dad and I fished our wooden mouse lures, I still have the one dad gave me as a kid. It's a Shakespeare Genuine Swimming Mouse. The Shakespeare Company started production on them in the 1920s and for the next 40 years several companies, including Heddon, South Bend, and the Creek Chub Company, all sold their own version of wooden mouse fishing lures. They came in



"Wooden mouse lures were phased out and production in plastic began. For me, the plastic ones just don't seem to work as well, or last as long, as the originals."





(left) Close up of the wooden mouse in action. (right) The "makings" of a wooden mouse bass lure from the wooden block to the finished lure.

various colors and sizes from 1½-inch long "flyrod" size up to jumbos nearly 5 inches long. However, during the '60s and '70s things changed. Wooden mouse lures were phased out and production in plastic began. For me, the plastic ones just don't seem to work as well, or last as long, as the originals. Sadly, you can't buy a wooden mouse fishing lure anymore. The originals have now become quite valuable as collectables.

However, making your own wooden mouse fishing lure isn't difficult. In fact, it's a perfect project for a cold winter day when the snow is blowing outside. All you need to make your own lure is a block of wood, three small screw eyes, two treble hooks, three inches of tail material, and paint.

I prefer a lure about 2¾-inch long. To make one, start with a block of wood 3 inches long by 1 inch by 1 inch. I like to use basswood because it carves easily, floats well, and is available locally. Draw the outline of the mouse on the 3 inch side of the wooden block. Draw a "V" for the open mouth of the lure. This open mouth is es-

sential to make the lure wobble and swim in a realistic manner.

Next, use a bandsaw or coping saw to cut out the squared mouse shape from the wooden block.

Then, simply carve off the corners and round out the mouse with a pocket knife. After sanding it smooth, it is ready for painting.

My favorite color for a wooden mouse lure is black. Many of the originals were black or brown, although color on originals varied from red to white and even tiger stripped. Use a high quality paint. A wooden mouse will take a beating from hungry fish. I've used Rust-Oleum brand paint with good results.

After the paint is dry, attach the treble hooks, fore and aft, with small screw eyes. Take care to attach the hooks on the centerline of the lure for proper balance. I suggest placing a drop of epoxy glue in the hole before finally screwing them in. Add another screw eye up front for attaching the fishing line. This needs to be centered on

the mouse's head above the open mouth.

Finish off the mouse by carefully painting the eyes and adding a 2½-inch tail. A piece of old, brown fly fishing line works great for the tail. Drill a small hole and glue the tail in. Some of the fancy originals came complete with glass eyes and whiskers. I don't think bass are that particular.

Largemouth and Smallmouth Bass aren't the only fish that will try to eat a mouse. Any predator fish such as Northern Pike or dogfish will absolutely attack a wooden mouse lure.

I don't use my original, antique, wooden mouse anymore. It's a personal treasure that I won't risk losing by tying it on the end of a fishing line. I do still enjoy catching fish on a wooden mouse though, by using my own hand-made lures. When a bass comes out of the water in a head-shaking leap with my lure in his mouth, I realize that some things haven't changed over the years. Bass will still hit a wooden mouse just as hard as they can, which is why you should have a tackle box full of them.



Bushcraft Shelter Systems

Here are seven ways to accomplish safe, secure backwoods protection. > By Tony Nester

There is a pleasure to be had in carrying a minimum of hightech gear in the wilds and relying on time-tested traditional methods for staying warm and dry. I rarely use a nylon tent for camping unless the bugs are atrocious or I'm visiting a national park, Tarps, canvas tents. and cowboy bedrolls are a much better fit for me and allow for greater interaction with my surroundings. Below are a few items for the modern pioneer to consider using when living under open skies.

The Simple Tarp

There's nothing like waking up to the eastern sky aglow under the comfort of a spacious tarp. I like having a square tarp rather than a rectangular shape as this allows me to set up a more symmetrical diamond shelter configuration. If I am in a static basecamp within a short walking distance of the truck, then a 14x14-foot fire-retardant, 12-ounce canvas tarp by Panther Primitives is used. If I am going to be on the move, then I bring a 10x10-foot nylon Campmor tarp.

During the spring in northern Arizona, we can have sustained winds of 40 to 50 mph winds for a week straight. The advantage with canvas is that it holds up better under such brutal conditions. When I'm out in this weather, I situate my tarp leeward of a large juniper to help buffer the shelter. Each end of the tarp is secured with manila rope using bowlines on one end and tautline hitches on the anchor point. Here in the rocky Southwest, it's difficult to use stakes to secure anything so we usually employ dead-man an-





chors in the sand or just tie off corners to large rocks on the surface. I once lived in a tipi in the desert and had to use 36inch rebar to stake it down!

Unless the wind or rain is significant, the diamond shelter configuration is my preferred. This enables me to have a small fire near the entrance (7 feet high), ample height to sit up inside, room for gear and space for my dogs to sleep beside me.

I usually have a 4-foot high center post on the inside with a

few pegs for hanging clothes. Search online for some of the masterful tarp-rigging methods of the Bedouin to learn some ingenious ways of arranging a large tarp-home for an entire family.

If I'm in the forest, then I have a pine or leaf-bed at the back of the diamond shelter. This entails making a nest about two feet thick and as long and wide as my body. The bed is framed in by small diameter logs to prevent the debris from shifting out from under

me while I sleep. If I am in the desert, then the bed is a pile of cottonwood bark in whatever thickness I can get.

Otherwise, I bring a Paco pad which is the type used by river guides. The cost is more but they will outlast everything else on the market. Paco pads are bulky and I only use them in a basecamp setting.

Note: to learn more about tarps and their uses, be sure to see the article titled, "The Versatile Tarp" on page 100.

Lean-To

I will take a fire and lean-to combination any day over a debris-style shelter. You are going to want fire anyway for cooking, warmth, boiling water and working on carving skills in the evening not to mention camaraderie with friends. My preferred set up is a lean-to and trench fire with a knee-high rock reflector.

The lean-to I use is a modified version that differs from the parallel ridgepole design. It involves only one end tied to a support tree about shoulder height. The other end rests on the ground. The ridgepole is stout and around four feet longer than my height. I use two jam-knots to lash the elevated end in place and then place branches and debris on the back side to form a two foot thick wall. The interior bedding consists of about 18inches of debris with a retaining log to hold it all in place.

On a side note, when I venture through the mountains around my home town of Flagstaff, I can still find old Basque sheepherder encampments from the 1920s. These

"I will take a fire and lean-to combination any day over a debris-style shelter."





are U-shaped enclosures made of rocks piled just above kneeheight. The configuration is roughly eight feet wide and 12 feet long. Some of the old sheepherders who still remain in these parts say they used them for a windbreak and fire reflector with up to four men sleeping around a central fire. As our rainy season is shortlived, these rock shelters probably saw three-season use with the main focus on keeping the wind and cold at bay.

Canvas Wall Tent and Woodstove

For longer outings in cooler weather, I have an 8x10-foot canvas wall tent. I've lived in tipis and canvas pyramid tents before but prefer the spaciousness of a wall tent. This is luxury camping and there's no limit to how you can outfit the interior.

As noted earlier, the sandy nature of our substrate in northern Arizona makes using stakes for anchoring a challenge so I use deadman anchors instead for securing my wall tent. At our basecamp, I have permanent 7-foot Uchannel posts in the ground that are re-used each season.

The biggest problem with utilizing canvas tents and tarps long-term where I live is damage from UV rays. Our basecamp is at 6,500 feet and we've had canvas tipis crack from sun damage after only six months of use. It's not a problem if you are going to be using your canvas a few times a year but if you live at elevation keep the denigrating effects of the sun in mind.

Regarding woodstoves, the Riley breakdown stove or the Four-Dog titanium stove are my tried and true "on the trail" stoves as they are lightweight and have superb craftsmanship. These stoves are for heating small spaces like a wall tent. Due to the small stove size I've chosen, they require frequent restocking but I only use them in the morning and evening.

Sleeping Systems

Depending on the weather, I will either have a cowboy bedroll, a sleeping bag & bivy sack or a wool blanket/poncho combo. Which one is used is dependent on whether trekking is involved or I am staying in a static basecamp.

Cowboy Bedroll

Many of my ranching friends still use these when on round up and there's something cool about this time-tested setup. Mine is a large canvas bedroll from the Buckstitch Canvas Company with a sleeve for a pad insert. On the inside, I have two to four Pendleton wool blankets. The bedroll is huge, even when rolled up, so don't plan on walking too far with this arrangement.

Sleeping Bag & Bivy

I've used many sleeping bags over the years but like the Wiggy's brand when space is not an issue. These bags retain their loft, have no baffles for cold spots and have outstanding workmanship (and are made in the US). Otherwise, a Kelty Cosmic down sleeping bag will suffice. Unless the emphasis is on going more primi-

tively, I will bring a sleeping bag or cowboy bedroll. The time it takes to build a natural shelter is time I'd rather spend on hunting and foraging.

For the bivy, this is a military surplus model found online for around \$55. My pillow is made from spare clothes tossed in a stuff sack or a mound of leaves.

Wool Blanket & Poncho

If we are heading out on a trek for a week or more in moderate weather, then I usually take a single Pendleton wool blanket. This can be used for a blanketpack, sleeping system, shade shelter and collecting debris for bedding. I have even strung up a wool blanket, using a series of rigger's hitches, as an improvised hammock. When coupled with an Army surplus poncho, you can fashion a quickie burrito for staying warm and dry.

Hammock

When I venture to the jungle or spend time in a forested setting, I pull out my ENO Hammock. I prefer a double size model which gives me a little more wiggle room. Before a trip, I spray my hammock with permethrin, which is a topical insecticide that turns your hammock surface into a WMD weapon against mosquitos. MP

About the Author: Tony Nester is the author of numerous books and DVDs on survival. His school Ancient Pathways is the primary provider of survival training for the Military Special Operations community. For more information, visit anathways.com.

[Self-Reliance]



"By failing to prepare you are preparing to fail." —BEN FRANKLIN

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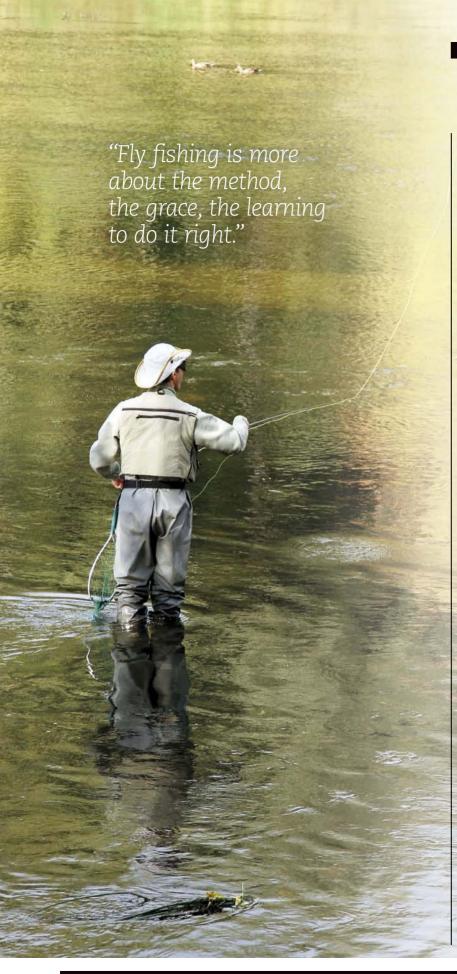
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Fly fishing can be many things, but more important is what fly fishing is not. It is not like a bass fishing tournament; an effort to see how many fish can be swung over the side of a boat in a short amount of time. Instead, fly fishing is more about the method, the grace, the learning to do it right. Fly fishermen derive their satisfaction not from accumulating numbers, although the idea is to still catch fish. The inner satisfaction from fly fishing comes from reading the water, knowing where to place the bait, making a perfect cast and then seeing it inhaled. It is the culmination of acquiring the gear, learning to use it, appreciating the method and seeing it come to fruition.

Getting Started

So once the decision is made to explore the world of fly fishing, next comes the need for equipment. The first thing to remember is it is not necessary to purchase every piece of expensive gear that can be found just to get started. One could literally spend several thousand dollars buying the biggest names and most expensive on the market and outfitting with every conceivable piece of gear one might need. That is definitely overkill and completely unnecessary for a beginner.

That said, one should buy the best qualityof gear within a reasonable budget. Start out with the basics and, then, if fly fishing fever really catches hold, more and better equipment can be added later. The bare essentials obviously include a rod and reel, plus line, tippets and some flies or other baits. Let's take a look at each of these and then some of the other accourrements to add along the way.

Choosing a Good Stick

Most fly rods are made of graphite, fiber-glass or bamboo. They come in a variety of lengths, styles and weights. These factors all combine to determine how and where the rod can be used, what size line and flies to be paired with, how the rod casts and the presentation it provides for the fly. There is no one perfect rod for every taste and every fishing situation. Likewise, discussing different brands and styles with seasoned fly fishermen will result in a wide range of opinions.

The fly rod is what delivers or casts the line and fly to the fish. The rod and line need to be a matched set in order to perform properly. Larger flies or streamers require heavier rods and lines to cast. Casting into the wind or in tight quarters with overhanging branches are other considerations.

Most anglers start out fly fishing by targeting trout and bluegill, or bream. These species are plentiful, widespread and allow anglers to



learn the art and craft of fly fishing before moving on to other adventures. Walt Kloeppel is avid fly fisherman and loves pursuing everything from panfish to saltwater species and is especially fond of trying to outwit huge carp near his Tennessee home. He said, "Fly fishing is a fast growing segment of angling in general, and fly fishing for bream is a great way for the novice to practice technique and presentation. You can get away with a little more error on a bluegill than a wary rainbow trout."

The "best" rod to start out with is debatable, but most anglers should probably start with a 9-foot 5-weight rod. This is a good all-around setup for a variety of fishing scenarios and perfect for trout and bream. As experience increases, anglers develop personal preferences for style of fishing, species pursued and favorite brands of equipment.

Some folks recommend starting out with a tenkara setup. Tenkara is an ancient form of fly fishing that originated hundreds of years ago in Japan. It is simply a setup consisting of a telescoping rod with a fixed length of line and fly attached, and no reel. The angler simply casts the fly with the set length of line and then brings a hooked fish to hand with-

out a reel. This method allows beginners to learn the art of the cast without having to manage all the extra line.

The Basic Reel

There are variations in reels too, but reel choice is not nearly as critical as the fly rod and line. Most reels used today have braking and drag systems built into them as opposed to older styles that had to be "palmed" to control the line while fighting a fish.

There are automatic reels that retrieve line by flipping a lever, but this design is not very popular. Most reels today have a crank and line is retrieve manually. The crank can be on the left or the right depending upon a person's preference of holding the rod with the dominant hand and cranking with the other or casting with the dominant arm and then switching hands to crank.

The Right Line

Arguably, the most important aspect of fly fishing is the line. It is also the most complex to understand. Fly line comes in floating and sinking varieties, and even at that, the rate of sinking is even variable. Lines come in a variety

(opposite) The most important thing in fly fishing is learning how to cast properly. With a bit of instruction, it's not as hard as it looks.

(above) A secluded stream, such as this one, offers an opportunity to the fly fisherman for both tranquility and challenge.





(above)

Trout are one of the most commonly targeted species by fly fishing, but certainly not the only choice. Everything from bluegills to saltwater species are in play for today's fly fisherman.

of color, although many people prefer a twotone line so they can easily see where the running part of the line begins.

Taper is a very important part of the line and it is designated on the line package such as front taper, rear taper, belly, tip and more. Lines are also classified as weight forward (WF), shooting taper (ST), double taper (DT) and level (L). There are also tapers designed for special applications.

Fly line is listed by weight and must be matched to the rod. For instance, a 5-weight rod must be paired with 5-weight line. The rod weight and proper line to use with it are usually indicated on the rod near the grip or on a butt cap.

Lines are often specially designed for a certain type of fishing and are indicated as such on the packaging. For instance, a line may be designated as "Bass" or "Trout." Line is also coded with abbreviations that describe the line. An example would be "WF-4-F," which means weight forward, 4-weight, floating.

The leader is yet another very important and somewhat complex part of the setup. Leaders have three sections including the butt, middle or body, and tippet. Leaders con-

nect the fly line to the fly and are designed to turn over and present the fly in a realistic manner when it hits the water. Leaders and tippets can be purchased ready to go or they can be hand-tied by the angler.

All the Rest

Flies are obviously the first thing that comes to mind when fly fishing baits are discussed. They come in an endless variety of patterns, sizes and styles. They come in both floating and sinking varieties and can be purchased from big-name manufacturers or from smaller custom or handmade suppliers. Anglers can even tie their own flies and doing so adds another very enjoyable aspect to fly fishing for many folks.

But flies are not the only game in town. Streamers are another popular bait and are basically oversized flies. But whereas flies generally are designed to imitate insects, streamers are more often patterned and fished to resemble minnows or perhaps crayfish or other natural foods. Streamers are fished actively and allow the angler to cover more water quicker. Some anglers also like to use poppers for panfish with fly fishing gear.



As far as gear goes, the fly rod makes up the most critical equipment item. A good fly rod will have a smooth loading feel to it, all the way through the cast. Some rods have slow, medium and fast-action tips. The one you want depends on the water you fish.

(right) Dry flies are designed to float on top of water whereas "streamers" go under the water and mimic a small minnow or crayfish

Waders are often an assumed must-have item for fly fishing although not all fly fishing requires wading. However, if wading is on the agenda, then waders are definitely on the tobuy list. They may be hip waders or chest waders, but don't skimp on price and make sure to try them on before purchasing. Ill-fitting waders are not only uncomfortable, but they are more prone to wear and possibly even to accidents.

Other items to add along the way include specialty fly fishing boots, sunglasses, hat, vest, net and wading stick. Of course, some type of storage device for flies is also handy. Don't forget implements such as hand towels, hook sharpeners, line clippers, and other tools.

Learning to Cast

Outside of learning about the gear, learning to cast properly is one of the most daunting aspects to fly fishing. There are different types of casts used for different species and different situations. The roll cast, haul cast and two-stroke cast are but a few variations.

It is very understandable to be concerned about casting, but it definitely should not be a reason to avoid fly fishing. Kloeppel offered,

"If you are someone who enjoys conventional fishing but are a little apprehensive to try fly fishing, fear not. It's not rocket science and there are plenty of instructional videos on the Internet to show you casting techniques. With just a little practice and patience, you can pick it up in no time."

The Internet is definitely a good source for casting instruction, but other help is available too. One method is to seek the advice of an experienced fly fisherman who can both teach and observe, commenting on your technique. Many fly shops have staff or customers more than willing to help get a newbie started. Yet another learning opportunity is to attend a fly fishing class or even an on-the-water school.

The most important aspect to learning to cast is to learn how to do it right the first time. It is much easier and decidedly better to learn the proper techniques to start rather than develop bad habits that might be difficult to break later.

Take the Leap

Yes learning about fly fishing, the gear used and fishing techniques involves a steep learning curve, but as the old saying goes, "Rome wasn't built in a day." Learning, gaining experience and getting better is part of the enjoyment of fly fishing. Start simple. Begin with basic, decent quality, matched gear and master a basic cast. There is a whole world of opportunity waiting from that point forward. MP

"The most important aspect to learning to cast is to learn how to do it right the first time."

·HOW-TO·

Constructing a Root Cellar

HERE'S HOW TO CREATE YOUR OWN FOOD-STORAGE SYSTEM THAT WILL FUNCTION YEAR-ROUND, ALL WITHOUT ELECTRICITY. By Michael Pendley



s far back as 40,000 years ago, native Australians figured out that their harvested crop of yams lasted longer if stored underground. From the first simple holes dug into a dirt bank, root cellar design began to evolve into specific structures constructed for the purpose of long-term food storage. Through trial and error, certain guidelines emerged to maximize the storage capability of cellars while minimizing the spoilage of the items inside.

With today's home gardener seeking to grow and preserve as much of their harvest as possible, these same old-fashioned principles can be implemented with modern-day building materials to construct a food-storage system that will function all year long without utilizing any type of power source.

Depth and Location

Regardless of construction materials and design, root cellars depend on the insulating factors of earth to keep them cool in the summer and above freezing in the winter. While as little as two feet of soil over the roof of the structure will provide adequate insulation in most climates, depths of around 10 feet are required to maintain true temperature equilibrium throughout the year. The easiest way to accomplish this is to dig the cellar into a hillside and then cover any exposed roof area with mounded soil.

Cellars can also be built or placed into a hole in flat ground, as long as there is access from one end. Good drainage, particularly on completely buried cellars, is an absolute necessity. Before building your cellar, install drain tile around the excavated area and make sure there is no run-off from higher grade that might introduce extra water into the cellar area.

In addition to the constant cool temperatures, the naturally high humidity level found in most root cellars is another integral part of why they work so well. With a humidity level between 85 and 95 percent, the air in cellars naturally prevents fruits and vegetables from losing moisture through evaporation. Gravel or dirt floors work best to maintain this high level. Gravel offers the option of adding a sprinkling of water if the humidity level drops to low.

The Right Size

Root cellar size depends on the amount of material to be stored and the available space at the chosen location. As in most things, decide how much space you need then add a bit to it. It can be very difficult to go in and add additional space if you find that your initial footprint is too small. While adequate storage space is the goal, remember that the larger the space, the harder it will be to maintain adequate cool temperature and moisture levels. For most single-family home gardeners, a cellar in the 8x8-foot up to the 8x12-foot range provides adequate storage space without being too large.

In addition to any possible drainage issues, placement of the root cellar should take summer sunshine into account. Any exposed areas like doors or unburied front walls should face to the north or be positioned in a shaded area. Large trees, existing structures, or even new structures built specifically for the task can provide shade and prevent the sun's radiant energy from raising the temperature inside the root cellar.

Frame Construction

Choices in building materials abound when it comes to cellar construction. One of the simplest is to simply frame the structure out of treated lumber, much the same way you would with an above ground structure. Cover the framing with water-resistant plywood. Once the framing and plywood is complete, the entire structure must be wrapped in a waterproof membrane. Heavy 6-mil black plastic or even 45-mil EPDM pond liner will work. Dab any nails or staples with tar before covering with soil to make the cover waterproof before backfilling and covering. Fully insulate the inside of the framed cellar with either fiberglass batt insulation, rigid-foam sheeting or spray in foam insulation. Inner walls can be painted plywood or moisture-resistant manufactured wood siding.

Next up on the material scale from framed lumber is concrete block. In order to lay block walls for your cellar walls, a concrete footer "Root cellars depend on the insulating factors of earth to keep them cool in the summer and above freezing in the winter."

"With a humidity level between 85 and 95 percent, the air in cellars naturally prevents fruits and vegetables from losing moisture through evaporation."

must be poured to provide a stable foundation for the block to rest on. Once the walls are complete, roof material can be framed wood, poured concrete slab or sheet metal. Use silicone caulking or rubber pond liner to waterproof the roof of the structure. The outer block surfaces should be coated with a waterproofing paint or tar made specifically for block walls.

A step up from concrete block walls is a poured concrete wall. Framed up with forms in the same way as a home basement, poured walls offer the ultimate in strength and durability. The extra thickness and solid construction of concrete walls also serves to increase the insulating properties of the cellar.

Another option that doesn't require any building skill at all is to order a concrete septic tank. Stop by a local manufacturer and enquire about tanks with cracks or other nonstructural defects. Often these defective tanks can be purchased for up to 50 percent off retail price. Most tank manufacturers offer delivery services. Make sure they remove any internal baffles before delivery. One drawback to preformed septic tanks is the need to cut a door into one end after set up is complete. A 14-inch concrete cut off saw with a diamond blade will be needed for this. Mark off the area with tape and keep a water hose attached to the saw as you cut to keep down dust.

Entry Way

Doors for root cellars should be tight fitting and well insulated. Exterior steel doors designed for houses or garages work well. Doors should be solid, as windows will let in summer sunlight and raise the temperature inside the cellar. If wood doors are used, make certain they are painted and sealed on all sides. Extra moisture inside the cellars can cause wood doors to swell and stick if the moisture finds a way into the wood itself.

Ensure Proper Ventilation

One requirement that all root cellars share, regardless of construction material, is the need for adequate ventilation. As fruits, particularly apples, and vegetables ripen, they emit ethylene gas, which speeds the ripening of other fruits or vegetables nearby. A constant air flow allows this gas to escape and slows the ripening process. Ventilation systems in root cellars most often take the form of a pair of either three or four-inch PVC pipes extending from the cellar itself up through the ground and out into the open air. In order to keep an even air flow throughout the entire cellar, the pipes should be located on opposite ends of the cellar from one another with one barely extending below the roof of the structure and the









(opposite, top) This photo shows the use of waterproof wrap, which you should use to protect wood and keep moisture out.

(opposite, bottom) Proper drainage for the cellar is a must otherwise unwanted water and moisture can enter the unit.

(left) A framed root cellar belonging to Paul and Brenda McCurty, which is under construction.

(below) The use of a gravel floor is important in order to maintain the right humidity level and to provide adequate drainage.

other extending to down near the floor. The different levels form a siphon of sorts, allowing warm air to exit while pulling cooler air in. During extreme cold snaps, one or both of these pipes can be covered to slow the process and prevent freezing air from entering the root cellar. A small roof covering over the pipes will allow air flow and prevent rain from running down the pipe and into the root cellar.

Once your cellar is complete, shelving can be installed. Simple wood shelving is sufficient for most storage needs. Since air flow is crucial, many people leave an inch or two of space between the back of the shelving and the cellar walls. Vent holes drilled into the shelving can accomplish the same purpose. Wire metal shelving also works well, allowing the maximum air flow around the stored items.

Now that the cellar is complete, take some time to plan the layout of the stored fruits and vegetables. Ethylene emitting items such as apples, pears, peaches, cabbage, and tomatoes should be placed on upper shelves near the vent so that their gas emissions do not spoil nearby food. Onions can sometimes put off odors that can impart an off flavor to fruits or carrots, so they should be stored on a high shelf as well. Potatoes, sweet potatoes, winter squash and pumpkins store well near the bottom of the cellar.

Not just for fruits and vegetables, root cellars also offer excellent storage for canned meats and produce, beer, wine, cheese or butter. Store fresh produce in single layers in baskets on the shelves so that any onions, potatoes or fruit that shows signs of rot can be easily picked out and disposed of promptly so that they don't damage nearby produce.

Handy tools for the root cellar include thermometers and hygrometers for monitoring temperature and humidity levels. A remote thermometer that sounds an alarm inside the house if the temperature drops below freezing during hard cold snaps is helpful. If you notice the temperature nearing the freezing point, adding a single light bulb or small heater might be necessary. Completely covering both vents might also be helpful.

About the only other worry is pest control. Mouse traps set throughout the root cellar or even poison bait packs placed away from food stuffs are generally all that is necessary to keep any mice problems at bay.

While root cellar technology hasn't changed much in the past few thousand years, it really hasn't needed to. A well-built root cellar offers the home gardener the peace of mind in knowing that their hard earned garden bounty will be well preserved throughout the winter months, even during an extended power outage. MP







SPECIAL.

Dog Days of Winter

HERE'S SOME WORTHWHILE ADVICE ON HOW TO KEEP YOUR BEST FRIEND WARM THROUGH THE WINTER.

By Paul E. Moore

ost all of us have seen photos of sled dogs curled up asleep on the ice with a smattering of snow covering their backs. That may be the norm for working dogs in Alaska, but I am certain beyond all doubts my beagles would not find that scenario amusing or inviting in the least. Given the option between sleeping on a hard bitter-cold slab of ice or the cozy, warm houses in my kennel, my dogs are going to opt for the latter every time. I would bet all-in on that wager.

Dogs are always called man's best friend, and they do provide a lot to us. They give us love and companionship. They work for us and they hunt for us. They guard us and our property. In reciprocation, we need to show them due affection and care for them as best we can if we are to expect them to live long, remain healthy and perform at the best of their abilities. One way we can do that is by making sure that wintertime is not a time of misery, stress and health problems.

Far too many people think dogs can withstand anything the weather throws at them simply because they are animals. It is true dogs are more adapted to certain weather situations than are people, but it does not mean they are impervious to cold, discomfort or even death due to the elements. Even in the warmer climates of the country, dogs need added care in the wintertime to remain happy, healthy and ready to work, hunt or play.

Areas of Concern

There are very few areas of the country where dog owners do not have added concerns in wintertime. True, people in the far southern reaches of the country have less to worry about than say states bordering Canada, but that does not mean they can simply ignore winter altogether. Even in climes as warm as Florida and Texas, cold fronts can move through and drop temperatures dramatically, even if only for a day or two. Analyzing the potential risks and being prepared for anything wintertime can dish up is the key to keeping outside dogs healthy and comfortable.

Food and Water

Nutrition and hydration are obviously important all year long, but need to be carefully considered and monitored in the winter. Dogs need more food in the cold months in order to keep their body temperature regulated. How much extra they need depends upon lots of factors such as actual temperature outside,



(above) Having some sun exposure for your pet is something to keep in mind when positioning the dog house. A little bit of warmth from the sun can go a long ways. (below) Elaborate kennels such as this one are nice, but for most people this is not practical. Regardless of kennel design, it needs to be secure, warm and healthy.

"Rugs and blankets can also mildew and they increase the risk of fleas and other insects in season."



the size of the dog, amount of hair, age of dog, activities the dog performs and what type of housing the dog is provided. Looking at various research and variables, dogs can require anywhere from 7.5 to 90-percent more calorie intake in winter.

It is important to keep fresh water available at all times throughout the year, but in winter, it must be checked frequently to make sure it is not frozen. If you live in an area of frequent or ongoing freezing temperatures, breaking ice on a water pail can become quite the chore. There are plenty of products on the market to make this task easier such as various heating elements for immersing in water pails. In my kennels, I use heated water bowls that are made of plastic, but have heating elements built into them. They draw very little current and keep water available for my dogs no matter the temperature outside.

Water intake by the dogs should be monitored very closely. Dogs sometimes do not drink enough water in the wintertime, so it is up to the owner to make sure they do. One way to accomplish this is to periodically add some water in with the food in order to force the dogs to take in extra liquids. Oftentimes, after a long day of hunting, I will add some warm water to my dogs' food and stir it until it begins to make a bit of a broth or gravy. They seem to enjoy the warm meal after a cold day in the field almost as much as do us humans.



Housing and Bedding

Reflecting on what was mentioned earlier, most dogs do not do well just lying out in the weather. Plus, they deserve to be treated better than that. They work hard for us and give us all the love and dedication only dogs can provide. They deserve a clean, dry and warm place to get in out of the weather.

Whether buying a dog house already built, building one from scratch or constructing an elaborate kennel, a lot of thought needs to be put in beforehand. The shelter needs to be something suitable for the entire year. Dogs

(above) The author prefers to use red cedar pet bedding in his kennels and truck box. Cedar provides dry and comfortable bedding plus it repels fleas and other insects.

(below) No matter whether housing one dog or dozens, kennels need to provide a comfortable and healthy living space all year long. need ventilation, shade and coolness in summer. They need warmth and protection from the wind in winter. All year they need to be dry, clean and not be forced to live in a sludge of their own urine and feces.

In many areas of the country, a simple wooden dog house or box will suffice. Many people even use plastic barrels as an economical and efficient dog house. In colder areas of the country, dog houses need to be constructed with thicker walls and floors and perhaps even extra insulation added.

All housing, regardless of design, needs to have good bedding. Some people use old blankets or something similar, but except in rare cases, these make poor bedding materials. Once wet they are very slow to dry and may actually freeze. Then the dog is back to lying on a slab of ice. Rugs and blankets can also mildew and they increase the risk of fleas and other insects in season. Personally I am not a big fan of using straw either for some of the same reasons. If straw is used, it needs to be replaced frequently to keep it fresh, dry and free of mildew.

I use red cedar shavings in my kennels and truck box for a variety of reasons. Cedar shavings provide a soft warm bed and remain much dryer than many other materials. It is very economical and readily available in many farm and pet stores. It has a pleasant smell and cuts down on some of the dog smells that can become quite pungent in other bedding materials. Plus red cedar is a natural repellent to many insects during the warmer seasons. It



does lose some of this repellent ability over time, so it needs to be kept fresh. In very rare cases, some dogs are allergic to the oil in cedar and experience itching and perhaps some hair loss.

Bringing the Heat

In addition to providing good housing and bedding, another way to help ensure comfort and good health is to provide additional heat. There are a number of ways to do this, some more practical and economical than others. I know a few people who have constructed heated outbuildings specifically to house their dogs and others who have their kennels attached to a garage with access doors into the building. While this works for some, it is not possible for others.

There are ways of actually bringing heat into outside dog houses and kennels. Various heated mats are on the market, but I am not a big fan of these personally. They provide a hard surface on which the dogs must lay and really provide little in convection heat. Plus, my dogs like to scratch and chew on things like that, so I tend to avoid anything that may become more a hazard than a benefit.

In my kennels, I use the Hound Heater (www.houndheater.com), which is actually a thermostatically controlled heater or furnace





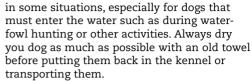
(above) Dogs can be warm and happy despite weather hovering into the single digits.

(left) Properly caring for dogs is a year-round job. Wintertime has specific factors that cannot be overlooked if the dogs are expected to live long, remain healthy and be ready to work or hunt. that actually heats the air and the whole inside of the house, not just the floor like a heated mat. It is mounted to the inside wall of the dog house and keeps the inside toasty warm all winter. It has a high, medium and low setting, and because it is thermostatically controlled, it kicks on and off as needed. This heating unit is chew proof and unlike trying to use infrared bulbs for heat, does not pose a fire or burn hazard.

Special Gear

Depending upon how a dog is used for working or hunting, special gear may make things much easier and more comfortable. Thermal or neoprene vests might be in order





If a dog is on snow and ice frequently, booties can help protect its feet from the cold and from becoming sore or cracked. Check the dog's paws often in wintertime, treat any sores promptly and don't force a dog into action if it needs time to heal.

Facing Jack Frost

Winter does not have to be an overly stressful time for our dogs if we just take a little time and effort to ensure their comfort and health. Animals in the wild have to use their natural instincts and do the best they can during the cold months. Some animals do well and others perish each winter. Domestic dogs should not have to face harsh winter conditions, endure cold wet nights and struggle to remain warm and comfortable. They do us good service. It is a win-win scenario when we do the same for them.



DIY Wood Stove After several scouting, it on a much backpacket

FORGET BEING COLD IN THE MIDDLE OF THE WILDERNESS. USE THIS SMALL, PORTABLE WOOD-BURNING STOVE TO KEEP YOU WARM DURING YOUR NEXT BACKCOUNTRY HUNTING EXPERIENCE.

By Brian Brown

fter several years of applying and a summer of scouting, it was finally the evening of opening day on a much-anticipated mid-October elk hunt. I had backpacked several miles into a wilderness area looking for a bull I had spotted during scouting when a few scattered mid-day flurries turned into an all-out blizzard complete with bone-chilling winds. Surprised by the sudden change in the weather, all too common that time of year here in Colorado, I buried myself in my sleeping bag trying to stay warm. Laying there fighting to keep frozen thoughts out of my head and dreaming about how cozy a wood stove would be at that moment, an idea was born. Warmth, dry gear and even cooking are the obvious benefits of a wood-burning stove, yet gathering wood and tending to a fire can also be priceless to keep a wandering mind busy and entertained.



There are several companies selling woodburning stoves whose designs are proven, but really the fundamentals are the same—the stove body, a couple of end plates, a stove pipe and a few other odds and ends. The problem is they are not cheap and, like many other fellow outdoorsman and women, my "fun" money is always in short supply.

On the other hand, my time is reasonably cheap and so I began the process of building my own wood-burning stove. Besides I need something to keep me busy during the off season, and there is something satisfying about building something exactly how I want it. After a few hours of internet research, I had a pretty good idea of various stove designs, along with plenty of ideas from other homemade creations.

Next, I began prioritizing my priorities for this item. First was size and weight, after all we are talking about a backpacking stove. Second, I didn't want my stove to have any small parts. Trying to put together a bunch of small components with cold fingers is frustrating enough, but losing an important piece all together could render the stove basically useless. Lastly, but certainly not least, I didn't want to spend much in making the unit, not if I could help it.

Keep in mind, not all tents are appropriate for a wood-burning stove. Most commercially available tents with a sewn-in floor and a rain fly will be very difficult to adapt for a stove and will likely do more harm than good. This is where floorless tents like those from Bearpaw Wilderness Designs, Kifaru, Titanium Goat and a few others really shine. Not only do floorless shelters typically pack up smaller yet offer more space for the weight, but since they are single-wall construction and lack a floor, there is little concern over burning a hole in the tent. Another bonus is most of these companies' tents either come with a stove jack already installed or they can be added for a reasonable cost. My tent of choice is a 9x9-foot pyramid tent that weighs less than two pounds with stakes and guy lines.

TOOLS FOR THE PROJECT

> Tape measure, marker, pliers, kitchen shears, square, drill and assorted drill bits and a Dremel tool with cut-off wheels and grinding stone. The swaging tool (looks like a bolt cutter) is used to crimp the cables for the stove rings. These can be found at the local hardware store or you can buy the rings pre-made from Titanium Goat.



"Laying there fighting to keep frozen thoughts out of my head and dreaming about how cozy a wood stove would be at that moment, an idea was born."

STOVE MATERIALS



Stove body: 36 of 12 inches stainless steel or titanium foil makes a 12-inch long stove and will work for up to a 10.25-inch diameter stove. If you want a longer stove you can order 16- or 22-inch foil by the same length.

Stove pipe: 10 inches of stainless steel or titanium foil for the stove pipe makes a 23/8-inch diameter stove pipe. Order the stove pipe at least 1 foot taller than your shelter to limit the risk of burn holes from embers. My shelter is 6-foot tall so I use 7-foot stove pipe.

End rings: You'll need two end rings. These sit inside the stove pipe, one for the top and one for the bottom of the stove pipe to hold the shape.

Damper: This can be ordered from Titanium Goat pre-made or you can come up with your own design

Titanium Goat is a great source for reasonable prices and shipping all in one convenient locations. There address is 868 Washington Blvd, Ogden UT 84404; Contact Rep.: DJ (801) 393-4064; TitaniumGoat.com.

The following materials can be found at your local hardware or big box store:

End plates: You'll need two of them. Burner covers found in the kitchen area of a big box store work well but backpacking plates or other round dishes, lids or plates can work well too, so don't be afraid to get creative. I used the smaller 8.26-inch diameter covers for the end plates and one of the larger covers to cut out the door but you can also use the larger covers if you want a larger diameter stove.

 $\textbf{Body support rods and legs:} \ \ \textbf{You'll need at least three, total--two up top}$ and one on the bottom. The weight of the stove pipe and damper will rest on the top two supports so some strength is needed. I used (2) pieces of 36/1/4-inch 20 all-thread for a good balance of strength to weight. These also provide a stable place to rest a pot for cooking or boiling water.

Wing nuts and washers: Three of each total. These are used on the body support rods to sandwich the stove body between the end plates.

Nutserts: There are four total—two attach to either end plate using a small screw then a section of all-thread for threads in for each leg.

Aircraft cable and clamps: 10 feet by 1/16-inch un-coated cable. Used for body rings, door handle and stove pipe rings (if you don't order them from Titanium Goat).

Getting Started

For this project, not much is needed other than basic construction knowledge, a bit of patience and a few hand tools.

To start, you'll need to build the end plates. You can do this by first tracing out the D-shaped door opening on one of the smaller burner covers. This shape allows for a larger opening to light and stoke the fire but the flat bottom helps to keep ash and coal inside

Next, trace the outline of the door on one of the larger burner covers so that the door will overlap the door opening by around ¼-inch on all sides. Lastly, cut out both pieces using the Dremel tool and cut off wheel and smooth any rough spots with the polishing stone.

The door should be about 4-inch larger than the door opening for a proper seal. Drill two holes in each end plate for nutserts that will hold each leg. Space these equally below the door so that the legs will be at a 45-degree angle to the ground or less. Make sure they line up on both plates, otherwise the stove will not sit level, and install nutserts using Loctite or lock washers. Later you will need to trim the stove body around the legs so the body sits tight in each end plate for a good seal.

Attaching the Door

Find the center of the door opening and mark the spot between the top of the opening and the edge of the plate. Next lay the door over the door opening and transfer the mark to the door so it's centered and both holes line up when the door is in place. Drill both holes and install a bolt from the inside of the plate through the face for the door to hang from. Drill two more holes in the door for the handle which is a simple loop of aircraft cable.

Build the Stove Body

Lay the stove body foil flat and mark the center (18-inch) of the length of the material along one side. Then measure in 2½ inchesthis will be the center of your stovepipe or chimney. Center one of the end rings on the center mark and trace around the end ring. Be sure not to cut too much or the stove pipe will fit loosely and extra smoke may leak into the tent.

Next, drill small holes inside the outline every inch so the outside of each hole just touches the outline and use the shears to cut out the stove hole. Cut to the inside of the mark and after the hole is cut use the Dremel to smooth any rough spots.

Take your time and be careful not to make any mistakes on this step or you will be order-













- 1. The door should be about 1/4-inch larger than the door opening for a proper seal.
- 2. Later you will need to trim the stove body around the legs so the body sits tight in each end plate for a good seal.
- **3a-b.** Note the marks for center—these will make assembly much easier.
- 4. Be sure not to cut too much or the stove pipe will fit loosely and extra smoke may leak into the tent.
- 5. Take your time and be careful not to make any mistakes on this step or you will be ordering a new stove body. Notice how some holes are more ragged than others—this happens when you push too hard and the drill bit actually tears the material.
- 6a-b. Notice the discoloration on the body supports. If you try to bend the all-thread without heat or before it gets hot enough it could snap.
- 7. Use pliers to mess up the threads behind each wing nut. This will eliminate the chance of losing any small parts.



TIPS AND TRICKS

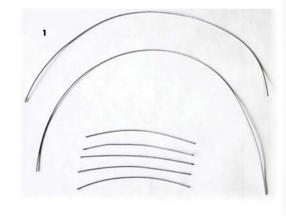
- > Titanium or Stainless Steel: Titanium will typically save you around 25 percent in overall weight, however, it comes with a much heftier price tag costing almost double.
- > Use cardboard to make templates of the doors and cut outs. This is a lot cheaper if you make a mistake.
- > When drilling or cutting, go slow and start with smaller drill bits working up to the desired size. The thin metals like stainless steel and titanium will literally tear if you get too aggressive or start to cut too fast.
- > Only use stainless steel or titanium materials for your stove. Aluminum will probably not stand up to the abuse and any galvanized metals can give off harmful gases when heated. —B.B.

ing a new stove body. Notice how some holes are more ragged than others—this happens when you push too hard and the drill bit actually tears the material.

Body Supports and Legs

From the (2) 36-inch pieces of all-thread, cut (3) pieces at 14 inches for the body supports and (4) pieces at 5 inches for the legs. Next, use a lighter or a blowtorch to heat up one end of each of the 14-inch pieces until the all-thread changes color and use the pliers to bend a "J" hook. Notice the discoloration—if you try to bend the all-thread without heat or before it gets hot enough it could snap.

Use the Dremel tool or a file to clean up the threads at each end that you cut then add a





 The body rings to help keep the pieces together during assembly and keep anything from shifting as the stove gets hot.

- 2. You will need a stove pipe ring on the outside of the stove pipe at the bottom just above the damper, the top and every 12 to 16 inches to hold the shape. These can be ordered pre-made from Titanium Goat with the rest of the stove materials or make your own.
- 3a-b. Note the damper is resting how it will be once it is installed inside the stove pipe but the stove pipe was not installed for clarity.





washer and wing nut to each of the body support rods. Standard 1" washers can be used if you put a 135-degree bend in them so they grip the end plates. A better option is using obtuse corner cabinet brackets—they are lighter and the bend is perfect but they can be harder to find. Use pliers to mess up the threads behind each wing nut—this will eliminate the chance of losing any small parts.

Make the Body and Stove Pipe Rings

For the body rings, cut (2) pieces of the ½-inch aircraft cable at 26.25 inches. This allows for the proper diameter when each end of the cable slides the full depth of the clamp. The stove pipe rings need to be cut at 8 inches and they will be the right diameter once clamped. The body rings are used to help keep the pieces together during assembly and keep anything from shifting as the stove gets hot.

You will need a stove pipe ring on the outside of the stove pipe at the bottom just above the damper, the top and every 12 to 16 inches to hold the shape. These can be ordered premade from Titanium Goat with the rest of the stove materials or make your own.

Assemble All Parts

Lay the back plate on a flat surface and put the stove body so it sits inside the rolled edge. Slide both body rings over the stove body then insert the face plate with the door. Be sure to line up the center marks. Using the body support rods, place (2) on top on either side of the stove pipe opening and (1) centered on the bottom. Use the wing nuts to adjust the tension so both end plates seal up tightly to the body but not so tight that the stove body buckles. Finish the stove body by screwing the (4) pieces of 5-inch all-thread into each nutsert for the legs.

The stove pipe is made by unrolling the length of the stove pipe foil and then rolling the short side to make a cylinder. Place a couple cable rings to hold the shape for now. The first time rolling the pipe will be difficult so use a broomstick or a length of pipe and a buddy to make it easier, but after the initial burn it will be much easier. Titanium Goat pre-drills 2 holes that their damper fits through so be sure to place the side with the holes down. Insert the long side of the damper with the 90-degree bend first, then slightly squeeze the stove pipe so the damper will fit inside and put the short side of the damper through the other hole. Lastly, put an end ring inside the stove pipe at either end and a stove pipe ring on the outside every 12 to 16 inches.



STOVE JACK

Both Titanium Goat and Bearpaw Wilderness Designs sell ready-to-install stove jacks but my sewing skills would embarrass my middle school home teacher, so I elected to have John at Bearpaw Wilderness Designs install my stove jack for a very reasonable cost. Make sure your stove pipe is 12 to 18 inches above the highest point of your tent.

BearPaw Wilderness Designs, LLC

2601 S. Lemay #7-402, Fort Collins CO 80525

Contact Rep: John (970) 444-2793 BearPawwd.com

The materials almost all lightweight tents are built with will not resist flames and neither will your sleeping bag or backpack. Proper planning and caution are needed to ensure a safe and warm trip. This stove tips the scales at just 37 ounces, including a 7-foot stove pipe and costs roughly \$115 in materials. Not a bad price to pay for some extra comfort and warmth for those late-season backcountry adventures. With another mid-

October elk tag in my pocket this fall, one

the trek with me. MP

thing is for certain, my stove will be making

"Keep in mind, not all tents are appropriate for a woodburning stove."





HOW-TO-

Expert Fur Handling

THERE'S A WHOLE LOT YOU CAN DO WITH ANIMAL HIDE AND FUR. HERE ARE SOME HELPFUL POINTERS.

By Mike Yancey

o single item throughout history of mankind has had more uses and benefits than fur. Many of the animals that we hunt and trap have many different values, whether it be monitory or utilitarian, or simply for food. We owe it to the resource to get the most we can out of it and also to be a good steward to the land in the process.

Furbearing animals, whether hunted or trapped, can be used as food, sold to be tanned for other uses, or tanned yourself, or both. In this article, I will explain the variety of uses furbearing animals can provide.

The Value in Fur

Fur pelts taken from wild animals that are caught in prime condition as far as fur quality goes are very valuable. Also, the meat can be used from many of these animals as well. I am personally fond of raccoon and beaver and, both prepared properly, are as tasty among wild game as can be found anywhere. The fur, if to be sold like the meat for consumption, must be handled properly in order to be used. I sell my furs as well as tan them for other uses, and the meat is used by my family and not sold. But there are markets that can be found if you choose to sell the meat in some cases. For meat-preparation ideas, my family likes young raccoons prepared many different ways, and the beaver the same. A beaver processed and made like a beef roast is hard to beat.



"Furbearing animals, whether hunted or trapped, can be used as food, sold to be tanned for other uses, or tanned yourself, or both."

In order to sell the fur, you need to first check with your state to see what types of licenses you might need, as well as season dates and regulations. All animals need to be handled carefully, as far as proper skinning techniques and hide preparation goes. One option is to find a local fur buyer in your area and simply sell the animals in the carcass, or have him show you how to skin and handle the different types of furs that might be sold to him.

If you choose to sell the fur in a more advanced stage, such as skinned, fleshed and dried, you will receive more money if properly done and if the quality of the fur is up to par. I would strongly suggest a set of DVDs that are available through the Wisconsin Trappers Association www.wistrap.org. This four-part set covers all there is to know about skinning, fleshing and drying your wild fur for the market or for your own uses. The DVDs cover beaver and otter, muskrat and mink, raccoon, fisher, marten and bobcat, fox, coyote, opossum and skunk. To be honest, these four DVDs will do more to help you than anything that I know of on the subject of fur handling.

With the finished fur option there is the cost of the tools needed to finish the fur. This includes stretchers, fleshing knives and a fleshing beam, but the extra money received from the finished product makes the initial investment more than worth the cost of the tools. The fleshing beam as well as the wooden fur stretchers can easily be made at home to save money, so keep this in mind.

Fur value depends on many things, the quality and grade of the pelt, as well as the type of animal. On some years, short-hair animals such as mink, muskrat and otter are more sought after, but other years it might be bobcat or fox. That all aside well-handled fur will always have a value, whether it be for your personal uses at home or for the fur industry.

The furs that I don't have tanned for my personal uses are sold at auctions. Many state trapping associations sponsor fur auctions, or you can ship them to an auction such as North American Fur Auctions. There are many different options, and you can choose the best suited for you.



(above) This photo shows wooden fur stretcher boards used in drying the fur. These can be bought or easily made at home. Also, a two-handled fleshing knife, such as this one, is used to remove fat and flesh from hides before putting them on the drying boards.



"Animals that have fur tails such as fox or raccoon, for example, need to have the tails on the fur with the bone removed and the tail split and dried."

Skinning With Care

As stated earlier, proper skinning is essential for a nice finished fur. Animals that have fur tails such as fox or raccoon, for example, need to have the tails on the fur with the bone removed and the tail split and dried. Whereas, animals like muskrat, opossum or beaver, the tails are not left on the fur.

After skinning, the hide must be fleshed. This means removing all fat and flesh from the hide. This is done with a fleshing knife while the hide is placed over a fleshing beam. If you choose to sell your furs "green," a term used for fur that is skinned but not fleshed and dried, you can simply take the fur, turn it fur side out and freeze it to be later taken to a fur buyer.

(above) Trapping furbearing animals isn't just about keeping or selling hides. You can eat what you catch as well. The author and his family loves raccoon or beaver roast for dinner.

(right) Animal fur can be dried using stretcher of some kind and then used for various uses.

Drying the Fur

Once fleshed or scrapped, as it is often referred to, you are ready to dry the fur. This is done on either wooden boards or wire stretchers specifically designed for the proper animal. The NAFA DVDs will cover all this for you, and it's not as hard as you might think.

Once on the stretchers, I put a fan on my furs to help air dry them until dry, which might take up to a week depending on temperature and humidity. Furs like bobcat, red and grey fox and coyote are sold with the fur out. That means that the fur is turned after a few hours on the stretcher so that the buyer can better see the color, spots, as well as look for imperfections on the pelt, such as rubbed or thin spots. These furs need special attention as far as when to turn them. If you wait too long, they will be too hard and not turn properly without damaging the fur. Turn them too soon and they will rot and spoil in the stretcher causing the fur to come out.

If you are tanning them yourself, or having them tanned, you don't need to worry about turning. A good rule to follow is once the leather side is dry to the touch after a few hours, you can turn them, but be sure to put a fan on them to finish the drying process. Another thing is to never start out with a wet hide of any kind. If it's wet from rain, or washing the fur to remove mud or blood, you must dry the fur by using a fan before fleshing. Always keep fur in a cool shaded place and not in a plastic trash bag. These act like little black ovens and will cook your fur with the smallest amount of heat and sunshine, causing the fur to slip and spoil.



TANNING OPTIONS

> If you are looking to have any animal hide tanned, there are different options to consider. One option is hair on or off. Some tanneries will do one but not the other.

A deer hide tanned with the hair on is a perfect way to display a trophy, as well as going a step further to totally use the resource. If you choose to have a large hide tanned, you simply need to skin the hide as clean as possible with as few cuts and slashes as possible. Then simply apply salt to the flesh side of the hide while it's laid out flat.

After a few days, remove the wet salt and apply more until the hide is dry enough to ship to the tannery. The type of salt that I use is the kind that you get at farm and feed stores for livestock. It's good and more affordable than table salt.

Keep in mind, there are tanneries that do larger hides with hair on or off. You can search for one that is close to you online. Personally, I use a commercial tannery that deals in larger volume of hides, so I don't have one to recommend for a piece or two, but they are out there. Deer or larger hides tanned with the fur off make great leather for all types of different projects.

For the real adventurous, you might choose to tan for yourself. I have done it all from small furs to elk hides, using all types of methods. My favorite method to tan deer-size hides is what's called brain tanning. This method was used by the Native Americans to make that wonderful buckskin that they used in so many different things. No matter which method you choose to tan your hides, it's a lot of work and there is no magic potion that will make soft leather. It comes from working the hide to soften it until it's dry. There are countless articles on line as well as DVDs on tanning and brain tanning. I can recommend "Deerskins into Buckskins" book or DVD on how to brain tan. Don't be afraid to try it. The end result is almost always worth the effort. -M.Y.



Selling the Finish Product

Once your fur is dry and ready to remove from the stretcher, it is ready to either sell or send off to have tanned. If you choose to have the fur tanned, I would recommend a company called USAFOXX 1-800-USA-FOXX. I have used this outfit many times, and they do a great job.

As you can see, there are many different options to choose from when deciding what to do with your fur. The main thing is to use it and make the most out of it that you can and to enjoy the whole process from catching to using the fur and preparing the meat.

I would also recommend that you always use good quality rubber gloves when handling all furs and hides during all parts of the processes discussed here. Good luck and have fun! MP

(above)

How you handle and dry your furs will determine how useful and valuable they'll be in the end, so enough the process and take your time.

[Hunting]



"There are some who can live without wild things and some who cannot." —ALDO LEOPOLD

·HOW-TO·

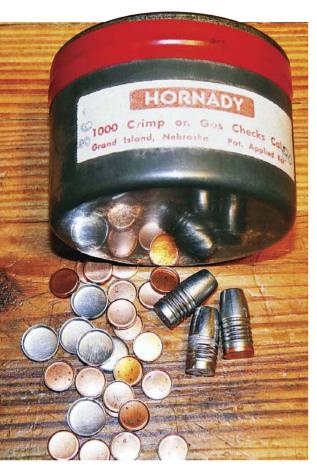
Cast Your Own Bullets

WHETHER YOU'RE PLINKING STEEL TARGETS THROUGH A HANDGUN OR DEER HUNTING WITH A MUZZLELOADER OR LARGE-BORE RIFLE, CAST BULLETS CAN OFTEN MATCH OR EVEN EXCEED THE PERFORMANCE OF STOREBOUGHT JACKETED SLUGS.

By Michael Pendley

n the days of the mountain men and buffalo hunters of old, the only way to keep a steady supply of bullets was to cast your own over the evening campfire. Lead slugs were a coveted commodity and fired projectiles were carefully recovered from the downed game and melted into the next day's stock of ammunition.





Some might assume that casting lead bullets has gone by the wayside in today's modern world. Far from it, really, as tools and materials abound today, and the number of people casting their own continues to rise. The reasons to pour your own bullets are numerous. One of the biggest is the cost savings. A lead bullet can be cast at a fraction of the cost of its copper-jacketed cousins. The ability to customize your own loads is another. Bullet molds are available in an astounding array of shapes and sizes. By trying different molds and experimenting with different bullet hardness, shooters can dial in a custom load to their individual gun.

How to Get Started

Before we begin to get into the nuts and bolts of cast bullet making, we must first talk about safety. Molten lead is hot, around 600 degrees hot. Leather gloves, eye protection, jeans, a long sleeve shirt and closed toed shoes are a must. Lead fumes are nothing to take lightly, so cast your bullets in a well-ventilated area, and use a fan if there isn't a natural air flow. A fire extinguisher can be a life saver if an open



flame heat source is in use. Maybe most importantly, keep all water sources away from your molten lead. Water vaporizes instantly when it contacts the 600-degree lead, and the resulting expulsion of steam can send melted lead droplets in every direction.

Safety lecture aside, as long as care is taken, casting bullets is a fun and safe hobby. The tools required are a heat source (a gas stove or hot plate can serve this purpose), a cast iron or stainless-steel pot to melt the lead in, a bullet mold; a stainless-steel side pour dipper, and a wooden dowel or similar sized piece of hardwood that can be used to tap the sprue cutter and release the molded bullets.

Most long-time bullet casters prefer to use bottom pour electric-lead melting pots, like those manufactured by Lee or Lyman, for their lead melting needs. These pots have the benefits of easily replicable heat levels, are much safer than dipping into a molten pot of lead, and most have a wide enough shelf area to hold and preheat molds while the lead is melting.

Lead sources are available on line, at many recycling centers, and in plumbing supply houses. By far the most popular sources for casting lead are tire stores. Most tire retailers and mechanic shops have buckets of old wheel weights sitting around. Many will sell, and a few even give, these old weights to anyone who asks. Be aware that some newer wheel weights are made from zinc. These should be sorted out before melting.

Wheel weights have the benefit of added tin and antimony. These additions increase the hardness factor, measured on the Brinnell Hardness Number scale (BHN), of pure lead to a level suitable for use in bullets. Both tin and "A lead bullet can be cast at a fraction of the cost of its copperjacketed cousins."



antimony are available from many on-line sources for customizing the hardness of your bullets. The general rule is, the faster the bullet, the harder it needs to be to prevent it from shedding lead down the gun barrel. Most wheel weights measure around 12 BHN, which is perfect for most standard handgun loads.

Get It Hot

Begin the casting process by melting the lead. Once the lead is completely molten, flux is added to mix the lead, tin and antimony into a homogenous mixture. Flux materials range from simple shavings of bee or candle wax to commercially available flux mixtures. Besides mixing the lead, the flux also brings impurities, known as dross, to the surface so that they may be dipped off and discarded. Many longtime casters drop a pinch of sawdust into their lead pot after fluxing to give the dross something to attach to and make dipping it out easier. Often, particularly when using wheel weights, casters will melt a large amount of lead at a time and pour it into manufactured ingot molds or even muffin tins or steel cups. These pre made ingots make feeding the pot faster and more efficient on long pours and help to maintain an even mixture of lead, tin and antimony for consistent results.

Using the Mold

Bullet molds come in a wide variety of shapes and sizes. The parts of the mold consist of the two halves that form the chamber when closed, the guide pins that hold the two halves closed, and the sprue cutter, which is a rotating piece of machined steel that serves to slice the sprue overpour from the bullets and



leave a clean flat base on the finished product. One, two or six bullets per mold are all common. Molds can be aluminum, iron or steel. Aluminum molds are less expensive and heat faster but also cool faster between pours and aren't as durable as iron or steel molds. Iron and steel molds take longer to heat, but they hold that heat better over long periods. A well-maintained iron or steel can last for generations. New molds are often coated in oil as a preservative and must be cleaned with denatured alcohol or white gas before use. Many mold manufacturers recommend the use of a spray on bullet release aid, available anywhere bullet casting supplies are sold, for coating the molds and making bullet ejection easier.

As the lead heats and begins to melt, place your mold on or near the heat source so that it can come to temperature. A small hot plate works as a resting spot for molds as well. Cold molds cause the lead to set too quickly and leads to malformed bullets, wrinkles or air pockets within the bullet. As the flux is added, the lead will normally emit quite a bit of smoke. Put this smoke to work by passing the open mold back and forth through it. This smoke helps further coat the mold to make bullet release easier. A match or other smoke source can be used if there is no smoke from the melting lead.

Pouring the Lead

The process of pouring the bullet is simply to fill the mold with molten lead, either from

(left to right)

- Gas checks protect the base of the bullet as it travels down the bore.
- From big to small, size is no problem when casting your own bullets.
- Here's the top view of a cast-bullet mold. The molten lead is poured through the holes in the sprue cutter.
- One key to casting your own bullets is customization. You can create your own personal bullet design and hardness.







the bottom spout of the lead pot or from the side pour dipper. Continue filling until a puddle of lead forms on top of the sprue cutter. This puddle is known as the sprue. By overpouring the mold, bullet shrinkage as the lead cools is lessened. After a few seconds, the sprue will go from shiny and bright to a duller gray. At that point, use the wooden dowel to tap the sprue cutter across the mold and release the bullets. The newly cast bullets are still very soft at this point. If they drop onto a hard surface upon release, they will dent or flatten on one side. This is easily prevented by dropping the bullets onto a folded towel or into a heat-resistant gloved hand.

Bullet hardness can be greatly increased by releasing it into a bucket of water. A handy tip is to place an old piece of carpet on one side of the bucket at an angle. This allows the bullets to slowly enter the water and cuts down on splash. Water quenching a wheel-weight bullet will increase its hardness from around 12 BHN to as much as 20 BHN, helpful in magnum pistol or large-bore rifle calibers. Remember to keep any water source well away from the lead pot for safety.

It's normal for the first bullets of any pour to not pass inspection as the molds are generally not fully heated until several bullets have passed through. Simply drop the sacrificial bullets back into the lead pot to re-melt. As the molds heat, the bullets will begin to form completely with no defects. It's impor-



tant to keep your molds from becoming too hot during the process. A sure sign of excessive heat in the mold is the formation of a frosty grey finish on the cast bullets. If you notice a discoloration of your bullets, simply set the mold aside for a few minutes to cool. This problem can be overcome through the use of two molds, alternating with each pour so that the molds have time to cool just a bit between fills.

The next step is to lubricate the cast bullets. The easiest way to accomplish this is by placing the bullets in a plastic container, squirting on a bit of any of the commercially available liquid bullet lubes, and giving the whole thing a good shake. Pan lubing is often used as well and consist of pouring melted wax-based lube over a pan of cast bullets, then punching out the bullets with a brass cutter of the correct diameter.

Size 'Em Up

While most modern bullet molds are very accurate in size and shape, bullet casters often take the extra step of running their bullets through a sizer to ensure perfect roundness and size in the finished product. Bullet sizers are simply tubes that screw into the bullet press. The bullets are forced through

(left to right)

- Here are the tools of the trade: a lead melting pot, a mold and some lead ingots ready to transform into bullets.
- This shows the author's bullet sizer and press.
- Modern rifle cartridges can be loaded successfully using cast bullets, with comparable accuracy results and deadly performance on game.

the tube so that each emerge the exact same size and shape. Many sizers also have the benefit of adding additional lube to the bullet as it passes through. Gas checks, thin copper, zinc or aluminum caps that fit tightly over the base of the bullet and prevent the heat and gas from cutting the lead base as the powder charge pushes it down the barrel, can also be added in the sizing process.

Resources on casting bullets are plentiful. Most of the companies that offer molds also put out complete casting guidebooks; they can be invaluable for matching hardness levels to caliber speeds and for picking the correct mold shapes and sizes for your needs. Online videos are excellent sources for information and how-to demonstrations. Even online forums like CastBoolits.GunLoads.com are full of tips and make a great place to chat with folks who have had the same questions you do. MP



Beating the Cold

ENDURING FRIGID WEATHER
DURING A HUNT CAN BE
TOUGH. HERE'S HOW TO
OVERCOME THE CHALLENGES
OF HUNTING AND SHOOTING
IN SUPER-COLD CONDITIONS.
By Thomas C. Tabor

unting is a strenuous sport under the best of circumstances, but when it's coupled with extreme cold and inclement weather, dire consequences could be in the making. Obviously, whenever it turns cold a person generally recognizes those conditions and dresses appropriately for them. But in many instances, those same individuals may not recognize the detrimental consequences that those same conditions could have on their gear and shooting performance. The following are a few instances that have personally affected my own hunting, and the measures that I have adopted to either remedy them or lessen the consequences associated with them.

Condensation Problems

Many hunters have experienced the problem of moisture condensation on the exterior of their scope lens. This condition should not be confused with "internal" scope fogging, which is usually the result of warn or damaged scope seals and the leaking of the dry inert gases that were once sealed inside.

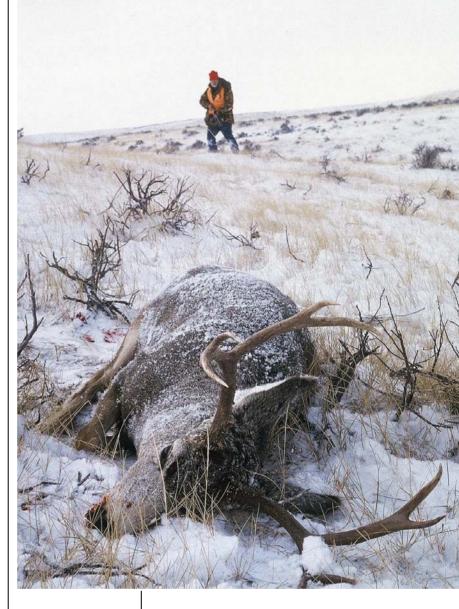
In most cases, external fogging occurs because the scope was exposed to drastic temperature changes coupled with a high degree of ambient humidity. Often times this happens when a scope, or for that matter, binoculars, eyeglasses or any form of optics, has been stored indoors where the atmosphere is warm, pleasant and dry, then, taken outdoors where the conditions are cold and damp. The reverse can also be true; you may have been outdoors in the frigid dampness and when you bring your equipment inside to the warmer environment the same condition may occur. Like wolves are attracted to a fine piece of venison on the hoof, the beads of moisture become drawn to any hard surface, including the lens of your scope, binoculars or eyeglasses.

There are lens treatments and even newly manufactured scopes that are said to prevent this condition from occurring, but personally not being entirely sold on the effectiveness of those treatments, I believe a better approach is to simply not allow those conditions to transpire. In order to do so you should make an effort to keep your gear acclimated to the conditions you intend to hunt in. In some cases, that might mean to simply leave your rifle and scope, binoculars and even your eyeglasses protected but outdoors rather than bring them inside with you. It's the rapid changes in temperature coupled with high humidity that causes the condensation to form, so by limiting those rapid condition changes you will at least minimize the effects.

Snow and Its Problems

Heavy snowfall can also create problems for a hunter. Falling snow, or snow buildup on the trees and bushes, can easily become transferred onto the lens of your scope and, when this happens, it certainly has the ability to disrupt your performance as my own personal experience once so rudely convinced me.

On one occasion, I was hunting whitetail deer out of a drop-camp high in the back-country of western Montana. It was late season and the bucks were in full rut and moving quickly through the area in search of a little female companionship. A snow storm had come in overnight, which resulted in well over a foot of the white stuff covering virtually everything. I eventually decided to spend a few



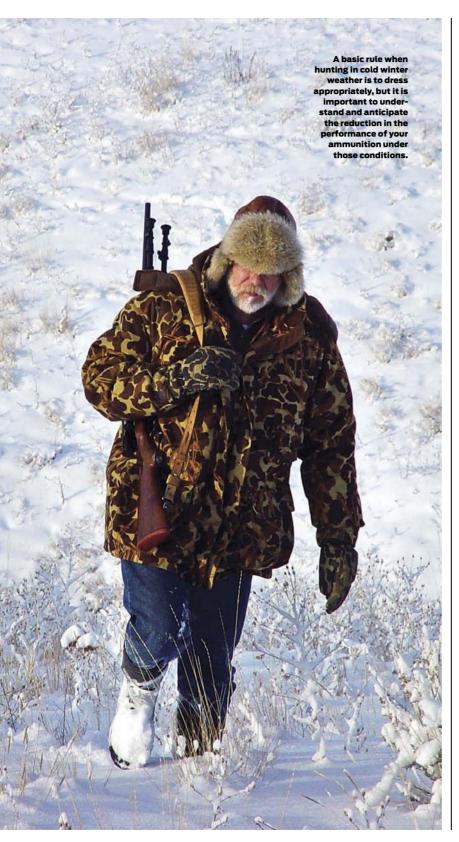
(above) Knowing precisely how your rifle and ammunition will perform at extreme temperatures worked out well for Tom when he took this fine mule deer in the heart of Montana's cold winter.

(opposite) It's critical to practice with your gear in extreme weather before actually hunting in it. This will give you the time to figure out what works and what doesn't, and to ensure straight shooting.

of the early morning hours watching a logging clear-cut and had dug out a place in the snow bank to sit and wait.

Eventually, the best whitetail I'd ever encountered while hunting came into view. I was definitely anxious to add its head to the wall of my trophy room. But as I soon found out, that wasn't going to be the case. I'd had the foresight to put scope covers on my riflescope that morning, but in fear of possibly missing an opportunity at a fast moving deer, upon sitting down I'd removed them. As I brought my rifle up for the shot, the scope brushed against a snow-covered bush, resulting in packing the lens with an unbelievably amount of snow, totally obliterating any chance of seeing through the lens.

Frantically, while trying to remain hidden, I pawed on the lens in an attempt to clear the obstruction, but in the few moments that followed, my trophy of a lifetime had vanished



to never be seen again. In this case, I learned my lesson the hard way. The easiest way to prevent this problem from occurring is to not only have lens covers with you, but always keep them on your rifle until you need to squeeze the trigger.

Most hunters are aware of the problems associated with snow becoming lodged inside the bore of your firearm, but sometimes I don't believe this issue gets as much attention as it deserves. It is simply too easy when hunting under snowy conditions to accidentally and unknowingly stick your barrel into the snow. For this reason, I always like to periodically take the time when hunting under snowy conditions to empty the gun, open the action and visually check for any obstructions. Doing so simply clears my mind of any doubt I might have as to whether or not my bore is clear and a clear mind will always result in producing better shooting results.

Dealing With Temperature Extremes

Ambient temperature variations can have a dramatic effect on the performance of your ammunition, but is this substantial enough for a hunter to worry about? For years I pondered that question before finally deciding to look a little deeper into the matter. What transpired was a personal testing/research project that spanned several seasons and included three different rifles and calibers. The intent of my study was to expose the rifles and ammunition to a wide range of different ambient temperatures in order to draw a comparison between those temperatures and the resulting muzzle velocities. For my testing I chose three common caliber rifles: 1) Remington Model

VARIATIONS IN SHOOTING VELOCITIES

> Since our heavy military involvement in the Middle East, it has highlighted the concerns over the potential effects that extreme temperatures can have on ammunition. As a result, some powder manufacturers, like Hodgdon Powder Company, are now developing new strains of powder that are said to be less sensitive to temperature variations. It will likely, however, take time for these new strains of powders to fully work their way into the normal person's shooting activities and especially into the latest factory-loaded ammunition. —T.T.

"You simply cannot assume that the ballistic performance of your ammunition will be the same in the hot summer months as when it is subjected to the cold of winter"

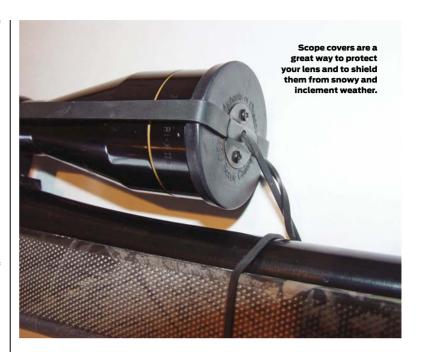
700 BDL chambered in .243 Winchester, 2) Remington Model 700 ADL chambered in .270 Winchester, and 3) Ruger 1B single shot chambered in 300 Winchester Magnum.

On each shooting session, both the ammunition and the rifles were exposed to the appropriate ambient conditions for a minimum of 30 minutes in order to initially condition them to that environment. Then after the each firing adequate time was given for the rifles to readjust to the ambient temperature before they were fired again.

By spreading my testing over nearly a year I was able to expose the rifles and ammunition to the temperatures of: –8, +30, +56, +90 and +128 degrees F. Some readers may wonder about the +128 degrees F level, feeling that this could be a bit on the extreme side, but in reality it really isn't. That is the temperature that was encountered in the direct sunshine when the thermometer read only +90 degrees F in the shade. Because of this it wouldn't be unreasonable that your rifles and ammunition could be exposed to that level, particularly when hunting in arid climates or in the summer months.

In order to provide a wide range of variables the ammunition shot in the .243 consisted of my own handloads loaded with 95-grain Nosler partition bullets, 130-grain factory-loaded Remington Bronze Point ammo was shot in the .270, and factory-loaded Remington Extended Range ammo with 180-grain bullets in the 300 Win. Mag.

Generally the testing showed that the smaller calibers experience the greatest degree of variation in velocities and, in most cases, the lowest average velocities were recorded at the lowest temperature. In other words, as the mercury declined so did the muzzle velocities. The only slight exception

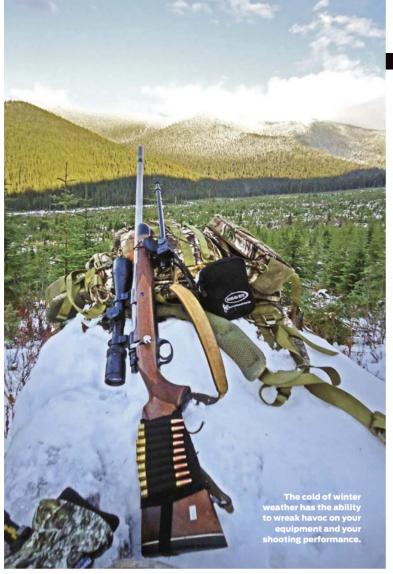


> Being able to accurately estimate the wind velocity when hunting and shooting is a large part to being able to accurately place your shots. A great way to accomplish that is by using the Beaufort Scale, which is a simple table that allows you to estimate the wind speed based on the characteristics of that wind. Then by using the estimated wind speed in relationship to a wind drift chart it will allow you properly judge how much you will have to dope to allow your bullet to impact on target.

Keep in mind, however, that wind drift estimates are most commonly based on the wind blowing at right angle to you. If the wind is quartering from or to you, or at some other angle, adjustments must be made. $-\pi$.

BEAUFORT WIND SCALE

MPH Wind Speed	Condition Name	Effects on Land	
< 1-mph	Calm	Smoke rises vertically	
4-7 mph	Light Air	Smoke drifts with air; weather vanes inactive	
8-12 mph	Light Breeze	Wind felt on face; leaves rustle; weather vanes active	
13-18 mph	Moderate Breeze	Small branches sway; dust & loose paper blow about	
19-24 mph	Fresh Breeze	Small trees sway; waves break on inland waters	
25-31 mph	Strong Breeze	Large branches sway; umbrellas difficult to use	
32-38 mph	Moderate Gale	Whole trees sway; difficult to walk against wind	
39-46 mph	Fresh Gale	Twigs broken off trees; walking against wind very difficul	
47-54 mph	Strong Gale	Strong damage to buildings, shingles blown off roofs	
55-63 mph	Whole Gale	Trees uprooted; considerable damage to buildings	
64-73 mph	Storm	Widespread damage; very rare occurrence	
74 & above	Hurricane	Violent destruction (you don't need to be trying to hunt)	



was in the case of the .243 which actually produced the lowest overall velocity at +30 degrees F. When spanning all temperature levels the .243 showed an overall muzzle velocity variation of 171 fps, the .270 produced a difference of 138 fps, and the 300 Win. Magnum showed the least amount of change in velocity with an average difference of 132 fps. A look at the chart entitled "5 Shot Average Muzzle Velocities" will provide a more inclusive look at the results of the tests.

Operating under the pretense that a lower temperature will generally mean lower velocities you could extrapolate that to mean that you could also expect a loss in retained energy as well as an increase in the bullet trajectory drop under those conditions. The most important lesson to be learned here is that you simply cannot assume that the ballistic performance of your ammunition will be the same in the hot summer months as when it is subjected to the cold of winter. In some instances, the difference in trajectory between the temperature extremes could equate into several inches of bullet drop at long range and a reduction in the killing potential due to a loss of retained energy and a reduction of the ability for the bullet to penetrate when the weather is very cold. As you can see, it's extremely important that you judge the performance of your ammunition at the



approximate temperature you intend to be hunting in. While it is likely that a few degrees one way or another won't make a significant amount of difference, a change of 40, 50 or more degrees could very well be responsible for a hunting trip going sour on you.

A hunter should also give some thought to where he/she is carrying their spare cartridges. Are those shells being exposed to approximately the same temperature as the ones in your gun? If you are carrying the extra ammo next to your warm body and you are hunting in a very cold environment, the answer to that question is likely "no."

For shooting consistency, it might be better in this case to carry your extra ammo in a manner that protects it from the heat generated by your body. The best advice here is to maintain as consistent of temperatures as possible for all your cartridges and know what those conditions will be producing as far as velocity and trajectory goes.

I have also conducted similar testing on shotgun ammunition and without getting into extensive details here I will only say that if you hunt with a "scatter gun," you should expect similar fluctuations in performance as the outside temperature changes. Like the rifle ammo, shot shells subjected to low ambient temperatures will generally produce lower velocities and higher temperatures will frequent account to higher velocities.

Dressing for Performance

The way you dress can also have a direct bearing on your shooting abilities. Outside of the fact that you have to dress for the temperature and conditions you expect to encounter, you should wear attire that doesn't needlessly hamper your shooting abilities. Heavy clothing will change how your firearm fits. Bulky garments can affect how the gun butt is positioned on your shoulder and, if not properly anchored in the pocket of your shoulder, the stock could slip as a result of the recoil and drive the rim of your scope directly into your eye and face. In order to limit the possibility of this occurring, it might be necessary to shorten your stock when wearing bulky garments. Sometimes a recoil pad can be replaced with a thinner one, or a hard butt plate can be substituted for a thicker recoil pad. And, be sure that you wear a similar amount of clothing when you are practicing as you intend to hunt with so you get the proper feel of the stock.

Problem With Lubricants

It might surprise some people, but oils and lubricants can actually freeze when subjected to cold temperatures. This can result in slug> The author's testing results shown here provides a good way of estimating how much variation a shooter can expect under different ambient temperature levels.

5 SHOT AVERAGE MUZZLE VELOCITIES

(fps muzzle velocity & degrees Fahrenheit)

Temperature	.243 Winchester	.270 Winchester	300 Winchester Magnum
- 8 degrees	3,065	2,832	2,965
+ 30 degrees	3,026	2,912	3,038
+56 degrees	3,122	2,921	3,050
+90 degrees	3,128	2,938	3,047
+128 degrees *	3,197	2,970	3,097

* Denotes temperature in the sun when ambient temperature in the shade was +90 degrees F.

This .270 barrel fell subject to a blocked bore. In this case the hunter thought he had removed the entire blockage of snow, but obviously he failed to do so and the result was the barrel peeling back much like a ripe banana.

Thankfully on this occasion the hunter came away uninjured.

"Heavy clothing will change how your firearm

gish actions, or in severe cases, the action of your gun could freeze up entirely. If you intend to be exposed to this level of severe conditions it might be a good idea to strip your gun down in order to completely remove all greases and oils. Usually in the short term this does not result in excessive wear to the gun parts, but if a total lack of lubrication concerns you, dry graphite powder could be substituted for the normal wet style lubricants.

No one really enjoys hunting in extreme weather conditions, but understanding how those conditions can affect your performance should be top priority for every hunter. By coupling that knowledge with preventative measures and changes in the way you hunt and shoot it will increase your odds of success and surely make you a better and more productive hunter. MP



·SPECIAL·

Classic Guns

HERE ARE SIX LEGENDARY
FIREARMS THAT ARE STILL
GOING STRONG, DUE TO
THEIR SUPREME BACKWOODS
FUNCTION AND AFFORDABILITY.
By Tracy Breen

t seems guns are a controversial topic these days. Some people love to hate them; some people love to buy them. If you are in the market for a new gun but don't have much money to spend, you may want to consider buying a used gun from yesteryear. There are many things in our modern world that aren't made as well as they were 30, 50 or even 100 years ago. Guns fall into this category.

Gary Foster from West Michigan thinks many guns from yesteryear are as good, if not better, than many of today's guns. Foster owns Gary's Guns. He sells many new firearms but sells and services used guns as well.

"Many new rifles don't perform as well as guns from decades ago," he said. "As things advance, most guns got more complicated. Typically, with more moving parts come more problems." The good news is most of the popular firearms makers made thousands of rifles back in the day, so finding a good used rifle from the golden era isn't all that difficult. Below are a few of the guns that have stood the test of time and keep on going.

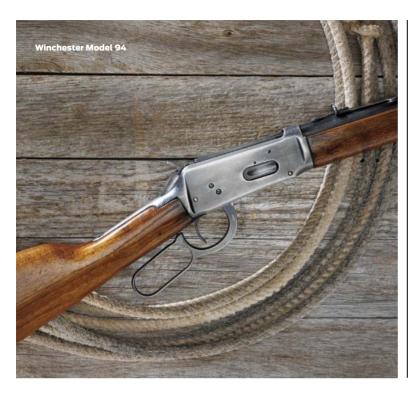
Mauser 98

Most refer to this gun as one that won't break the bank. It's chambered for the longstanding 7.92 x57 mm caliber. This gun was originally designed and used by the military and was the brain child of the Mauser brothers in Germany. Many believe this firearm is indestructible and were used in the war decades ago and are still in service today.

"You really can't hurt a Mauser," said Foster. "You can change the barrels three times on one gun and still use the original receiver and bolt, and the gun will look and act like brand new. They were built at a time when things were built to last. Today many people still use the Mauser for hunting and are happy with it."

"This gun
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brothers in
Germany."





"It seems the popular opinion is the gun was most reliable when it was produced in Belgium," said Foster. "Therefore, most looking for a used A-5 want a Belgium-made model. Many of these guns are still floating around. Many people who own one absolutely love the gun and won't part with it for nothing."

Winchester Model 70

This rifle was first produced in 1936 and has been produced ever since, testament to its prowess. This bolt-action design is considered by many gun experts and hunters as one of the best bolt action rifles to be produced. Because they have always been extremely popular, Winchester has made lots of them.

"Finding a good model 70 from a few decades ago or from many years ago isn't extremely difficult to do," said Foster. "If a person doesn't have much money, picking up an older Model 70 is a great option." The model 70 is available in a wide array of calibers from a .300 Winchester Magnum to a .243 Winchester and everything in between.

Winchester Model 94

Everyone I know if is familiar with the Model 94. It's a true classic and remains the most famous lever-action of all time. It was brought to market in 1894.

This gun was the first commercially produced rifle that was designed to be used with smokeless powder. It has been produced in a variety of calibers over the years. The most popular, of course, is the super-common .30-30 Winchester.

"An old lever gun like the Model 94 is hard to beat," noted Foster. "Lever guns just work and work, and don't break down. Almost every hunter in the woods has used a model 94 .30-30 Winchester or knows someone who has. This gun was popular when it came out and they are still popular today."

Browning Auto 5

Rifles aren't the only long guns of years gone by that are still popular. The Browning Auto 5 shotgun, often referred to as the A-5, was the first semiautomatic shotgun ever mass produced. This gun has a unique hump-back receiver which made it famous. This gun is available in 12-, 16- and 20-gauge and became well used during the early 1900s. It was mass produced in a variety of factories all over the world but many believe its best years were when it was made in Belgium in the early to-mid 1900s.

"Finding a good model 70 from a few decades ago or from many years ago isn't extremely difficult to do."







Remington Model 700

This bolt-action is perhaps the most commonly seen today—new and old. It was introduced in 1962 and is available in a plethora of calibers, standard and magnum. The action is simple, strong and noted for its extreme accuracy.

"I think one reason the 700 has always been so popular is because it doesn't break or fail and was always priced to sell," notes Foster. "It's also a firearm the average person can afford. It's very accurate for a production gun and there are many aftermarket parts and accessories available. Many gunsmiths trick them out and can easily give them a custom feel. Finding an old Model 700 at a decent price simply isn't hard to do."

Marlin Model 60

You can't discuss rifles without talking about a .22 long rifle. Almost every kid from the early 1900s grew up with a .22 rifle of some sort. A .22 LR was a do-it-all gun that was inexpensive to shoot and could put dinner on the table.

One of the most popular .22 rifles of all time is the Marlin Model 60. This gun was first produced in 1960 and is still in production.

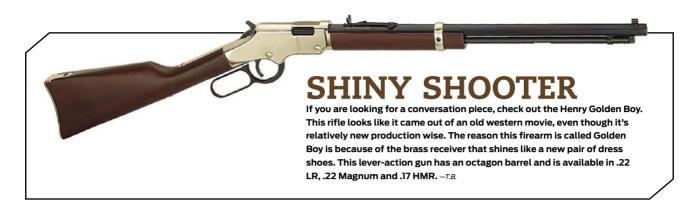
The Model 60 is a tubular-fed semiautomatic gun that rarely jams and keeps on ticking.

"This simple gun was offered by many retail companies," said Foster. "Even Sears offered the gun under the Sears Roebuck name back in the day. This gun is hard to beat because it works flawlessly, is built to last and isn't expensive." 22 LR ammo may be hard to come by these days but finding an old model 60 that is ready for the field isn't.

There are a variety of great guns from decades past, but the six mentioned here are venerable favorites. Best of all, they are all known to shoot reliably in a smooth, accurate fashion. Besides, in many cases, buying an older gun is more exciting than buying a new one. An old gun has lots of scratches, but this signifies use and history. It's the kind of character I want in my hands come hunting day, mainly because I don't baby it and it makes me reminisce about where it's been and how many critters have fallen to it.

For all these reasons, try one of these old favorites. It may become more than a backwoods tool. It may just become a companion you'll never let go of. MP







·SPECIAL·

Three Seasons of Rabbit



IF YOU'RE SERIOUS
ABOUT FILLING THE POT
WITH RABBIT STEW, THEN
YOU SHOULD KNOW
ABOUT EACH PHASE OF
THE HUNTING SEASON.
By Paul E. Moore

aining and losing properties on which to rabbit hunt is an ongoing process with most rabbit hunters. We ask and gain permission to new properties, we learn about new opportunities, and we meet people who invite us to their spots. Likewise, we lose certain properties due to change of ownership, land development and other reasons. We all have our lists of rabbit hunting spots whether logged in a journal as mine are or just simply kept on the mind's ledger. However, not all of these spots are equal and the hunting opportunities and habitats are sometimes vastly different. By analyzing each of our hunting locations and considering how the season unfolds, we can maximize our opportunities afield and get the most out of the season.





Far too many times I hear rabbit hunters pick their hunting location without giving any thought whatsoever to where they are going. Hunter number one will say, "Where do you want to go in the morning?" Hunter two replies, "I don't care. What about the Smith farm?" The first hunter agrees and it's set. Now that is not to say they are not going to have a good hunt at the Smith farm. The question is whether that location is the best choice for the time of the season or maybe it should be left for later in the year. Choosing where to go based upon seasonal changes lets hunters take advantage of habitat and food source changes, as well as compensate for pressure from predators and other hunters, thus getting the most bang for their buck, pun intended. Rabbit season, like most other hunting seasons, seems to fly by and before you know it, it is gone. But stopping and thinking about it, the season actually lasts quite a while. Depending on location, the season may last several weeks or even a few months. Cottontail season opens in many (above) There are lots of different types of habitats that hold rabbits. Knowing when to hunt each one is the key to a long and productive season. (opposite) When row crops such as corn or soybeans are harvested, it forces rabbits into edge habitat such as this overgrown ditch bank. Areas like this are great to target in the early days of the season.

states in October or November and runs until January or even the end of February in some locations. There is a lot of change that takes place from late fall until late winter, so if rabbit hunters really want to stay in the thick of things from the opening bell until the last day of the season, they need to formulate an efficient game plan.

My plan involves dividing the season into three separate sections. There is the early season, the middle or bulk of the season, and then the late season. Each of these portions of the rabbit season offer distinctly different challenges and opportunities. I look at the total as three separate seasons and then divide my hunting properties into the best "season" for each.

The Early Season

The first of the season is when we have to be the most selective and make some wise choices. Everyone is always anxious for the season to start, and it is easy to rush to our typically most productive spot in order to



have great success on opening day. While this is certainly understandable, there may be much better options available.

I like to target three different types of properties in the early season. The first is edge habitat around row crop fields. Many people are surprised to learn how many rabbits actually live out in row crop fields while the crops are growing. Many farmers have remarked about how many rabbits they see scurrying for the edges as they are combining beans or shelling corn. Unfortunately, those same farmers also comment on how few rabbits actually make it to cover before being swooped upon by a hawk waiting in a tree or on a power pole alongside the field. If hawks can learn rabbits are in the fields and are forced to edge habitat during harvest time, why cannot we as hunters?

This edge habitat gets an influx of rabbits each season, many of which have been born in the crop fields and have no clue where to go once displaced. Unfortunately, this edge habitat is short lived and if not hunted in the

"Many people are surprised to learn how many rabbits actually live out in row crop fields while the crops are growing."

early season, it will not be very productive later in the season. Rabbits will move to better areas or they will be picked off by predators or other hunters. Hit these areas hard and fast right at the start of the season before it is too late.

The second type of location is similar to the first. Some types of habitat do not survive the season. Dying foliage, winter weather, cold, wind and snow diminish standing grass, weeds and some brushy areas to nothing but a flattened matt of vegetation unsuitable for rabbit cover. This obviously necessitates a move by any resident cottontails, so the objective for hunters is to hit these areas before the rabbits are forced to leave.

The last type of early season location I like to target is public ground or any other area likely to be hunted by others. There are some really good hunting opportunities on many wildlife management areas and other public access properties, but the best and easiest to reach areas will be hunted early and often. Likewise, private lands where numerous peo-

When these two soybean fields are harvested, it will force any rabbits in the bean fields to the overgrown fence row in between. Areas like this are great to target in the early days of the season.



ple have been given permission to hunt will be hit hard. Beat the crowds and hit these spots early.

The Middle Season

Terming this the middle of the season is not really a fair assessment because the three segments are not necessarily equal in length. The middle part of rabbit season is basically comprised of all the locations that do not fall into either an early-season or late-season classification. A better moniker might be the bulk or majority of the season. But, even though this portion comprises most of the hunting locations, I still like to hunt each one at its correct time or for its correct use.

An example of the latter is a fairly good size farm on which I have permission to hunt. The landowner there plants much of the property in native warm season grasses. There are also open crop fields with edge habitat as well as fence rows and an overgrown ditch line. This property nears the top of my list of best places, but I hunt it two different ways.

"In the last weeks of the season, I always have a few spots I have purposely left alone all season."

The edge habitat, ditch and fence rows I often hunt very early in the season with only one hunting partner. The straight-line habitat lends itself well to one hunter on each side. However, the remainder of the property consists of large blocks of waist-high grass with wide strips mowed in between and around the edges. It is loaded with rabbits, but very difficult for two people to hunt. The rabbit always seems to find a way out of one block of grass and into another when the hunters are not in position. This part of the farm is generally left alone until three or four hunters are present to hunt more effectively.

I always think about each one of my hunting properties and try to analyze when they would be best utilized. Sometimes I hunt alone, so I have certain properties that are good for one person. Other properties are best hunted by two or more people as in the previous example. Some of my properties might get visited by other hunters and still others have habitat that might degrade throughout the season. Several of my properties have

woods on them and are heavily hunted during deer season. These I have to steer clear of until after the whitetail season concludes. I take all of these factors into consideration when planning where to hunt.

The Late Season

This is crunch time. It is the two-minute warning to use a football analogy. The majority of the season is gone, habitat and food sources are greatly reduced, rabbit numbers are down and the close of the season is quickly approaching. It can be a time of boom or bust, depending on how the season and various properties have been hunted thus far.

Rabbits endure a lot of change throughout the time period of hunting season. Obviously, they get a lot of hunting pressure from both humans and from predators. Their habitat shrinks and food sources dwindle. Weather gets much worse, and in some areas of the country, downright bitter and life threatening. These factors combine to force rabbits into more dense cover, areas where they can find food and shelter and to hold much tighter before jumping.

In the last weeks of the season, I always have a few spots I have purposely left alone all season. These are areas of some of the thickest cover and places I am relatively confident no one else has hunted. They are also areas that are more difficult for coyotes and other predators to decimate. Likewise, they are more difficult for humans to hunt and really require some good dogs that will bury into the thickest portions of the cover and get rabbits moving.

There are also a couple of options when hunting public ground in the late season. Most all of the easy spots close to parking areas have been hunted numerous times and should be left alone. However, many public hunting areas have good rabbit habitat that is quite a ways from any available parking. Not everyone has the desire to leash up their dogs and make a big hike back into these secluded locations, but those who do are often rewarded handsomely.

Another last-ditch effort to use on public land, and even on some private land, is what I refer to as island hopping. The term is a familiar one describing how small planes shuttle tourists from island to island during vacation time. While rabbit hunting, I use it to describe moving from one small "island" or strip of cover to another.

Lots of agricultural fields have small areas that are not tillable. It may be just a little patch of trees and brush, or it may be an area around an old barn, pond, oil well or something else. It may be a short ditch or section of



In areas close to home, air guns or archery can be perfect weapons that open up even greater hunting opportunity.

old fence grown up with weeds and brush. There may be some drainage pipes, old farm implements, or other stuff left for weeds to overtake. These areas are often small and scattered, so lots of hunters skip over them because either they do not think of them worthwhile or simply because of the effort it takes to move from one small spot to another. However, these little isolated patches of thick cover can often be the ticket to picking up a few extra cottontails late in the year.

Set to Go

There are numerous ways to hunt various properties throughout the rabbit season. They can just be hunted at random or the best spots can be hit first. The latter often produces a lot of success early in the season, but it tapers greatly later and can really diminish enjoyment during the second half of the season. However, spending some time analyzing the various properties and habitats, and then making a plan to hunt some early, some in the middle and holding some for the very last goes a long way toward spreading the excitement and success. Just a little thought and planning helps get the most out of the entire season.

Sweet No gun Performs Well When It's Fouled Over By Dirt. Here's how to Keep all components of the gun And Barrel in top Working order. By Thomas C. Tabor





Few people would question the fact that firearms are expensive to purchase and seemingly they get more costly each year. That reason alone should be enough of a basis to encourage a high level of maintenance on those guns, but a clean and well maintained firearm will also frequently function better and shoot more accurately than a dirty one. But I'm not any different than most shooters-I would much prefer to be shooting the gun rather than cleaning it. Nevertheless, like the need to shovel out the stalls in the barn as a kid, if you don't dedicate a little time to cleaning your guns there will be consequences associated with it. They might not be quite as smelly as the barn situation, but the result of not doing so will be no less consequential.

The Evils of a Dirty Gun

When the firearm trigger is squeezed and the firing pen strikes the primer of the cartridge, it sets into motion a series of events over and above just launching the bullet down the barrel or shot charge on its way. Because combustion processes are never 100-percent efficient, various forms of soot, ash, partially burned and unburned powder residue is left behind. And added to that list of undesirables will often be particles of lead and copper. While a sizable amount of this debris follows the bullet out the barrel, a significant portion remains inside the barrel and throughout the mechanisms. Most shooters understand that when this fouling becomes heavy it can affect the functionality of the gun, but it's important to also recognize the fact that much of this debris is hydroscopic in nature. Like flies are drawn to a piece of rotting carrion, this debris has the potential to draw moisture directly to it from the air setting up the perfect environment for rust and corrosion to get a foothold.

The best time to clean your firearms is shortly after they have been fired and before they have had a chance to fully acclimate to the ambient conditions. Warm barrels from a recent shooting will always be easier to clean than cold ones. But whether you immediately clean your guns after they have been shot or

wait a while, it is important that it gets done in as expedient of a manner as possible. And even between firings it's always a good idea to wipe the outer surfaces down periodically with either a lightly oil-soaked rag or a silicon impregnated gun cloth in order to remove fingerprints or other types of contamination.

Cleaning Rods & Chemicals

It's quite natural when thinking of bore cleaning to put heavy emphasis on the type of solvents and chemicals to be used, but that is only one of several factors that a shooter must consider. The tools you select for the job are every bit as important as the actual chemicals. There are essentially two schools of thought when it comes to a cleaning rod. Many shooters prefer to use a rigid-style rod and others lean more toward the flexiblecable style, like those produced by Otis Technology. I find that both of these systems work well. The cleaning kits available from Otis come with the advantage of being exceptionally small, about the size of a vine ripened peach, and contain virtually everything needed to do an adequate job cleaning your guns. Inside the zipped nylon pouch you will

(left) This rust damage could have been the result of a bloody finger print, damage emanating from some type of citric acid. an unnoticed oily fingerprint, or moisture contamination and helps to demonstrate the consequences of ignoring the need for routine cleaning and maintenance of your firearms. (middle) Hoppe's produces many fine products dedicated to gun cleaning. Pictured is the company's Elite line of cleaners, which includes both a liquid gun cleaner as well as bore gel. And. while most cleaning rods are made of aluminum. brass or steel, Hoppe's graphite cleaning rod offers an excellent alterna tive, which comes equipped with its own bore guide. (bottom) Sometimes coatings can wear off of a cleaning rod. exposing the hard surface underneath. When this happens it is a sign that the rod is coming into direct contact with the bore. It is best to discard the rod when these signs are present as a way of protect-





"It's always best to clean the bore from the breach end of the firearm."

SHOTGUN CLEANING

> The processes used for cleaning shotguns are not significantly different than those used for cleaning rifles or handguns. But while you don't have to contend with the problems associated of the lands and grooves of the rifling trapping copper jacket material, you will likely have to face the problem of plastic buildup inside the bore from the wads. Most of the time using a good solvent and a wire brush will get rid of this buildup, but it will take multiple passes to do so. There are a couple of areas unique to shotguns, however, that should not go unaddressed. If your shotgun has a screw-in choke system the choke should be removed and the threads cleaned and oiled after each shooting session. And a special amount of attention should be given to the chamber. There seems to be some type of a chemical reaction that takes place when plastic shotshells are fired. I'm not a chemist, so I can't tell you why or how this seems to occur, but it has always seemed to me that shooting this type of shotshell results in a greater potential for rust and corrosion to form inside the chamber. Because of this I always give an extra degree of attention to this area, cleaning it thoroughly and applying an find a flexible metal cable with a durable protective plastic covering around it, solvent, oil, patches and a selection of cleaning tips and brushes. Being so compact and all inclusive these kits make a great choice either field use or home use

It's always best to clean the bore from the breach end of the firearm. This limits the possibility of doing damage to the muzzle area, which is crucially important to good accuracy. Unfortunately, when cleaning some semi-automatics and pump-action firearms this is not possible unless the barrel is capable of being removed. In this case rather than using a rigid cleaning rod and having to insert it from to the muzzle, I prefer to use a cable-style cleaning system for these applications.

At one time most rigid cleaning rods came in the form of a three-piece design that screwed together and were frequently made of aluminum. This style of rod is still available today but has lost some of its popularity. A breakdown rod can sometimes collect debris where the sections are screwed together and that grit can then work aggressively against the gun bore. In addition, aluminum is easily bent which can cause the rod to come into contact with the rifling inside the bore. While this style of rod might be convenient for field use a better choice would be either a one piece rod that is resistant to flexing or bending or a flexible cable-style rod.



(above) Clearly the effectiveness of these brushes has long since passed. (right) Cleaning rod tips come in two basic types: slotted tips and jags. They are most often made of aluminum, plastic or brass. Either style does a great job, so which type you choose to use is simply a matter of personal preference.



A bore light is a great tool to have in your cleaning tool kit and will allow you to check for fouling and obstructions. Of course you must always make sure the gun is fully unloaded with the action open.

The one-piece cleaning rods being marketed today are available in a wide range of materials including steel, brass or even graphite. Personally, I favor the graphite style rods over the other materials because I don't believe they are as likely to damage the bore as the rods made of steel. Even though the steel rods frequently come with some form of protective outer coating, often with fancy copyrighted names associated with it, those coatings can sometimes wear off over time and when that happens it can result in steelon-steel abrasion. And a brass rod, like an aluminum one, can easily become bent and, because of the softness of its material, it can develop scratches and abrasions that can harbor grit and contamination.



after each firing. -T.T.

even coverage of oil quickly



A blood stained fingerprint can result in severe damage to the bluing of a gun.

There are a couple of additional things to keep in mind when it comes to the use of a rigid-style cleaning rod. First is that the rod diameter should be properly sized to bore it is to be used on and, second, the use of a bore guide is highly recommended. The bore guide is a simple little tool that usually fits in the action of the gun, or in a few cases it might be on the cleaning rod itself. In both of these cases the guide helps to align the cleaning rod to the center axis of the bore thereby limiting the rods ability to come into contact with the rifling of the barrel.

When it comes to selecting a bore cleaner, you will likely be faced with a wide variety of choices. To make things as simple as possible, however, I can assure you that I know of no bad bore cleaner being sold today. While some may be a little more effective than others, in my mind they are all great products that you simply can't go wrong purchasing. A new trend that has recently appeared on the market is that of the foaming style cleaners, which work great on particularly stubborn fouling. The ol' reliable Hoppe's #9 is favored by many shooters and comes with a long proven record of use. If, however, you have a particular problem with copper or lead buildup, I would suggest looking for a product that is specifically intended for that purpose. In this case, it is important to carefully follow the manufacturer's instructions and use these chemicals in a well ventilated area due to the toxic fumes that sometimes are generated.

Brush Selection

Once you have settled on a good quality cleaning rod and a solvent the next factor to consider is the type of bore-cleaning brush to use of which there are basically three types. If a bore is severely leaded, fouled, or rusted it sometimes requires a very aggressive cleaning procedure. For these applications only, it might be appropriate to use a brush made with stainless-steel bristles. But you have to be extremely careful in this case. Stainless-steel brushes should only be considered when

WIPE AFTER YOU TOUCH

> The natural oils contained in your skin can have a corrosive effect on the finish of your firearms. So, it is important to occasionally wipe your guns down with a lightly oil soaked rag, or a silicon-impregnated gun cloth.

But what can be even more devastating and damaging to a gun finish is citrus acid or blood. That is why you will never find an orange in my lunch while hunting. A little accidental transfer of juice from your hands to the firearm and it has the ability to eat right through the bluing. Enjoy those oranges at home while well away from your firearms, but never be tempted to take one with you on a hunt or to the firing range. And if you are lucky enough to be successful hunting you should avoid any transfer of the blood to the firearms. Like citric acid it too will have devastating consequences associated with it if it should get on one of your firearms. -TT

(right) Birchwood Casey's #77 Black Powder Solvent is specifically designed for muzzleloaders and other black powder firearms. The cleaning of black powder firearms should get an extra degree of care and attention to ensure no corrosion takes place. absolutely necessary to remove the most stubborn of materials and only then used in moderation and with extreme caution. Used on a regular basis or with an excessive amount of assertiveness, this type of brush can accelerate wear and shorten the life of your barrel.

The bronze brush is possibly the most common type of bore brush in use today and is capable of producing very good cleaning results. And their life expectancy is quite good. However, if you are using a bore cleaner specifically intended to remove copper-jacket fouling, those chemicals can attack and damage a bronze brush. In this case, rather than using a brush with bronze bristles you might opt to use a nylon brush instead. Nylon brushes are highly resistant to the effects of those chemical compounds and they are still capable of doing an acceptable job.









Some shooters mistakenly operate under the belief that an oversized brush forced to fit down a smaller bore will do a better job of cleaning than a brush that is specifically sized for that particular bore diameter. In reality, however, when the brush is too large for the bore the bristles simply bend backwards hindering their abilities to get into the tight spots of the lands and grooves of the rifling.

Brushes don't last forever and should be discarded when they start to show signs of deterioration. I sometimes take a bit of an unorthodox approach when it comes to my own warn brushes. Rather than immediately tossing them aside, I sometimes find I can still get a bit of additional life out of them by substituting them for a bore-cleaning swab. In this case, I wrap a solvent-soaked cleaning patch around the warn brush rather than simply using a slotted tip or jag to apply solvent. The bristles of the brush adhere to the patch very well, holding it firmly in place. I like this method much better than using one of the normal manufacturer produced swabs, because once I have cleaned the bore, I can simply peel the patch off and toss it, where as a

"While gun oil does a great job protecting the metal from rust and corrosion it can have devastating effects on the wood."

(left) The rigid-style cleaning rod comes in a variety of styles and configurations. Shown here are just a few examples (top to bottom): Dewey one-piece traditional solid brass rod. Tetra Prosmith heattreated, hardened stainless steel rod with a Corvel coating, Hoppe's one-piece 100-percent graphite rod with a built-in bore guide and an Outer traditional three-piece sectional solid-brass rod.

real swab can become impregnated with grit and contamination that can work aggressively against the bore.

The Problem of Copper Fouling

Copper jacketed bullets coupled with high velocities are what are responsible for copper bore fouling in rifles and pistols. As the bullet travels down the barrel, the rifling inside the bore cuts deep into the bullet's jacket. While this is needed in order to put the proper spin on the bullets, it has a tendency to leave behind copper deposits inside the bore and copper can be very difficult and stubborn to eradicate. While frequent and regular cleanings will go a long ways to limit this buildup from occurring, sometimes you just have to call on the services of a solvent specifically formulated to remove this material. If ignored and not removed two things will generally occur. First, your shooting accuracy will start to deteriorate and, second, as the deposits become heavier they will become increasingly harder to remove. Rough bores are particularly vulnerable to buildups of either copper or lead deposits, but all bores can eventually start to collect these types of material.

After the Bore is Clean

It usually takes several brushings and solvent-soaked cleaning patches before the patches start to appear clean. After that I like to follow by running a single oil-soaked patch through then a second dry patch to remove any excess chemicals before turning my attention to the other areas. Obviously, there simply isn't room here to describe the complete breakdown procedures for all types of firearms. But completely breaking down the firearm isn't always necessary each and every time the gun is fired. In this case, a more limited amount of cleaning is all that may be necessary.



BROWNELLS. ED'S RED

Following every shooting I typically take a can of WD-40, or other comparable type of spray oil, and spray a liberate amount on the exposed working metal mechanisms that may have collected some of the residual debris from the firing. Doing so has a tendency to flush the loose contamination away. However, you must be particularly careful not to allow any oil to get on the wood surfaces for fear of it seeping into the unfinished areas below the metal and impregnating the grain of the wood. While gun oil does a great job protecting the metal from rust and corrosion, it can have devastating effects on the wood. Oil allowed to penetrate the grain of wood will eventually result in rotting the stock.

After I have flushed as much of the loose debris away as possible with the spray oil, I follow by using cotton swabs to get out the stubborn stuck-on fouling and to remove any excess oil. I then apply a light layer of grease with my finger to the appropriate wear surfaces as needed, like the hinge points on break-open style firearms and other areas where metal on metal movements occur. After the gun has been reassembled, I like to take a lightly soaked oily rag and rub the outer surfaces down to remove any excessive lubricants and solvent. I keep such a rag under my workbench sealed up in a can specifically for this purpose.

Black Powder Firearms

Black guns come with their own set of cleaning issues simply because of the severe corrosion properties of the black powder. Because of the potential of this deadly-like corrosiveness, it's imperative that a higher degree of attention be given to the cleaning of all black powder firearms. A significant portion of this threat can be alleviated by switching to one of the no-corrosive, or less-corrosive black powder substitutes like Alliant's Black MZ, Blackhorn 209 or Pyrodex.

If you choose to continue to shoot the traditional black powder, there are actually two basic thoughts when it comes to how best to clean those firearms. Some individuals prefer to use a solvent specifically intended for that purpose, like Birchwood Casey #77 Black Powder Solvent. Other shooters attack the problem in the time-proven manner of treating the parts to a hot soapy water bath. In this latter case, the stock is typically first removed from the barreled action followed by removing any parts that may have been exposed to the toxic nature of the powder. That typically includes such things as the nipple and, in some cases, the clean-out screw. Frequently a sink is used for the cleaning.

YOUR OWN GUN SOLVENT

> Ed' Red is a very well known and accepted guncleaning solvent. This particular bore cleaning component stems from a cleaner called Frankfort Arsenal

Cleaner No. 18 that appeared in Hatcher's Notebook published in 1947 by Julian S. Hatcher. Unfortunately, some of the chemical components needed for its formula have in recent years been hard to get, so Ed Harris took it upon himself to update the recipe by substituting a few modern day ingredients for some of the older ones. He called his revised formula "Ed's Red Bore Cleaner."

You can purchase Ed's Red through Brownell's mail order house or other comparable outlets, but for those shooters that use a lot of solvent you might want to mix up a batch of your own. The formula for Ed's Red is available on several different internet websites. I have made my own batches on occasion, but because most of the component chemicals must be purchased in fairly large quantities (sometimes by the gallon) I often wind up sharing my finished product with some of my shooting buddies. Like me, they have found my homemade Ed's Red produces excellent results, with some of them reporting back to me saying that they feel it's the best solvent they ever used. If you have an interest in mixing up your own batch you can do a search on the interest under the key words of "Ed's Red Solvent Recipe" or pull up one of following websites:

- > YouTube.com/watch?v=2OfaCCJjBEU
- > Frfrogspad.com/homemade.htm

After filling it with the hot water and adding some form of liquid soap, one end of the barrel is submerged in the solution. Using a cleaning rod, brushes and patches the barrel is then thoroughly saturated and scrubbed clean of any contamination. The loose metal parts are then subjected to the same process. However, it's important to remember that this is subjecting the metal to precisely one of the worst things to encourage corrosion—water. So, after the water and soap bath has been completed it is imperative that all metal surfaces be thoroughly dried then properly lubricated with gun oil and/or a rust-retarding chemical.

Cleaning any type of firearm isn't all that fun, but once you truly understand the value in it, you'll do it more often. The gun will simply shoot more accurately and operate more safely. Besides, cleaning your firearms is no different than keeping the ol' car well serviced. It's a process designed to extend the life and value of your hard-earned investment. MP

GUN CLEANING CONTACTS

Hoppe's

Hoppes.com

MTM Case-Gard

MtmCase-Gard.com

Otis Technology
MtmCase-Gard.com

Millicase-Gard.com

Birchwood CaseyBirchWoodCasey.com

Alliant Powder

AllianPowder.com

Blackhorn 209

Pvrodex Powder

Pyrodex.com

[Bushcraft]



"Do what you can with what you've got wherever you are." _THEODORE ROOSEVELT



Beginner's Guide to Trapping

·HOW-TO·

IF YOU WANT TO SUCCESSFULLY TRAP GAME, FOLLOW THIS EXPERT'S ADVICE. By Mike Yancey



The author has successfully trapped game for more than 30 years. Here he shows off a nice red fox.

t makes no difference if you're wanting to manage predators on a piece of property, learning to be more self-sufficient or harvesting fur bearers for your own use or to sell, at some point in time the modern pioneer will need to know how to remove unwanted or problem animals. There is no better method than trapping to manage the resource.

Our country was settled and expanded by the hearty breed of mountain men that headed into the mountains with not much more than a blackpowder rifle, a hand full of traps, and a head full of wonder lust. That passion for trapping and the adventure that it brings is a burning desire that I have had since a very early age. Like a kid on Christmas day, every day of the trapping season finds me waking up with a head full of excitement wondering what the day might bring.

Trapping today is not what it was back in the mountain man days and, in most cases, it's much better. We now have at our disposal special tools designed for a specific purpose, and trap designs that didn't even exist in those times that are more target specialized and effective, with the invention and huge success of the new dog-proof-type raccoon traps, as a perfect example. These simple and very effective traps have turned total novices into coon-catching pros.

Trapping Helps Game Management

In this introduction to trapping, I will explain to the beginner some of the ways to manage your property for predators, which will help your deer, quail and, most importantly, your turkey population. Turkeys, in my opinion, are a perfect example of what a good predator management program can do to help expand your flock numbers. If we look back to the fur boom of the '70s and early '80s, we will see that a wild turkey population explosion soon followed, and I can see it again here in Arkansas.

Also, in the past few years, fur prices have went up and more people have taken up trapping as a way to better manage the resource. A few raccoons at a game feeder will soon turn into a huge problem if left unchecked and, with the removal of these excess animals, the wild turkey population seems to be the first to benefit from such efforts.

Small poultry flocks will at some time or another, fall victims to the wild predator. It makes no difference how secure your backyard poultry housing is...predators will find a way to those free meals and, if you don't take quick action, they will not quit until all your flock is gone. These threats come in many forms—fox, coyote, mink, skunk, opossums, as well as the raccoon. All can be managed and controlled by trapping.

We will start with predator trapping on larger type properties then go to smaller nuisance animal control. Trapping is best broke up into three types: large predator land-type trapping, water-type trapping (for animals such as beaver, muskrat, mink and raccoon), and, thirdly the dog-proof coon-type traps that can be used in many effective ways.

What to Acquire

If you are wanting to jump into the game big, you can look up trapping supply dealers



"Our country was settled and expanded by the hearty breed of mountain men that headed into the mountains with not much more than a blackpowder rifle, a hand full of traps, and a head full of wonder lust."

on line and purchase your needed supplies there. But if you just want a few traps, then most feed or hardware stores will have what you'll need. My go-to trap is a number 1 ½-coil-spring trap or the 1 ¾-coil-spring with offset jaws that don't close all the way in the center of the jaw. Both traps are large enough to catch and hold most any animal that you will trap in North America yet small enough for the smaller type animals.

The object of the game in trapping is to use the proper size trap for the targeted animal, so that a hold across the pad of the foot is made and no damage to the animal's leg is done. This will hold the animal securely until you either dispatch it, or remove it unharmed from the trap with the aid of a catch pole. While on the subject, a catch pole is a pole that has a length of cable run through its length forming a noose on one end that can be drawn tighter on the other end. It allows an animal to be held safely away from the trapper and released from the trap unharmed. I think that It's the single most useful tool on the trapline other than the trap itself.

Items that you will need for land-type trapping are traps, wire and/or stakes to secure the traps. A sifter to sift covers over the trap,



(above, top) This photo shows the author's preferred trap placement in relation to the dug hole. (above, bottom) A single piece of unscented toilet paper is being used as a pan cover to prevent dirt from getting under the pan, preventing the trap from firing properly.



"A few raccoons at a game feeder will soon turn into a huge problem if left unchecked and, with the removal of these excess animals, the wild turkey population seems to be the first to benefit from such efforts."

some type of hatchet and/or hammer, as well as some type of lure and bait. You will need to check your state's laws and regulations regarding licenses, tags and bag limits. There are often times size restrictions, as well as identification tags required on traps. Here in Arkansas we must have a tag attached to the trap with the owner's information on the tag, as well as a size limit on the size of trap that we are able to use in our land sets.

Using Bait or Lure

As far as bait and lure go, I would highly encourage you to use as little as possible. You will have more trouble with using more than less. I almost exclusively use a lure made by the Leggett family in Maryland. This lure will not contaminate your traps if you happen to get some on them and will attract animals to your sets like crazy. I have used this lure for years and highly recommend it for the beginner to the professional trapper.

The problem about contamination of your trap with other baits or lures is that if you get that smell on your trap, the animal will smell it and be attracted to the trap and dig it up. What we are trying to do here is draw his attention to a hole in front of the trap where the lure is and draw the animal past the trap to the hole, then being caught in the process, while not being aware in any way that a trap is there.

Setting the Trap

Now for the fun part—I prefer using on my land lines what is called a dirt-hole set. This is basically a set that is constructed by digging a hole about the size of a baby food jar at about



(opposite, top) These are the primary tools used in trapping: sifter, digger, trowel and lure. Be sure you have them available.

(above) This is the author's favorite set up for land trapping. An American-made Sleepy Creek brand 13/4-coilspring trap with offset jaws, rigged with a double-stake swivel on the end of a short chain. The two stakes are driven into the ground at an angle under the trap when set.

(left) The Duke Brand dogproof coon trap and lure. The invention of this style of trap has done more to help beginners catch raccoons than any single item in recent years. Simply set, bait and securely attach the trap at the location, and you're in business.



a 45-degree angle in front of some type of backing, like a small rock or clump of grass. This arrangement will force the animal to work the set from the trap side of the hole and not the back. The trap is offset a bit and can be either to the right or the left—it makes no difference. I just do it to the right and catch 99-percent of my animals by the right front foot.

The single most important part of the whole process, other that securing the trap properly, is to make sure that the trap will not move in anyway if stepped on by the animal other than the pan. You must push, twist and pack dirt around the trap until you can push down on any part of it and there will be no movement.

Once you have the hole dug and the trap bed dished out, place the trap in the bed and either stake the trap with a rebar stake. I often use two of these stakes. You must hold what you catch and two stakes are worth the trouble, or you can wire the trap to a drag of some type or a tree at least the size of your wrist. If using wire, use at least four strands

(above) Three different sizes of body grip traps. This larger style of trap is very effective when used in water sets to catch beaver and otter. When set, the trap is positioned so that the animal will swim through it. The smaller sizes are very effective on smaller animals as well.

(right) The catch pole is used to securely and safely hold an animal while being removed from a trap. This will enable the trapper to release an animal unharmed, while keeping it secured and out of reach while releasing it from the trap.

twisted together to form a strong cable capable of holding the largest animal in your area. This is a must.

Covering the Set

Now that the trap is bedded and secured, I cover my sets with dry dirt, either from the set or carried into the set in a bucket. The dry dirt will allow the trap to fire properly and quickly, and I also use a single piece of unscented toilet paper over the trap pan to prevent dirt from getting under the pan and preventing the pan from free-falling and keeping the trap from firing.

Now all that is left to do is to simply put some of the lure into the hole. I apply a small amount on a cotton ball and place it in the bottom of the hole. Then place a small wad of grass or some leaves in the hole so that the animal can't see the bottom of it, making them more curious and staying at the set longer. What we are trying to do here is make the set look like another animal has been there, either getting food or burying food.

Where to Set Up

Location is the key to success once you have mastered the setting of a trap. You can catch way more fur in a couple of good locations than several areas strung all over the place. I look for game trails that cross farm or forest roads, as well as crop changes. All these areas are great locations that predators will be



"My go-to trap is a number 1½-coil-spring trap or the 1¾-coil-spring with offset jaws that don't close all the way in the center of the jaw."

using. Don't be fooled into thinking that your lure or bait will pull the animal to your set; it simply won't happen. You must be close to where the animal is then either the smell of your lure or the sight of the fresh dirt in a good location will draw them in.

Water-Type Trapping

Water trapping for beaver or muskrat will be done in the same manner. You will treat your traps the same, with the only exception is that you will be dealing with setting it in water and, often times, using different types of traps. Most water traps are body-grip traps designed to catch the animal by the head or body in the water as it swims through the trap. They are one of the best inventions of our time. They quickly and humanely kill the animal and are easy to set in locations that the animals are using. Often times water animals are the easiest to trap, because of the trails that they have coming in and out of certain areas. This makes a set location easier to find for the beginner.

Our last and, many times, the easiest and most effective trap to use is the dog-proof coon trap. These traps were designed so that a small amount of bait is placed in the trap. It was also engineered so that a dog cannot fire the trap with its foot, hence the name.

The trap works very simply. As a raccoon reaches into the trap to get the bait, it trips the trigger, closing the trap immediately and holding the animal's foot in place. These traps require no skill to set or bed and can be placed in any location that raccoons will be traveling. The best and most effective method is to set several of these traps at game feeders to remove raccoons that are eating up feed intended for livestock or other game animals.

For more information on trapping in your area, check out your state's trapping associations as well as your state's game and fish commissions for season dates, rules and regulations. MP

KEEPING TRAPS SCENT FREE



> Trap preparation is also an important part of the game. You need to protect your traps from the elements much like a gun barrel is blued to protect it from rust.

First you must remove the factory oils from a new trap. This can be done in many ways but the easiest way is to simply cover the trap in a mixture of vinegar and water, about a 50:50 ratio for a couple of days. Then remove the trap from the vinegar mixture and lay it out on the ground for a few days to allow a thin coating of rust to develop on the steel.

Now either treat the trap in a trap treatment of logwood dye or simmer it in a mixture of wood bark or sumac berries to dye and protect the trap from rust in the future. While I am doing this, I put a pound or two of trap wax in the mix and pull the trap(s) through the melted wax to further protect it from rust. From this point on you will only handle the trap with clean gloves used only for trapping to prevent contaminating the trap with human or foreign orders. If you are using wire or stakes to secure your traps, give them the same treatment. —M.Y.



·HOW-TO·

5-Step Deer Mount

THE COST OF A DEER SHOULDER MOUNT CAN BE QUITE EXCESSIVE, WHEREAS A SKULL OR EUROPEAN MOUNT IS EASY TO DO ON YOUR OWN, ALL FOR ONLY A FEW DOLLARS IN SUPPLIES.

By Jason Houser

buck. After tossing the idea around for a couple of days, I decided to proceed with getting a full-shoulder mount of the 125-class 8-point buck. For the first time in about five years I took a deer to the taxidermist, but I decided not to have it done. I had to prioritize my needs. Did I need to provide food for my family, or did I spend a week's worth of pay on a deer mount that my wife would not like anyway? The choice was simple. Instead of trying to justify the purchase of taxidermy work, I searched for a cheaper alternative.

Pope and Young bucks are not behind every tree of the property that I hunt. Truthfully, this buck barely surpassed the club's minimum standards. However, I wanted to give the buck the recognition it deserved. On my living room wall are a few traditional antler mounts. They look nice, but I wanted something different. A good friend of mine has been doing has been doing his own European or skull deer mounts for several years. After some consultation from my buddy, and then trying my skills at making my own European mount, this is what I learned.

(opposite)

European or skull mounts are quite graceful with or without a plaque attached.



STEP 1 — Skinning Out the Prize

The first thing that has to be done is to remove the head from the neck. Then remove the hide. Because you will not be saving the hide (unless you want to) do not concern yourself with its condition once you get it off. Begin by filleting the skin off the jawbone, and then skin the head like you did with the entire deer. Overall, the skinning process is pretty easy. Do not forget to remove the nose and ears. The hardest part for me was when I got around the base of the antlers and near the eyes.

After the hide is removed, you are left with a very gruesome looking skull. The next step is not for people with a weak stomach. Take a stout wire or a piece of a coat hanger and poke as much fat and gristle out of the nasal cavity as you can. You will not be able to get all of this "stuff" out of all the crevices, but do as good of a job as you can. Be very careful working around the tips of the nose. This area is very fragile.

STEP 2 — Boil the Skull

Find a pot that is large enough to accommodate the skull and make sure the pot will not be needed in the kitchen again. In addition, I recommend not boiling a skull inside the house because of the terrible stench it will leave behind. I used a turkey fryer stand and pot that would allow me to boil water for hours.

After you have found a pot big enough to fully immerse the skull, fill it with water. Be sure to leave room between the water level and the antler bases. Once the water begins to boil it could discolor the antlers if they are

It's important to boil the skull by adding a touch of sal soda to the solution. This will prevent a yellowish stain on the skull and expedite the whitening process. To whiten, simply brush on 40-volume peroxide.

submerged in the boiling water. Another thing to be cautious of is not letting the antlers come in contact with the sides of the pot and becoming browned. If the antlers are touching the pot, wedge a piece of cardboard in a manner that it will not catch fire.

skull and make

sure the pot will

not be needed in

the kitchen again."

A deer's skull is full of grease that will turn it yellow during the boiling process. To prevent this add some sodium bicarbonate (sal soda), which also helps loosen all the meat still in the skull.

Eventually, as the skull boils, flesh and tissue will loosen and fall from the skull. Be sure to check inside the mouth for any meat and the tongue. You might have to pick the meat away from the skull from time to time as the water boils. It is not fun, but the brain will probably need some help. There is only a small hole in the back of the skull for the brain to escape through. You might have to use a piece of coat hanger or a screwdriver to persuade the pieces to go through the hole.

As I mentioned earlier, the top of the nose is very fragile because of the tiny bones. Still, "After several hours of rapid boiling, along with some picking and prying, the skull will be free of gunk."

you have to work some of the meat out of the nasal cavity throughout the boiling process. Be careful.

The first time I boiled a skull I was surprised to see things falling apart, literally. The lower jaw is going to fall off. That is fine; you will not use it anyway. You will also find teeth lying in the bottom of the pot. I became a little concerned about this. However, it's an easy fix. All I had to do was super glue them back in when the boiling was done.

STEP 3 — Scrape Remaining Tissue

Eventually, after several hours of rapid boiling, along with some picking and prying, the skull will be free of gunk. Some stubborn areas might require a bristle brush or a paring knife to get all the meat off.

STEP 4 — Rinse Skull Thoroughly, Dry and Whiten

Next, spray the skull inside and out with water to completely rinse it. Now that all of the flesh is removed and the skull is clean it is time to begin the whitening process. First, let the skull hang in the sunlight to dry for a day or two. Either at a local beauty salon or at a taxidermist supply store buy a bottle of 40-volume peroxide. A taxidermist supply store is also where you can purchase the sodium bicarbonate that I mentioned earlier.

Paint the peroxide on the skull with a small brush. Be sure to hit it all, but be careful not to get any on the antlers, let it dry. Paint the skull enough times to get it as white as you want, probably one or two more times. Put it in the sun to dry one more time.

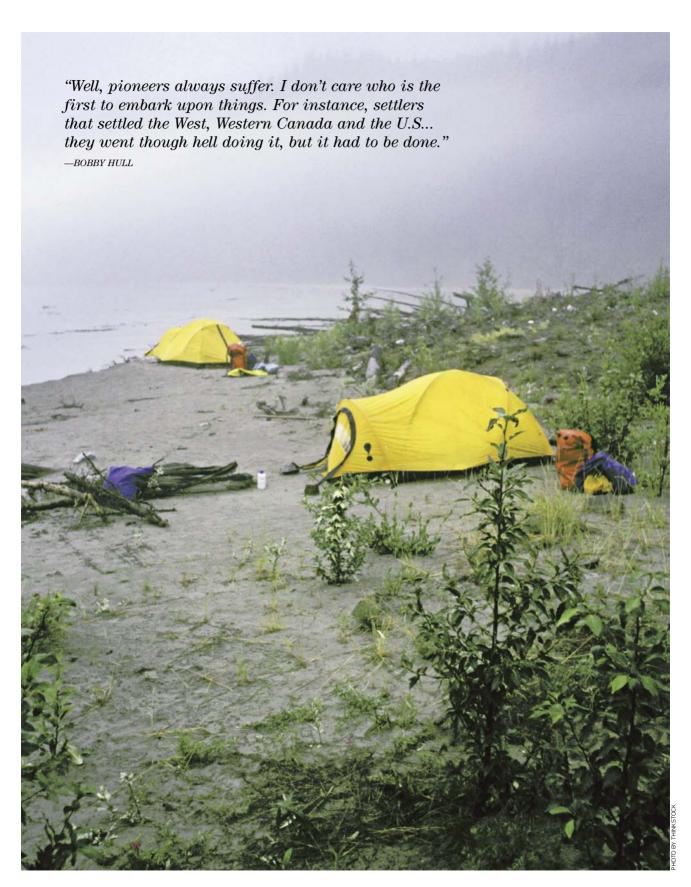
STEP 5 — Mount and Enjoy

The final step is to simply mount the skull on a wooden plaque or on a stand. Keep in mind, European mounts also look nice just lying on a coffee table or mantle, but however you display your trophy, you can take pride knowing that it is something you did from start to finish. MP



Making your own European mount is very affordable. All that's needed is a big enough pot to fully submerge the skull, an outside propane burner or camp stove, wire brush to remove flesh residue, sal soda, and a bit of time.

[Survival]



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EMERGENCY MEDICINE

Will You Be Ready? Wilderness Medic How-To

HERE'S HOW TO PREPARE PREPARING FOR TRAUMATIC INJURIES WHILE HUNTING OR EXPLORING THE BACKCOUNTRY. By Kerry Davis

t's a beautiful day for a hunt up into the hills surrounding your campsite. You and your buddies are finding your way up to an old, abandoned mining cabins via a mix of trails and boulder fields. There is a good glassing spot up on the ridge.

As you near the top, one of your friends slides off of the trail and falls a few feet onto some jagged rocks below, landing with a sickening thud...and a crunch. He's calling out for help as you quickly make your way back down to him. You see a growing spread of bright red blood coming from his lower left leg and he has what looks like an extra joint in the middle of his left forearm. His color is pale and his breathing is rapid. To make matters worse, you see dark clouds forming in the distance and heading your way. What can you do to help? Do you have the right kit? Do you have the right training? Do you have the right mindset?

What Do I Put In My Kit?

Contrary to popular belief, bigger is not always better. In fact, the bigger a kit is the more confusing it can be in moments of chaos and crisis. Confusion leads to hesitation and hesitation can lead to the victim losing precious blood.

So, what do you put in your kit and what are some characteristics you want to look for in a kit?

Whether you "roll your own" or buy a prepackaged, commercially available kit, you'll want to ensure it has quality components, has a small footprint, is durable, lightweight and easy to use.

The size of the kit may depend on your activities or number of people you may be taking care of. For a personal kit, at a minimum you'll want your kit to include the following items:

- 1. Nitrile Gloves: The importance of having nitrile material gloves cannot be emphasized enough due to many people having latex allergies, responders and victims alike. These need to be the first things you put on as you can't know if you will be dealing with any bodily fluid.
- 2. Pressure Bandage: Pressure bandages do just that; they direct pressure directly onto the wound to compress the vessels and achieve hemostasis (stopping the bleeding).
- Hemostatic Gauze: Hemostatic gauze is another valuable tool to utilize in a kit as it helps the blood to clot in the event the bleeding may not be handled by direct pressure and pressure bandages.
- 4. Occlusive Dressings: The occlusive dressings are designed to seal up the "box" (the area of our body from the belly button up to our collar bone and all around to the back). They keep air from entering the chest cavity from the outside.
- 5. Standard Gauze: Having some extra standard gauze just gives us a little more material to pack if we have a deep wound and it can also be utilized for wrapping body parts affected by burns, blisters or frostbite.
- Nasal Airway: The nasal airway is a basic adjunct that can be used not only for the nasal airway but also secured in place orally with that handy piece of gauze.
- Mylar Blanket: Mylar blankets are great because they can help a casualty maintain adequate body heat and that helps with clotting, which helps decrease bleeding, which increases survivability.
- 8. Tourniquet: Having a tourniquet is imperative. After 13 years in two combat theaters, we've learned that tourniquets are no longer the last resort. Placing them on "high and



(above) A twisted ankle could be an easy fix by using an elastic bandage to add extra support.

(right) Being prepared is the key to handling first-aid in the backcountry.

(far right) This instructor is performing a tourniquet drill behind cover while teaching "Bullets and Bandages" at SIG Sauer Academy. The class focuses on medical skills combined with firearms manipulation.



tight" in the event of a life-threatening extremity hemorrhage is quick and easy and there are many proven tourniquets available.

- Shears: Utilizing shears to expose the victim for any further injuries is a must because we may miss a small injury, which could prove to be fatal if not addressed.
- 10. Pouch for carrying everything above

Another important thing is to remember to periodically inspect your kit and check the expiration dates. On some items, the expiration is for



sterility only, not efficacy. If you have any questions on that, the best bet is to go straight to the manufacturer and find out from them. Again, you may add or remove items to tailor your kit to fit your particular requirements but realize that you can make it too "busy." I don't recommend adding additional items to your "first line" trauma/blowout kit as that can lead to the confusion we talked about earlier. If you want to build a bigger bag, I recommend putting separate items out into zip-style closure bags for labeling them all for quicker, easier access. i.e. "Hemorrhage Control," "Sprains/Fractures," "Environmental," "Boo Boos."

Try to have items in your kit that you have more than one use for, like a pressure bandage that could be used as a tourniquet adjunct. This makes the kit more versatile and prevents you from carrying extra ounces. Remember the old saying, "Ounces equal pounds and pounds equal pain."

Training is the Key to Making it Work

Having a kit is one thing. Knowing what to do with the kit and how to properly utilize the components is another. I liken it to handing someone a mechanics toolbox who has never worked on a motor and telling them, "Okay, you're a mechanic now. Go fix that engine." Once you have the proper training, you are a much better "mechanic." Mechanics also know how to use the tools before they have to work on the car due to practicing with them to gain familiarity. Along those lines, it would benefit you, and more im-

"Having a kit is one thing.
Knowing what to do with the kit and how to properly utilize the components is another."

HOW DO I TREAT AN INJURY?

- In our classes, we teach our students that treatment is all about detective work. You learn how to recognize something through the various signs and symptoms and then you fix it. Once you have fixed it, you run back through your treatment algorithm until advanced help arrives. Here's how it works:
- 1. STOP! ASSESS the scene safety and call "911". Put on your gloves.
- 2. Check the victim's level of CONCIOUS-NESS while approaching by calling out to them
- 3. Check for any life-threatening HEMOR-RHAGE and stop it.
- 4. Check for any AIRWAY problems and correct them.
- 5. Check for any difficulty BREATHING. Look, Listen and Feel.
- 6. Check the radial and carotid PULSES, capillary refill, skin color and temperature 7. Assess the LOC (level of consciousness) AGAIN using the "AVPU" scale
- A-Alert (A&O x 4)-Person, Place, Time and Situation
- V-Responds to verbal stimuli
- P-Responds to painful stimuli (ie. sternal rub, skin pinch)
- U-Unresponsive
- Remember to constantly reassess the LOC as an alteration in LOC can mean a shortage of blood, sugar or oxygen, which the brain loves!
- Assess the pupils: Are they reactive and equal in size/diameter?
- 8. Expose the victim for any further IN-JURIES, treat as necessary and cover the ground the victim is lying on, cover them to prevent heat loss and place in recovery position if their injuries allow.
- Treat for SHOCK. Continue to assess for any bleeding and keep them warm.
 Constantly REASSESS any intervention, AND REASSURE and talk to the victim until help arrives. —K.D.

I FIND

There are several companies out there who build kits and other companies which sell all the individual components of a kit. Here are a few:

- > Dark Angel Medical: www.darkangelmedical.com
- > Combat Medical Systems: www.combatmedicalsystems.com
- > Rescue Essentials: www.rescue-essentials.com
- > Boundtree Medical: www.boundtree.com







Celox Rapid is a very useful emergency kit for hunters, campers and wilderness travelers.

portantly, the person you're working on, to get some good "hands on" time with the kit components before something happens because you don't have time to sit there and read the tourniquet instructions while your wife is squirting the red stuff all over her new dress.

Discussing in finite detail the methods to use these items would take more room than we would be allowed, so it is of the utmost importance that anyone who purchases or makes a personal trauma kit obtain the proper training in the use of their kit.

Train Like You Bleed

We have all heard the saying, "Train Like You Fight" and while that is important, it's equally important to "Train Like You Bleed," because it's only after winning the fight, whatever that fight may be, that we realize we've sustained a possibly fatal injury. Having the training and familiarity with the kit is where this comes in handy. If we practice our drawstroke 5,000 perfect times and end up bleeding to death after a car accident because we didn't know how to place a tourniquet under stress, then the onus is ours and ours alone. Realizing that we've been injured and maintaining the mental clarity under stress is a huge component of survival.

The proper mindset can carry us quite a distance even in situations in which it seems survivability is a fleeting possibility. Mental tenacity coupled with the proper training can make quite a fearsome combination in an austere and unfriendly environment. Just because you've been hit doesn't mean you're out of the fight; it means the fight has just started. How it ends is entirely up to you.

The Missing Link

We all love great gear. There's nothing wrong with that at all. However, many of us have not placed the emphasis on obtaining solid medical gear or training and we are so much more likely to have to use that in our everyday lives than we would use anything else. It's been a misunderstood, often controversial, area of training that many people shy away from strictly because it's not something they feel comfortable with or some don't deem "cool," thus I like to call it "The Missing Link" in the training chain. The last time I checked, watching someone bleed to death wasn't too "cool" either. So, complete the chain. Get that kit, go to a training class and make that plan to survive even better by being the strongest link in the chain and not the missing link. MP



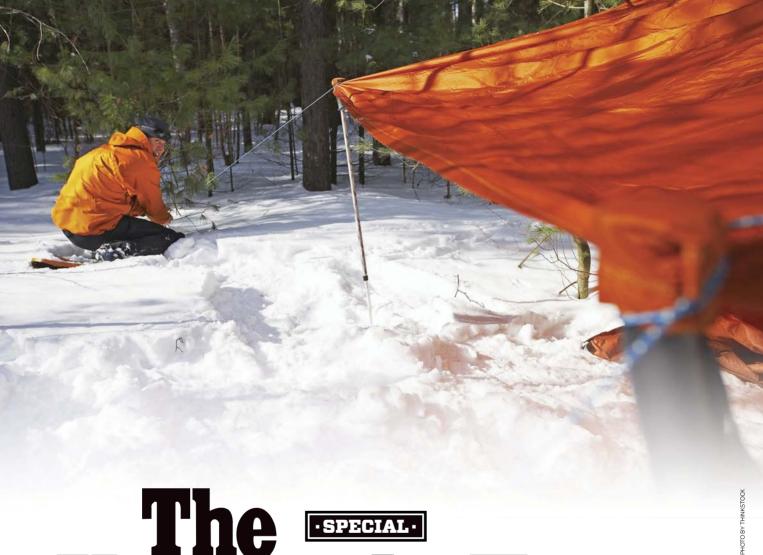
WHERE CAN I LEARN?

- > Getting the training is the right step in becoming a force multiplier, an asset, to your family and friends. Starting out with a basic first aid and CPR/AED course from the Red Cross (www.red-cross.org) or the Heart Association (www.heart.org) is always a great beginning. Moving up to more in-depth training is also highly recommended. Here are a few reputable companies which can offer training to you and your family and friends:
- > Dark Angel Medical: www.darkangelmedical.com
- > Combative Weapons Solutions: www.tacticalfirearmstrainingaustin.com
- > Lone Star Medics: www.lonestarmedics.com





This is the Gen 3 D.A.R.K. (Direct Action Response Kit) in MultiCam. "We have all heard the saying, "Train Like You Fight" and while that is important, it's equally important to 'Train Like You Bleed'..."



The SPECIAL Versatile Tarp

rom ancient times, mankind has found numerous ways to use a large animal skin. From making shelters to clothing, animal skins proved to be a very versatile piece of kit. And so is today's version of the animal skin, the tarpaulin or tarp. A tarp can be as simple as a square or rectangular piece of fabric, normally waterproof, but it is most versatile when it has grommets in each corner and on each of the sides to facilitate the use of ropes and poles. It has many uses, but here are ten of the most common and not so common ways to use it:

MODERN PIONEER'S TOP 10 WAYS TO USE A RECTANGULAR PIECE OF FABRIC. By Larry Schwartz

- 1. TARPAULIN: Obviously, the first use that comes to mind is as a tarpaulin, to cover much anything that needs to be protected from the elements, or from prying eyes. You can just lay it over a pile logs cut for your fireplace, campfire, or wood stove. You can put it over your ATV, packs, or other outdoor equipment that you want to protect. Ropes or bungee cords are useful additions, especially if your tarp has grommets around its edges, to help keep it in place in case of wind or heavy rains or curious animals that want to see what is underneath
- **2. GROUND CLOTH:** The next use that comes to my mind is as a ground cloth to keep you and your equipment dry in damp or rainy weather and to protect your sleeping bag from the rocks and branches under that hide under your shelter to gouge, poke, and tear at your gear. It is a nice thing to have when you take that mid-morning break to brew up some coffee or have a cup of hot soup.
- **3. SHELTER:** There are literally dozens of ways that you can pitch a square or rectangular piece of plastic or fabric to make a sturdy shelter to protect you from the elements. All it takes is your tarp, some cord for guy lines, and a sharp pocket knife to cut staves for poles and some finger width sticks to turn into stakes to secure the corners.
- The simplest design is a lean-to: stake down the long edge between you and the wind and then attach the other end to two sticks or staves to use as tent poles. This is the quickest and easiest field expedient shelter you can make and if the wind is only coming from one direction it is very effective.
- A second, more sophisticated pitch is an A-frame, or pup tent, shelter that will shield you from the elements on both sides; put the tent poles in the middle of opposite sides of the tarp and stake down the other two sides like you did with the lean-to. If it is cold or rainy then you should put the edges down to the ground. If it is hot or you want some ventilation then you can raise the edges of the tarp up and secure them using guy lines attached to stakes in the ground.
- A third design, which is good if you want something small and low to the ground, is the wedge pitch; turn the square ninety degrees to make it a diamond, stake down the South corner of the diamond, and then move in the East and West corners and stake them



"There are literally dozens of ways that you can pitch a square or rectangular piece of plastic or fabric to make a sturdy shelter to protect you from the elements."

down, and finally put a pole on the Northern corner and you have your shelter. Adjust the East and West corners as needed to get the shape you want.

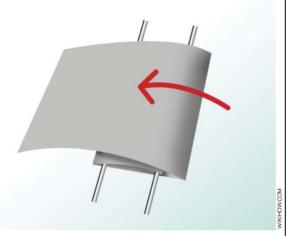
• A fourth design, called an Adirondack wind shelter will give you three sides to keep the wind out; like the wedge, instead of using your tarp as a square you rotate it to look like a diamond which will allow you to have a lean-to with sides and a storm flap on the front. Because of the extra walls and shelter, the Adirondack wind shelter is my favorite tarp shelter design, although it takes some more work and practice; it does require that you have grommets in the middle of each side of

(top) A lean-to is the simplest form of shelter you can create with a tarp, and often is all that you need.



(above) By tying the gathered end of your tarp to a tree you can make a field expedient hammock to get you off the ground and away from the bugs and damp.

(right) Wrapping your tarp around two eight foot poles will give you a very serviceable stretcher for carrying equipment or an injured friend.



"If you don't have anything to sleep in, but you do have a tarp and know how to fold a tortilla then you can make yourself a makeshift bedroll."

MY MOST VERSATILE PIECE OF GEAR

The ubiquitous poncho is my best friend in the backcountry. Why you may ask, because I can use it in so many ways. It is a true multi-tasker:

- > Of course, I can use it for its intended purpose, to keep me dry during a sudden downpour, but that is not the only thing it is good for.
- > It is the simplest of tarps, and one that you always have (or should have) with you when you head afield.
- > Because of its light weight it is also the easiest of tarps to work with, taking little time to put up or take down.
- > It is also the most common example of a tarp found on the Internet so do a quick search on "how to use a military poncho" and see that how the Boy Scouts, U.S. Army, and other survival oriented organizations train their members in its use.
- > And I always include with mine the greatest outdoor invention since the creation of the P-38 can opener, a poncho liner. With a poncho (or tarp) and a poncho liner I have a lightweight sleeping bag system that will help me stay warm and dry in all kinds of weather.

the tarp so it may not work with some commercially made tarps.

- If you want to learn more about how to pitch a square or rectangular tarp, check out David McPherson's excellent online reference PDF file, "Tarp Shelters An Introduction", found here: www.equipped.org/tarp-shelters.htm.
- **4. SLEEP SYSTEM** (Bivvy Sack/Sleeping Bag): If you don't have anything to sleep in, but you do have a tarp and know how to fold a tortilla then you can make yourself a makeshift bedroll. Lay the tarp out as a square or rectangle and lay down on it. Next, fold the bottom edge up over your feet. Then fold the left and right edges over you. If you hold the edges in place and roll onto your stomach you will now have a shelter against the wind and elements that will not come undone if you



move around during the night. If you do have a sleeping bag, you can lay the tarp down first to protect your sleeping bag from the cold and damp of the ground, then fold it loosely over your sleeping bag. The weight of the tarp will not affect the loft of your sleeping bag, but it will help to keep the air in your sleeping bag warm and will prevent cold external winds from robbing you of the heat in your bag.

5. CLOAK OR PONCHO: One of the first things that a plain tarp evolved into was probably a serapi or similar cloak-like outer garment meant to keep away the elements. The current outdoorsman's version is the rain poncho. Even though it is great for keeping off the rain, it is also great for keeping off the wind, which means that it will also help you keep your body heat in, which can be critical if you are sweaty or you are out in the Spring or Fall which is prime hypothermia weather. And, of course, there is a reason that everyone wore a hooded cloak in the olden days, it was a useful and versatile garment that gave its wearer protection from head to foot and provided more protection and warmth than just a jacket and a pair of pants.

6. STORAGE CONTAINER: A tarp can be made into a container in one of two ways. First, build a box-like frame and lay the tarp on it to provide the walls of the box, just like putting a trash bag in a trash can. Second, if it has grommets around its edge you can run a rope or cord through the grommets and then use



(above, top) The SOL
Emergency Shelter Kit,
made by American
Medical Kits, contains everything you need in a
lightweight kit to put up a
shelter when you have to
spend an unplanned night
in the backcountry.

(above, bottom) The umiak shown here is just one example of how you can make a boat by stretching a tarp around a frame of branches or wood. the cord to cinch the sides together to make a bag. Many a wilderness hiker uses this technique to bundle up their gear to hang it in a tree away for curious animals like bears and raccoons. Of course, you can do the same thing without using the grommets but they make it easier and more effective.

7. BOAT: Whether they were called coracles, bull boats, umiak, or curraghs, on every continent where early man was found people stretched animal skins, the ancestor of today's modern tarps, across basket shaped frameworks of sticks to make boats. These were used to cross large bodies of water, travel long distances on rivers, or more easily get to the good fishing in the deeper part of the lake.



Tarps come in a wide variety of materials, from rugged synthetic canvas to ripstop ponchos and ultralight fabrics like silnylon or mylar.

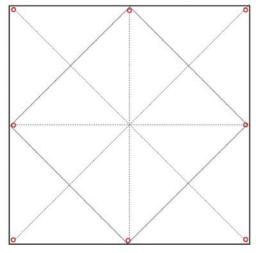
KNOW YOUR FABRIC CHOICES

The kind of tarp you pick is really based on how you plan to use it and how you plan to use it leads you to the kind of material you should pick. There are four main types of fabric that you can get a tarp in:

- > Coarse Woven Nylon: this is your typical big blue tarp. It is waterproof but rugged enough for rough use and comes in a variety of sizes and you can buy it for anywhere from \$15 to \$45 at a wide variety of stores.
- > Ripstop Nylon: this is what your old Army poncho was made from. It is light in weight, holds up well to abuse due to the heavy nylon threads woven into the nylon fabric. You can find ponchos for around \$40 to \$50 online or in stores.
- > Silnylon or Cuben Fabric: this is what your ultralight gear is made from. Both are synthetic fabrics; silnylon is a lightweight woven nylon fabric with a coating of silicone on one side, cuben is a more tear resistant fabric that is a non-woven laminate.
- > Heavy Gauge Plastic Sheeting: for the DIY folks among us. Heavy plastic sheeting comes in long rolls so you will be making more than one tarp if you go this route. It is more prone to tearing since it is still a relatively soft plastic, but you can cut it to whatever size and shape you want and tape sections together if you want something wider than the roll comes in.

- **8. HAMMOCK:** Your tarp can be used to make a hammock if you need to make a raised bed to keep you off the ground and away from the creepy crawlies. Run a rope through the grommets on one edge of the tarp, then pull them together to bring the edge of the tarp to a point. Tie the rope off to keep it tight, and then tie the rope to a tree about shoulder height. Do the same for the other side of the tarp and attach it to another tree or anchor point. A rope run between the two trees and above the hammock will make it easier to get in and out
- **9. STRETCHER:** A trick I learned first in the Boy Scouts, and then again in the Army, was how easy it was to create a stretcher by using a tarp or poncho, two poles at least eight feet in length, and two sticks about two feet in length. Make a rectangular frame for the poles and sticks that is six to twelve inches wider than the "patients" body. Next, tie one edge of the tarp to one of the long poles. Then wrap the tarp around both poles making a stretcher. When you run out of tarp tie it to the opposite pole to keep it tight. If you can't make the frame you can put one person on each corner of the tarp and carry the patient that way.
- **10. TRAVOIS:** Although the word is French in origin, the travois is a triangular frame used by the Plains Indians of North America to help





(above) The simple Aframe or pup tent style of pitch is easy to make and provides protection from the elements on two sides.

(left) Your basic tarp, whether it is square or rectangular, should have grommets or tabs around its edge for pegs and ropes. As a minimum, place them on each corner and at the middle of each side.

transport heavy loads. It is constructed in much the same way as the stretcher except that you use two long poles for the sides of the triangle and a shorter one for the base. Once the triangle is formed you can stretch and tie the tarp to it to make a bed on which you can lay your gear. The travois is pulled from the point made by the two long poles with the ends at the base dragging on the ground. Depending on the load to be carried the travois would be pulled by a person, dog, or a horse.

So, now that you can see how useful a tarp is, why don't you have one as part of your everyday kit? Figure out what size would work best for you, what material to get it in, and go get one. Although there are some very good designs on the market, making one to your own design is also a very good option, and very satisfying when it is all done. MP

WHAT SIZE AND SHAPE IS BEST?

> You can get a tarp, or make a tarp, in pretty much any size and shape that you want. The key to picking the right size is to determine how you want to use it.

Obviously, a tarp used to cover the two cords of firewood (12' x 16') you laid in for the winter or to cover that hole in the roof where the tree fell on it will be much bigger than the tarp used to make an overnight shelter (10' x 10' or 8' x 12') when you are setting up a spike camp on an elk hunt.

Most tarps used for shelters are normally at around 100-150 square feet in area, with the dimensions varying based on how you plan to use it. Anything smaller than that and you won't have much headroom once it is set up, which may be fine if you are trying to keep it small to conserve heat at night, but it isn't very comfortable in anything other than a simple lean-to configuration. The majority are cut in a rectangular shape because they are used as a variant of the lean-to or A-frame pitch. My preference though is a square tarp that is 10' x 10' because it gives me much more flexibility in the ways it can be pitched. Most pitches for a rectangular tarp are based on the lean-to or A-frame which have open ends or sides. A square tarp allows you to use pitches that give you walls on more than just two sides, like the Adirondack wind shelter (one of my favorites for bad weather).

If you are looking for a versatile flat tarp to carry in your backpack for planned or unplanned nights in the backcountry, there are several specialty tarp makers that you can find on the Internet, such as Bear Paw Wilderness Designs (www.bearpawwd.com) or Mountain Laurel Designs (www.mountainlaureldesigns.com) or Oware (www.bivysack.com), that offer lightweight tarps in a variety of dimensions and materials that you can use for a variety of pitches.



·SPECIAL·

Off-the-Grid SOLAR

USING THE SUN TO POWER YOUR REMOTE HOME OR CABIN IS BOTH EASY AND COST EFFECTIVE, AND SATISFYING AS WELL. By Michael Veine

enerating power from the sun is nothing new. For well over 100 years man has been harnessing solar energy, but until recently, it never really caught on in popularity. With current advancements in technology, though, solar power is becoming all the rage now. The cost per watt of solar generated electricity has dropped dramatically over the years while at the same time the cost of "on the grid" produced power has steadily increased. The size and efficiency of solar panels has also improved a lot in recent years, reducing the footprint needed for an array.

Solar power is one of the cleanest forms of electrical generation today and has very little negative environmental impacts. Solar power systems are commonly called photovoltaic or PV for short. There are many different applications for PV systems; however, the scope of this article will focus on powering an offgrid cabin or camp with solar-generated energy. I have two such solar powered, off-grid setups: One is my fishing camp and the other is my hunting camp. Powering with solar energy is both easy and cost effective along with being a fun and satisfying endeavor.

Besides being a freelance writer and a taxidermist, I also own and operate a Great Lakes fishing charter business. My main fishing area is Saginaw Bay on Lake Huron and Au Gres, MI, is the best port on the Bay to access world-class walleye fishing. I run my charters there from April into September.







Remote Home

In 2010, I decided to buy a place near the small town of Au Gres. I am not a city person, so I focused my real estate search on bargain priced dwellings out of town. After some searching around, my wife and I found a very reasonably priced, 20-acre, all-wooded parcel, for sale, by owner. The property also had a newer pole barn on it with a very rough living quarters built into the back of the barn. It was the perfect setup for me as I could park my big boat and truck in the barn and live right there all in one nice, neat package.

The only problem was that there was no electric power lines in the vicinity and some research reveled that it would cost about \$15,000 just to bring power to the site. I factored that into the equation and made a very low offer on the property. The real estate had been on the market for a long time and it was certainly a buyer's market, so the seller eventually agreed to my offer and the deal went down without a hitch.

(above) This was the author's first solar power project which consisted of one, small panel to help small parel to help grew from there.

(below and inset) Veine's hunting camp consists of a small cabin, which he built about 20 years ago, situated on 160-acres of remote, big-woods land. He's also pictured with a big buck he shot in the area.

The barn and living quarters really needed some major upgrades, so I did a lot of research and came up some short- and long-term plans. The previous owner had just run a big generator to power things. I did a lot of research and decided to redo all the electrical for a solar powered system, which would save me not only the 15-grand in hooking up to the grid, but it would also save me from monthly electric bills too. It just made financial sense. Besides, being off-the-grid would insulate me from the frequent power failures that often plague country folks.

Looking for a Solution

I wanted to run a mixture of AC and DC appliances and all 12-volt lighting with everything geared towards super, high-energy efficiency. Solar electricity is produced in DC form. For off-grid applications, the solar panels charge deep-cycle batteries, which store the energy for 24-hour use. If AC power is needed, then the DC current needs to be converted to AC with an inverter. Electricity is lost during that conversion process (about 10%) so it is more efficient to use DC appliances when possible, which is what I did.

Details are Important

Part of my efficiency upgrade project included insulating the heck out of the place. With R50 ceilings and R21 walls, it wouldn't take much energy to heat the dwelling or to keep it cool too during the heat of the summer. I also wired in all 12-volt lighting using super efficient, 3-watt, LED bulbs. Those bulbs are super bright and throw out more light than a 50 watt incandescent bulb, while using a small fraction of the electricity. I also wired in some 12-volt fans to circulate air and installed a cell phone charger.

For entertainment and weather information, I bought a 12-volt stereo that would pick up marine weather forecasts. A 12-volt water pump would be run on occasion to pump water to a gravity-fed holding tank. All my other appliances were AC and were wired separately. I



"My plan was to run everything off solar accept the energy gobbling air-conditioner and power tools, which would require me to fire up my super-quiet Honda EU2000 generator."



had a small LCD TV along with a VCR and DVD player. I also needed to power a laptop computer too and an AC mini-refrigerator. I added extra insulation to the frig to make it more efficient. I installed a small window type air-conditioner building it into a wall. My plan was to run everything off solar accept the energy gobbling air-conditioner and power tools, which would require me to fire up my super-quie, Honda EU2000 generator. It runs for about six to seven hours on one gallon of gas, so it is very energy efficient too.

My solar array consisted of six 15-watt panels wired in parallel. Since my barn is set back into heavy timber, I had to run wire a fairly long distance to reach an open area where the panels would get the maximum amount of sunlight. The panels came with a kit that included some wire, plugs, panel stands and a charge controller. All I had to do was clear an area on a low ridge for the panels and face them southwest so they would collect the maximum amount of sunlight for that opening. They are exposed to the sun for about 6 to 8 hours per day there.

I had to buy 120 feet of underground wire for the run from the panels to the charge controller. The type of wire sold specifically for solar panel applications is super expensive compared to other options. I shopped around and found a local lumber yard that sold wire in bulk, which (above) Here is the author's fishing camp right after he purchased it before he renovated it and added a PV system and all the sundries.

(right) Here is the interior of the author's fishing camp showing the Grape Solar Powered Refrigerator.

was by far the best deal. I ended up purchasing Romex 10/2 underground wire so it could be buried subterranean. I already had three big, deep cycle boat batteries, and they were connected together in parallel for my battery bank and then hooked to a charge controller.

The batteries had two leads connected to them with 30-amp battery clamps. One ran to a fuse box and powered the 12-volt appliances and lighting. A 2,500 watt (5,000 watt surge) Cobra inverter was also attached to the batteries to power all the AC appliances. A surge protected strip plugs into the inverter or it can also be plugged into an extension cord to the generator depending on where I want to draw the power from.

The mini-frig necessitated the rather large inverter as it turned out to be a real energy hog despite the manufactures claims to the contrary. In fact, that frig was such a pig that it would drain those three, big batteries in just a



"If I decide I want to run more appliances with higher electrical needs, then I can always add more panels and/or batteries as needed."

few days even with the sun shinning and the panels generating electricity to the max. I had to run my generator frequently to charge batteries, so I decided to do more research and came up with another alternative for refrigeration. I ended up buying a new AC/DC Solar Refrigerator made by Grape Solar. It is five cubic feet and was advertised to be very energy efficient and able to run on either AC or DC current. I also have a very small chest freezer now, too, but I only use it occasionally.

Boosting Power

Last year I decided to buy a new solar panel to boost my electrical generation capacity. This panel is made from a newer technology and even though it is about the same size as one of my 15-watt panels, it kicks out about 100 watts of electricity. I also upgraded to tandem charge controllers and added another deep cycle battery for a total of four now. The refrigerator works great and runs for about 10 minutes per hour consuming about 30 watts while running. I now have a surplus of juice and the only time I have to run the generator is for air-conditioning or when I want to use energy sucking power tools. During this past rather cool summer, I only had to run the generator a few times and went through about one gallon of gasoline all year.

(top) The author's fish camp solar panel array cranks out about 200 watts of electricity in the full sun. Notice that he has them on a small ridge and he keeps the sun blocking vegetation clear using Roundup.

(below) This shows the author's battery bank at his fish camp along with the dual-charge controller setup too.

Hunting Cabin As Well

My hunting camp consists of 160 acres in the big woods country of Michigan's, central, Upper Peninsula (U.P.). The first few years that my wife and I owned it, we stayed in a trailer on the property, but about 20 years ago I built a small cabin there. The nearest power pole is miles away, so solar power is a natural choice there.

My energy needs are very low at my hunting camp. I heat entirely with a wood stove and have no need for air-conditioning there as I mainly use it during the fall and winter. I have one 30-watt panel at my hunting camp and it is connected via about 50 feet of the same Romex underground 10/2 wire to a charge controller. The charge controller is connected to one deep cycle battery, but I do typically have a spare battery on hand in case we get a lot of cloudy weather, which is typical in the U.P. during the fall and winter. That solar panel is mounted on a cedar pole about six feet above the ground, which can be rotated to catch more sunlight. I also had to clear some trees away from my driveway to allow more direct sunlight during late fall and winter when the sun is at an extremely low angle.

The cabin was wired for 12-volt lighting and features those same 3-watt, LED bulbs that adorn my fishing camp. I can't emphasize enough how excellent these bulbs are. In the past I used incandescent, 12-volt lighting there and the LED lights just blow them away and use a small fraction of the energy. Besides the LED lighting, my only other electrical needs are a portable radio/CD player, cell phone charger and a cell phone booster. I don't require much entertainment while there as I'm seemingly always afield. For fun I usually just do a lot of reading there or if my eyes are tired, I have some books on CD to listen to.

My camp is really back in the boonies. The nearest cell phone tower is about 15 heavily wooded and hilly miles away as the crow flies. There are zero bars there even when using one of those vehicle signal boosters. I had the same





problem at home, too, so I bought a ZBoost signal booster that consists of the booster and 75 feet of coax cable that attaches to an external antenna that is mounted outside on my roof. It worked great at home, so I bought another one for camp.

This booster runs off AC power though, so I have to power it through a small 150-watt inverter, which is connected to the battery. With the antenna connected to my cabin's roof, I got a fair signal some of the time (nice weather). To improve the signal further, I installed the antenna about 50 feet up in a big tree, which really did the trick. Now I get a good signal in all but the worst of weather (heavy snow or rain). That booster draws a lot of power though, so I only switch it on when I need to make a call to save my battery.

My solar power projects are ever evolving. If I decide I want to run more appliances with higher electrical needs, then I can always add more panels and/or batteries as needed. I have a fair amount of experience with electrical wiring. My Dad was an electrician and so was my father-in-law. I grew up dealing with wiring issues and it is second nature to me. If you are in-experienced with electrical projects it is not too hard to learn those skills these days by taking classes or just studying on your own. In any event, never attempt a do-it-yourself electrical wiring job if you don't want to take the time to learn how to do it properly and safely as it can be very dangerous. Better to hire the services of a professional.



The one thing I love about my off-the-grid camps with solar power supply is when a big storm rips through and knocks out power for everyone else. It feels great having a free, never ending electricity supply when everyone else in the area is in the dark. MP

(above) Here is a recent photo of the author's fishing camp after doing many improvements.

(left) The author's fishing camp is his base of operations for his Saginaw Bay fishing charters, where he runs trips during the spring and summer.

·SPECIAL·

Wilderness Knots and Their Uses

EVERY BUSHMAN NEEDS STRONG ROPE OR CORD AND, THEREFORE, GOOD SECURE KNOTS. By Larry Schwartz

Ithough it doesn't quite rank up there with the invention of the wheel or the discovery of fire, the realization that you can use pieces of vine or strips of animal skin to connect a couple of sticks together or attach a knapped stone head to a spear shaft was influential in man becoming known as the tool making animal. It also allowed homo sapien to create a better environment for himself by building shelters.

Use the Right Knot for the Job

A good knot will have three characteristics; it's easy to tie, it's easy to untie, and it will not jam or come undone. Without all of these characteristics a knot will, at best, be a poor choice for the task at hand or, worst case, be dangerous.

Pick the knot for what it will be used for. For example, a bowline is a great knot for making a loop that will not slip as long as there is pressure applied to it. That is why it is commonly used in rescues when you need to haul someone or something in a rescue situation. You could also use it to tie your horse to a rail, but, since the bowline can loosen and come undone if it doesn't have constant pressure on the knot it wouldn't be a good choice.

Most knots will fall into one of four categories based on what they are used for:

- Knots that attach a rope to something,
- Knots that connect two ropes together,
- Knots that are used to secure things tightly, and
- Utility knots that serve a variety of purposes.





SQUARE KNOT — The square knot is a binding knot, used for tying two ends of the same rope together to secure something tightly. To tie the square knot, hold one rope end in one hand and the other rope end in your other hand. Twist the left hand rope over and under the right hand rope and pull it tight. Then twist the right hand rope over and under the left hand rope and pull it tight. The ends of the rope should both be on the same side of the knot if you tied it correctly. If they are on opposite sides of the knot you have tied a Granny Knot which will come undone.



BOWLINE — The bowline forms a loop that will not slip. It is an important rescue knot in fire, mountain climbing, and water accidents. Learn to tie it around yourself, then around someone else. To tie the bowline, hold the standing part of the rope in your left hand, with your right hand make an overhand loop in the standing part so that the rope still points towards you. Then take the running end around your waist and then up through the loop. Pass the running end that you just pushed through the loop around behind the standing part of the rope and back down through the loop. Hold onto the three ends that point towards you and pull up on the standing part to tighten the knot.



CLOVE HITCH — The clove hitch is used to attach a rope to a post or rail. To tie the clove hitch throw the rope end around the pole and lay it over its own standing part. Bring the rope end once more around the pole. Finish by carrying the end under the rope itself, then tighten the hitch as much as possible.

Practice Makes Perfect

Practice each knot by referring to its picture and following the directions under each picture. Start out using light rope, quarter inch in diameter, and tie the knot slowly to learn it and then practice for speed to help ingrain the steps in your muscle memory.

Once you can do it quickly try it in the dark or where you cannot see your hands or the knot. This will require more mental focus but it will strengthen your ability to tie the knot in the difficult situations you may encounter in the backcountry like when your tent blows down during the night or when you and your hands are wet and cold.

Once you can do it in the dark you can really challenge yourself and work at it with gloves on. If you can do it with gloves and not being able to see the knot, then you will be able to apply any of your knots in whatever conditions you might need to use them.

SOME BASIC TERMINOLOGY

Bend: A knot, such as the Sheet Bend, used to connect two pieces of rope together.

Bight: Made by folding a piece of rope into a "U" shape; this can be done either at the end of the rope or somewhere in the middle, depending on what you are trying to do. See Loop below.

Hitch: A knot used to attach a rope to some object such as a hitching post or tent peg.

Loop: Made by passing the ends or parts of the rope over each other. See Bend above.

Running End: The part of the rope that is manipulated to make the knot; also called the working end, tail end, live end, or tag end.

Standing End: The part of the rope that is not manipulated to make the knot; it is often connected to something else.

Turn: One pass of the rope round or through an object.

Whipping: A binding knot used to prevent a rope's end from fraving.

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PURPOSE	KNOTS
Attach a rope to something	Clove hitch, two-half hitches, midshipman's hitch, taut line hitch
Connect two ropes together	Sheet bend, fisherman's knot, surgeons knot
Secure something tightly	Square knot, diamond hitch, timber hitch,
Utility knots	Figure eight knot, sheepshank, splice, bowline

"A good knot will have three characteristics; it's easy to tie, it's easy to untie, and it will not jam or come undone."

FIGURE 8 KNOT — The figure eight knot is a stopper knot used to make a bulky knot that will not slip. To tie the figure eight knot hold the standing end in one hand and pass the running end over the standing end to make a loop, then pass the running end behind and under the standing end. Finish it off by passing the running end down through the loop you just formed. If you tied it correctly the knot should look like the number eight.





SHEET BEND — A sheet bend is the best knot to tie two ropes together, whether of the same or of different thicknesses. To tie the sheet bend, make a bight on one of the ropes (on the heavier one if they are of different thicknesses) and pass the end of the second rope through and around the bight, then tuck the running end of the second rope under the part of the rope that was passed through the bight.

TWO HALF HITCHES — Is one of the simplest knots for tying a rope such as a clothesline or the rope of a boat to a pole or a ring. It forms a loop that can be pulled tight yet which is easily loosened again. To fasten a rope to a post with two half hitches, pass one end of the rope around the post. Bring the rope end over and under its own standing part and through the loop you have formed this way. Do the same once more in front of this first half hitch...again bring the rope end over and under the standing part and through the loop formed.





MIDSHIPMEN'S HITCH — The midshipmen's hitch is used for any time you need a loop that will hold tight when pressure is applied but that you can easily move up or down the standing part to adjust the tension. A common use is for guide lines on a tent. To tie the hitch, pass the rope through the eye or around the pole to which you want to attach it. Carry the rope end around the standing part twice and through the loop thus formed. Then carry the rope end around once this time and pull taut. A variant of this hitch, the taut line hitch, is tied in a similar manner but with the loops wrapped around the standing part in a different direction; it is functional but the midshipman's hitch is a better choice.

The Best Knot Website on the Internet

There are a number of websites on the internet that show you how to tie different knots. AnimatedKnots. Com is, in my opinion, the best and most complete site on the Internet for anyone who wants to learn this valuable skill.

Not only does it have excellent animations for each of the over 300 knots contained on the site, but it covers how to tie each knot, what the knot is used for and what it shouldn't be used for, safety concerns when using knots and ropes, a glossary of terms, and a list of references about knot tying.

In addition to this information, the techies at www.animatedknots.com have packaged the site in a program you can download to your computer and as apps for iPhone and Android smartphones. Also, a good book to consider is "The Ashley Book of Knots" by Clifford Ashley. I consider it an excellent resource in this area. MP



The Mysterious Death of Meriwether Lewis

THERE ARE MANY UNANSWERED QUESTIONS. By Darryl Quidort

eriwether Lewis, of Lewis and Clark fame, was one of America's most promising young heroes in the early 19th century. As a volunteer in the Virginia Militia, he reached the rank of Captain by the age of 20. Impressed with his capabilities, President Thomas Jefferson appointed Lewis as his personal secretary in 1801. President Jefferson was in favor of an expedition to explore the Louisiana Purchase. an uncharted wilderness west of the Mississippi River. Lewis was his choice to lead it. Lewis chose William Clark as his co-commander and the "Corps of Discovery" set off to explore the unknown in the spring of 1804.

Every historian knows the story of the Lewis and Clark expedition, a two-year overland journey across the continent and back. Leading the Corps through uncharted wilderness, meeting unknown challenges, and facing untold hardships required great measures of confidence, fortitude, and determination. In addition, the completeness of the journals kept throughout the journey reflect great scientific detail and organization. The expedition was a huge success. Both Lewis and Clark became national heroes. As reward for his efforts, President Jefferson appointed Meriwether Lewis as Governor of the newly formed Upper Louisiana Territory in 1807.





"Every historian knows the story of the Lewis and Clark expedition, a two-year overland journey across the continent and back."

Lewis' Death: Murder or Suicide

That part of Meriwether Lewis's life is well documented. However, his untimely death, at only 35 years of age, remains an unsolved mystery. It's known that Lewis was traveling from his Governor's office in St. Louis to Washington D.C. on business in the fall of 1809. It is unknown why he chose to abandon the safer but longer route, by water, (down the Mississippi River to New Orleans, then by ship around Florida and up the coast to Chesapeake Bay) and take a shorter but more dangerous route, over land, to the nation's capital. That choice put him on a rough overland trail, the Natchez Trace. His tragic and violent death, on the night of October 10th, at Grinders Stand on the Trace, remains a mystery.

The Natchez Trace began as a series of ancient animal trails running from the lower Mississippi River area north and east across the middle of the continent. Indians then used it as a trail through the Natchez, Choctaw, and Chickasaw nations. In the late 1700s, the Trace began to see use as a foot trail between the Spanish trading posts at Natchez, on the lower Mississippi, and the settlements in the Ohio River valley.

Settlers from Kentucky would float their goods down the rivers to Natchez, sell the goods, then sell the boat for the lumber, and walk the 500 or so miles back home. From 1790 to 1820, when steamboats finally made upstream travel possible, the Trace saw heavy use by the traders. The "Kaintucks," walking up the Trace with their profits from trading, became easy pickings for bandits in a lawless land. The traders often joined into groups for some measure of protection against bandits as they made their month-long journey home. Travelers called the Trace, "The Devil's backbone." In short, the Natchez Trace was a very dangerous route to travel in 1809 when Meriwether Lewis set out for Washington D. C.,

As the story goes, Lewis arrived at Grinder's Stand, a squalid overnight inn, one day ahead of his traveling companion, a Mr. Neelly, who had stayed behind looking for a horse which had wandered away from their camp. James Neelly was a Chickasaw Indian Agent who had been hired to escort Lewis through Chickasaw territory. Mr. Robert Grinder was absent. Mrs. Priscilla Grinder was running the inn. She later reported that Lewis seemed disturbed that night, asked for some "spirits" but drank very little, asked his servant for his gunpowder and paced back and forth "talking like a lawyer" before going to sleep on his buffalo robe. The servant slept in the barn some distance away. Mrs. Grinder slept in a separate log cabin nearby. During the night, she heard a shot,



(above) Grinder's Stand as it appears today. The cabin has been rebuilt on the original site by the National Park Service. (opposite) Many parts of the Natchez Trace can still be discerned even today, two hundred years after its heaviest use.

something fall to the floor, the words, "Oh Lord," then another shot. Mrs. Grinder was afraid to leave her cabin, but through the cracks she saw a man "stumbling about outside." The next morning the servant found Lewis still alive with a wound on his side and a piece of his forehead blown away exposing the brain. He died at sunrise, October 11, 1809. His body was buried nearby.

They Called It Suicide

His death was reported, and widely accepted, as suicide. Oddly, this wasn't even questioned until years later, when murder was suspected. It is interesting that no official inquiry was con-

ducted after the death of a U. S. Governor. However, many people have made extensive studies of the situation since that time.

Proponents of the suicide theory offer the arguments of mental depression, brought on by snarls of political red tape, financial problems, alcoholism, and even the failure of the young man to find a wife. It is also interesting that while on this journey he wrote out his will, leaving his possessions to his mother, Lucy Marks.

Proponents of the murder theory offer the possibility of assassination by political enemies of a Government official, or bandits killing him for his money, and point out that murder was not uncommon along the lawless

Trace at that time. Mrs. Grinder was apparently the only witness. Possibly it was her husband. They also question the two pistol shots. The pistols were "horse pistols," heavy 14 ½-inch-long pistols made for carrying in a holster fastened to the saddle on a horse. They were .69 caliber, single-shot flintlocks, loaded with a measure of black powder and a large, 1/3-ounce lead ball. A person shooting himself twice with such a firearm is difficult to believe. They also point out that local people have always believed he was murdered. It was rumored that the formerly impoverished Grinders later moved to Eastern Tennessee with enough money to buy land and slaves.

The Hard Questions

There are many unanswered questions. Did he have two guns? Were his guns fired? Where was Mr. Grinder? Where was Mr. Neelly? Was the stumbling person outside actually Lewis? Later records include arguments overheard, cuts on the victim's body, even reburial of the body. Why did Lewis choose to travel the Natchez Trace in the first place when his original plan was to go by water? Such questions can never be answered.

Nearly 40 years later, in 1848, the Tennessee legislature voted to erect a monument in honor of Meriwether Lewis. In the process, they disinterred Lewis's remains and reburied them beneath the monument at Grinder's Stand. To avoid any error, since there is a small pioneer cemetery there, they opened the coffin and, with a doctor present, examined the upper portion of the skeleton. In their official report to the Tennessee legislature the committee wrote, "It seems to be more probable that he died by the hands of an assassin." Unfortunately, they didn't record what led them to make that statement. Was there a medical reason or was it only to try to clear the record of a national hero?

There have been several other requests for exhumation of the grave. With today's methods, science may be able to solve the mystery once and for all with forensic information. Possibly entrance or exit wounds, black powder residue, signs of disease, DNA, maybe even the actual bullets that killed him. But, that is not likely to ever happen. The National Park Service, now in charge of the property, has denied official exhumation requests in 1996, 1998, and 2002. Those opposed to exhumation recommend, "remembering Lewis's accomplishments in life and not worrying further about the manner of his death." He certainly was a very talented young man whose 15 years of service to his country had a profound and positive impact on a young America.

In truth, we do not know how Meriwether Lewis died, and we probably never will.





THE NATCHEZ TRACE NATIONAL PARKWAY

> The Natchez Trace Parkway extends 444 miles, through three states, from Natchez, Mississippi to Nashville, Tennessee. Maintained by the National Park Service, it commemorates the historic trail and has preserved sections of the original Trace. The Parkway was established as a National Park in 1938 and completed in 2005. The Natchez Trace Visitor Center is located in Tupelo, Mississippi.

The speed limit on the limited access highway is 50 miles per hour and commercial traffic is prohibited.

There are numerous historical sites along the route including Civil War battlefields, museums, cemeteries, ghost towns, and Indian mounds. Visitors have the opportunity for sight seeing, hiking, camping, picnicing, bike riding, and horseback riding.

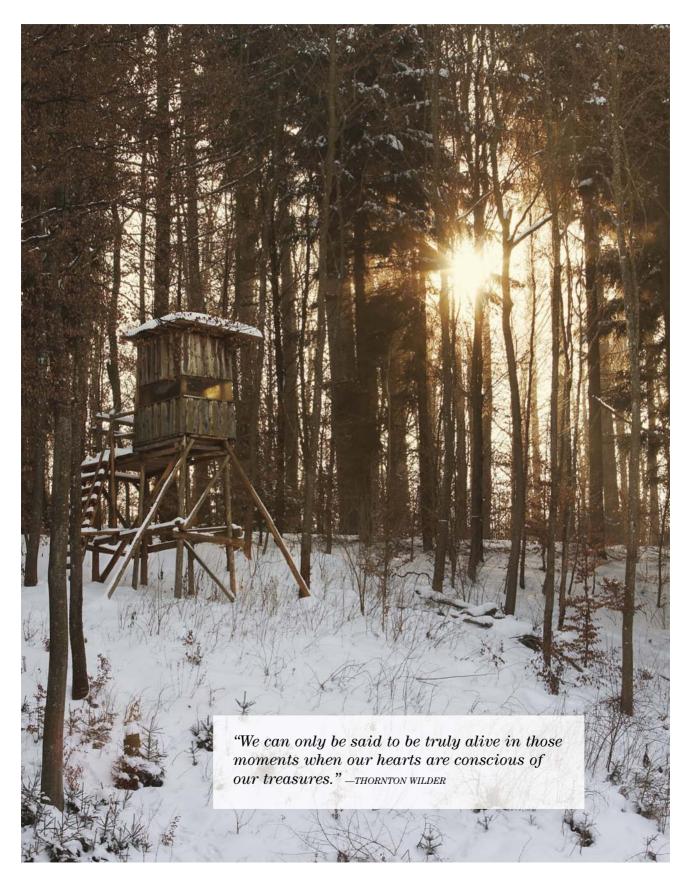
Visit ScenicTrace.com on line, or to view videos of the Trace visit NatchezTrace.thefuntimesguide.com

The Natchez Trace became a government road and mail was carried by horseback between Nashville, Tennessee and Natchez, Mississippi until the steamboat made upstream travel possible in the 1820s. The mail could then be sent by boat. After its era of use, the Trace was abandoned and nearly forgotten for almost 100 years. The Daughters of the American Revolution were paramount in raising public interest in the Trace's preservation in the early part of the 20th century.

Today the Natchez Trace is a beautiful, designated National Parkway maintained by the National Park Service. My wife and I have driven the Trace and enjoyed a pleasant, scenic drive on a nicely paved highway. The 450-mile drive from Natchez, Mississippi to Nashville, Tennessee is like an American history lesson. We took the time to explore some historic areas and actually walk parts of the original Trace. Points of interest found along the Trace include civil war graves, historic buildings, river crossings, Indian villages, and ancient Indian mounds. A most interesting spot is Meriwether Lewis's grave site in a small, quiet, pioneer cemetery at Grinder's Stand. MP

Author's note: The references I used to write this story include the following: "Suicide Or Murder? The Strange Death of Governor Meriwether Lewis," by Vardes Fisher; "End of the Road," by David Devoss, Smithsonian Magazine, May 2008; "The Natchez Trace," brochure, National Parks Service. "A person shooting himself twice with such a firearm is difficult to believe."

[Cooking]





Sausage Making at Home

EVERY PACK OF SAUSAGE HAS ITS OWN UNIQUE FLAVOR. HERE'S HOW TO MAKE YOUR OWN JUST THE WAY YOU LIKE IT. By Michael Pendley

·HOW-TO·

an has been eating sausage since before the ancient Greeks began to record history. And for good reason, sausage, made correctly, cannot only help to preserve meat, but is one of the finest meals you can put on a plate. The best way to ensure that your sausage is of the highest quality is to make it yourself. It only takes a few tools and techniques to turn out an outstanding product.

Sausage can be either loose, like breakfast sausage, or stuffed into casings like Bratwurst, Chorizo or Andouille. Cased sausages can be refrigerated and cooked fresh or they can be cured and or smoked for longer storage. A note on safety here: cured sausages benefit from the use of a sodium nitrite preservative known as Instacure #1, also known as pink salt or Prague Powder #1, at a rate of one teaspoon per five pounds of meat. This will prevent the formation of botulism spores in the sausage as it cures.

To make loose, breakfast style sausage, simply grind and mix your preferred ratio of lean meat to fat. When making pork or wild game breakfast sausage, a 70/30 ratio of lean meat to pork fat is a great place to start. This yields a finished product that is easily molded into a patty and holds its shape well while cooking. Leaner mixes make excellent sausage as well but tend to be drier and may crumble as the sausage cooks.

As far as meat grinders go, they range from small, table top, hand-crank models to electric meat grinders like those from Weston Products or Cabela's. Attachments to fit KitchenAid style mixers are also available and do a good job of grinding and mixing meat. Regardless of the style of grinder you use, start by cubing your

meat into pieces that will easily fit into the neck of your grinder. Chilling the meat before grinding is always a good idea. If the meat becomes too warm during the process and begins to gum up the grinder, ice can be added to the mix to cool things back down.

Most meat grinders come with multiple plates that allow you to range your grind from course to fine. Start with the course plate, mixing your lean to fat in the basic ratio you desire. After running the meat through the course plate, add your seasoning and run the meat through the course plate again. This double grind gives the correct sausage texture and helps mix the seasoning evenly throughout the sausage. If you are making hot dog-style sausages or want a finer grind for breakfast







(right) A test fry is always a good idea after seasoning the first batch.

for the freezer.

"Chilling the meat before grinding is always a good idea."



sausage, substitute a finer grind plate on the second pass through.

Seasoning can be as simple as a pre-mixed commercial packet, or a custom blend of your own choosing. Either way, it pays to stop the sausage making process after the first batch and fry a sample piece to check for taste before mixing the entire batch.

This basic recipe makes a good starting point for customizing your own seasoning blend.



FRESH SAUSAGES

Country Breakfast Sausage

- 2 pounds of ground meat
- 2 teaspoons Kosher salt
- 2 teaspoons black pepper
- 2 teaspoons fresh sage, or 1 teaspoon of dried sage
- 2 teaspoons fresh thyme, or 1 teaspoon of dried thyme
- 1 Tablespoon light brown sugar
- 1/2 teaspoon cayenne pepper

Optional

1/2 teaspoon red pepper flakes

After trying the above seasoning blend, experiment with it to tailor it to your liking. Additional pepper, maple syrup, different herbs, chili powder, garlic, just about anything you like can be blended in. Fresh sausage will keep up to one week in the refrigerator or up to a year in the freezer. The best way to package sausage is with a vacuum sealer, but zip-style freezer bags or meat tubes from a butcher supply company work as well. The secret to preserving flavor is removing as much air as possible from around the sausage before freezing.

To make stuffed casing-style sausages, grind and season your meat in the same fashion as loose, then stuff it into the casing with either a sausage stuffer attachment on your grinder, or with a dedicated sausage stuffer. The casings can be twisted into links as they fill, or filled completely and coiled into one large link.

Casings can be natural or synthetic, with natural pork casing being the most popular for fresh sausage. Synthetic casings are used most often in large cured sausages such as summer sausage or salami. Natural casings are edible while fibrous synthetic casings are not and must be peeled from the sausage before eating.

Natural pork casings are shipped in a salted state and must be hydrated before use. This is accomplished by soaking the casing in cold water for thirty minutes, doing a water change then soaking for another thirty minutes. At this point the casing can be rinsed. After rinsing, open one end and pour in clean water. Push the water through the length of the casing, squeezing to eliminate most of the water as you go, and it is ready to use.

Before loading the casing onto the stuffer tube, drizzle some vegetable oil onto a paper towel and wipe down the outside of the tube. This lubricates the casing and helps it to flow freely off the stuffer tube as it fills. Filling the casing works best as a two person job. The first person works the stuffer while the second holds the casing and either twists the individual links or coils the long sausage as the casing fills.

This method works with a variety of sausages. Try the following recipes for a nice sampling of fresh sausage.



Here's about 50 pounds of fresh bratwurst, one of the author's favorites.

Bratwurst

5 lbs ground pork, fine grind on second pass

1 cup crushed ice

4 teaspoons sugar

1 teaspoon ground coriander

1 Tablespoon ground sage

11/2 teaspoons paprika

1 teaspoon cayenne pepper

1 teaspoon dried rosemary

1 Tablespoon dry mustard

1 teaspoon black pepper

4 teaspoon salt

Mix all ingredients and stuff into 35mm natural hog casings. Run approximately 12 inches of sausage, pinch at six inches and twist. Continue to end of casing.

Cajun Andouille

6 lbs ground pork

31/3 Tablespoons finely minced garlic, fresh is best

2 Tablespoons salt

1 teaspoon freshly ground black pepper

1 teaspoon cayenne

1 teaspoon ancho chili powder

⅓teaspoon mace

⅓ teaspoon allspice

1/2 teaspoon dried thyme

11/2 tablespoon paprika

1/4 teaspoon sage

3-tbsp liquid smoke, or smoke the sausage for three hours at 200 degrees after stuffing

1 cup cold red wine

Mix all ingredients and stuff into 35mm natural hog casing, coiling sausage as it fills.

Mexican Style Spicy Chorizo

5 lbs ground pork

1 cup cold red wine

3 heaping tablespoons paprika

¹/₃ cup crushed chili peppers

1 teaspoon cinnamon

1 Tablespoon cumin

3 medium onions, finely chopped

2 teaspoons dried oregano

1 Tablespoon garlic powder

2 Tablespoons salt

Mix ingredients and stuff into 35mm natural hog casing, pinch and twist into 10 to 12 inch links.

CURED SAUSAGES

Summer Sausage

Summer sausage is a great way to use leftover venison trimmings. Try mixing the lean venison with pork butt in a 60/40 ratio. Summer sausage is a cured sausage and requires Instacure #1 to guard against botulism while curing. Commercial summer sausage kits abound and can be found in most sporting goods stores, butcher shops and some groceries. These kits come with the proper amount of seasonings, cure and synthetic casings to do anywhere from ten to twenty-five pounds of summer sausage. Simply follow the mixing instructions on the kit of choice and stuff with large tube into the supplied casings.

Summer sausage is either slowly cooked or, preferably, smoked at low temperatures. The best smoker for making sausage is an electric model with the ability to start the temp as low as 100 degrees. The standby wood for smoking sausage is hickory, but a small amount of apple, cherry or pecan lends a nice flavor as well. Using a remote thermometer allows you to monitor the internal temperature of the sausage without opening the smoker door as often. Hang the sausage in the smoker and start the smoker at 100 degrees. Maintain this temperature until the internal temp of the sausage is at 70 to 80 degrees Fahrenheit. At this point raise the smoker temperature to 130 degrees and run until the sausage reaches an internal temperature of 110 degrees. At this point you are ready to finish cooking and browning your sausage.

Raise the smoker temperature to 160 degrees and leave the sausage in until it hits an internal temperature of at least 152 degrees. Your sausage is now safely cooked. Remove it from the smoker and submerge in an ice water bath to stop the cooking process. Remove from the ice water and hang at room temperature until the internal thermometer reads 70 to 75 degrees. Once you are at this point, the sausage gets refrigerated overnight to continue to set to the correct texture. Any sausage that is not going to be eaten immediately can be vacuum sealed or tightly wrapped in foil or freezer paper and frozen. If cooking your sausage in the oven, follow the same temperature and time guidelines. MP

"Summer sausage is either slowly cooked or, preferably, smoked at low temperatures."



If it's spice you like, then you're in luck. Hi-Mountain Seasoning's offers two new Bratwurst Sausage kits. The Spicy Beer Bratwurst Sausage Kit is a fusion of garlic, mustard, salt, and four carefully selected peppers And the new Garlic Pepper Bratwurst Sausage Kit brings a superbly balanced blend of garlic, pepper, spices and seasoning to provide a mouthwatering traditional German sausage. Both kits include seasonings, cure, casings, easy-to-follow instructions and will season 24 lbs. of meat. \$20.99. Visit HiMtnJerky.com or call 1-800-829-2285.



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Boots for All Seasons

Not all hunting terrain and conditions are the same. This is why the serious sportsman needs more than just one set of footwear. > By Joe Bell

When I think of critical equipment for the backwoodsman, I can't think of anything more important than footwear. This is especially true for the die-hard hunter who pursues game in different seasons and in various types of terrain. In this case, it's nearly impossible to "do it right" using only one set of boots.

In this column, I'll break down several key categories where boot design plays an important role in a successful hunt.

Do-All Performance

When your hunting pursuits take you abroad and you'll be carrying a mid-weight daypack, a do-all boot is in order. This is where additional ankle support, comfort and walking traction must all come together in unison for that perfect blend of performance.

However, you don't want this boot to be so stiff or supportive that you can't sneak up well on a buck or bull. This is where flex and weight become a big deal.

For this category, I like a boot with a 8- to 10-inch upper, and one that weighs less than 3½ pounds per set overall. A slightly taller upper increases ankle support, while providing protection when crossing small channels of water and to keep dirt and stickers from entering the inner boot, which causes irritation and dirty socks.

For years I used the Danner Pronghorn with excellent results, hunting a wide variety of game in various habitats. This boot's Gore-Tex liner and combination leather/Cordura upper allows legitimate breathability while providing that waterproof barrier and support I need for the majority of my hunting tasks.

However, recently, I've been extremely impressed with newer designs and models. These include the Danner East Ridge, Cabela's Backcountry 8-inch, Cabela's Meindl Conifer, and Crispi Idaho or Wyoming. You really can't go wrong with any of these offerings, depending on personal fit.



The right boot can maximize your hunting efforts, whereas the wrong boot will leave you runing back to camp to rescue your sore, aching feet. The key is to select the right footwear for the hunting task at hand.

Maximum Support

This category is all about ankle and foot support, mainly for backpacking applications where a 40-plus-pound pack will markedly change your walking dynamics, on or off trail. In this case, I want a 8 to 10-inch boot with deep-lug outsoles, a rigid foot bed (to prevent foot soreness in uneven terrain) and lots of midsole cushioning for reducing shock with all that added weight on my back.

Of course, added boot stiffness and support will impact stalking capability big time, but that's the trade-off you'll have to take. Otherwise, you'll likely end up with extremely sore feet (and possibly a twisted ankle) at the end of every hard walking jaunt.

Top choices in this category that I've personally used include the Crispi Nevada, Cabela's Meindl Western Guide or Denali, Cabela's Meindl Perfekt Hunter, Salewa Mountain Trainer or Rapace, and Lowa Sheep Hunter or Tibet.

General Stalking

This category is meant for hunting whitetail deer, mule deer or elk in moderatelysteep terrain where stealth is critical.

Overall, there are three things that affect the walking noise of footwear: weight, flex and the thickness of the outsole. All play a part in how you "feel" the ground.

Of course, to achieve all this, you'll have to give you some walking support/stability. There's simply no way around it.

Also, an aggressive outsole with big lugs is a clear mistake. Why? It will "shift" loose debris and rocks underfoot, causing excessive, crunchy footing. Just like a bear's pad or deer's hoof—outsoles with no lugs do just the opposite—they compress loose rock and soil, leaving them in their place. No shifting means no noise.

But, of course, no lugs whatsoever can be a liability in steep terrain, so try to choose a sole with some bite to it.

Also, another key to the outsole is its "give" or softness. To check this, you can press your thumbnail into the sole. If it gives ½-inch or so with very slight pressure, it's soft enough for stalking.

In this category, I also prefer the most breathable footwear possible, since I'm usually using this boot for cagey mule deer, whitetail deer or Coues deer in warm landscapes.

Most of my favorite stalking boots weigh three pounds per set or less. The boots I highly recommend and have used time and again in this category are the Russell Safari PH or Judy's Boot (with either the Vibram multipurpose, air bob, or gum-rubber sole) and Danner Jackal II.

High-Mountain Stalking

In certain situations, cooler, featherweight footwear offers an edge. If ground vegetation is minimal, such as in the arid regions of



The author has hunted extensively with the Crispi Wyoming GTX and he considers this boot incredibly lightweight yet highly supportive. It's easily one of the best all-around western hunting boots on the market. He favors an Archmold insert to maximize arch support, especially when carrying a heavy pack.



When hunting noisy, dry terrain, a supportive boot with a super-soft, sound-absorbing sole can really make the difference between success and failure. The Russell Safari or Judy's Boot with a soft gum-like sole allows for extreme silence in crunchy, loose granite terrain.

the Southwest, for example, there's no reason not to use low-top footwear when the added stability or boot height is unnecessary. This is wear "cross-terrain" or "trail running" type shoes offer solid function. Higher-end hiking/trail shoes also come with Gore-Tex inserts, so you can walk through damp ground and stay dry all day.

In this category, my favorites are North Face's Ultra 106 XCR (or newer 109 XCR), Oboz's Firebrand II, and Solomon's XA Pro 3D Ultra GTX . I've hunted Arizona and Nevada mule deer and elk with all of these shoes and each offers legitimate support, a super-lightweight feel and very quiet footing. It warm, early-season western hunting, where short day hunts are the norm, I prefer this style, mainly because my feet stay cooler, less sweaty and, overall, less weighed down.

Wet Weather

Most hunting in the northeast, midwest and northwest for deer and elk means lots of wet terrain and mucky walking conditions. This calls for highly waterproof designs and unique outsoles. Under these conditions, traditional all-leather boots will work, but with day after day of use, they quickly retain water and increase in weight. Waterlogged leather can cause super-cold feet as well, and a sloppy less-supportive fit. For this reason, the hybrid rubber bottom/leather upper designs shine in this category.

If you like to sneak relatively flat terrain, boots with plenty of "flex" and a non-ag-



For elk and deer hunting in rolling terrain out West, Bell often uses cross-training running-type shoes with a Gore-Tex liner. This type of footwear offers a cool, lightweight feel that maximizes stalking stealth and keeps him hunting hard, all while providing enough support and protection during short day hunts. Two of his all-time favorites in this category are the North Face Ultra 106 XCR and Oboz Firebrand II, both pictured here.



Leather upper/rubber bottom boots like the venerable LL Bean Main Hunting shoe perform well in ultra-wet or muddy conditions. They are quiet for stalking and they won't become heavy and water saturated like all-leather boots often do.

gressive sole to eliminate mud caking is in order. A top boot in this category is the renowned Bean Boot by LL Bean. The best is perhaps the new Main Hunting Shoe, which has an ultra-flexible sole for an even better feel of the ground. The chain-pattern on this boot is time-tested and wonderful for stalking. Another great boot is the Schnee's Hunter II or Guide.

When I hunt the far North for caribou or moose, on the other hand, I look for a similar boot but one with added ankle support, traction and an extra-tall upper for protection when crossing creeks and bogs. In this case, I prefer a tall leather lace-up model with a 12 to 14-inch upper, along with a rubber bottom. I often soak these boots with Sno-Seal or another leather dressing to ensure the upper repels water effectively. I believe the LL Bean 13-inch Bean Boot or Schnee's 13-inch Guide Pac with Advantage sole are the top choices in this category.

Stand Hunting/Odor Control

Hunting whitetails usually means sitting a ground blind or stand. This is where kneehigh rubbers work well, since they offer complete protection from the elements and do a great job of eliminating human scent as we walk to and from our ambushes.

My venerable favorite in this category has always been the LaCrosse Alpha Burly, which is made from rubber and neoprene to eliminate weight. Last year, I used the

3 TIPS FOR A SUPER FIT

- > When you lace up a new boot, the first thing to pay attention to is the width of the toe box — is it squeezing too tight? The critical detail here is your big toe. It should not be touching the side of the boot, period. If so, choose the next size up or width.
- > Once the boot is on and laced up, start walking around. Don't just put on one of the boots but both. This is important. Feel for any slip in the heel area. Too much slip here will lead to blisters. A very slight slip usually goes away after the initial breakin, but lots of slop will not. Remember, each boot manufacturer uses a slightly different foot last to design boots, so your feet may just not work with one model. You may have to switch to a different brand for the right fit.
- > If you often get sore arches after long hikes, now's the time to add a quality supportive insole, such as those by Superfeet, Archmolds, Sole, Powerstep or Spenco. These are all top choices depending on the shape of your arch. Visit a quality backpacking footwear supplier or running-shoe store for assistance with this. A good foot bed will effectively hold up your arch, keeping your feet more stabilized and secure in the shoe. This usually eliminates aching arches, ankles and knees. J.B.

newer Aerohead, a similar boot, but this one is made from neoprene and polyurethane. This construction makes for a lighter boot and a more comfortable fit. I prefer the heavier 7 mm version for added insulation during long sits on stand. Cabela's also makes the Instinct Accelerator neoprene knee-high boots. They are excellent as well.

Boots are like knives. You really can't have too many. I know I have closets full. However, hours of serious hunting have whittled out the bad from the good. Now I rely more so on four to five models for the gamut of my hunting.

But what I prefer may not be the best for your foot shape and your style of hunting. My suggestion is to use these presented categories as a guideline for choosing the right hunting boot. Visit your quality footwear dealer in person, such as Cabela's or REI, and begin trying boots on to feel out the details in each model. Consider your hunting applications and needs, and eventually you'll walk away with a well-thoughtout pair of boots. This kind of effort and planning will pay off big time in the field.

past pioneering



John 'Liver Eating' Johnston

Everyone knows of the movie Jeremiah Johnson. Here's the true tale behind the man and legend. > By Darryl Quidort

The 1972 movie, Jeremiah Johnson, brought the story of John Johnston, known as Liver Eating Johnston, to the big screen. Robert Redford played the part of Johnston and the great movie became a classic of sorts. Of course, the movie was pure "Hollywood" and was not a true representation of Johnston's life. Factual information about his life is sketchy and mostly undocumented. What abounds are legends, rumors, campfire yarns, and tall tales.

Legend has it that in 1847 his pregnant wife, a Flathead Indian, was killed by a Crow brave and his band of warriors. This act started Johnston on a vendetta against the whole Crow Tribe. The Crow Chief sent 20 of his best warriors after John Johnston. Over the next several years, Johnston killed them all, one by one. Supposedly, he then cut out and ate the liver of each warrior as an insult to the Crows because they believed this deprived them of reaching their afterlife in the Happy Hunting Grounds. Johnston became known as, Dapiek Absoroka, or Crow Killer.

Other tales credit Johnston with unbelievable Indian fighting abilities, hunting prowess, alcohol drinking fame, and feats of strength. It was said that he was a hot tempered, red bearded, giant of a man that stood 6 feet 6 inches tall and weighed 260 pounds. One rumor claimed that he kept

Indian skulls on stakes at his camp on the Missouri River to sell to tourists coming up the river on the steamboats.

No one really knows how much of the Liver Eating Johnston legend is true. Maybe none of it, but probably some of it. Many people have researched his life and several books have been written on the subject.

It is accepted that he was born about 1824 in

New Jersey, and that his real name was not Johnston, but Garrison. He apparently ran away from home at a young age (due to a very strict father) and spent some time at sea as a sailor. During the Mexican-American War, he struck an officer during an altercation. At the first opportunity he deserted, changed his name to John Johnston, (or Jonathan, or Johnson) and headed for the Rocky Mountains. There he drifted around, searching for gold, trapping, guiding, and generally taking advantage of any source of income available. At times he fought Indians, at other times he and a partner had an illegal business of peddling whiskey to the Indians.

It is officially recorded that John Johnston joined the Union Army in 1864 at Saint Louis, Missouri. (He is listed as 5 feet 11 ¾ inches tall in government records.) An Honorable Discharge was issued on September 23, 1865.

He became a "woodhawk," cutting and selling wood to fuel the steamboats as they went up the Missouri River to Fort Benton, Montana. His wood camp was at the mouth of the Musselshell River near Fort Musselshell. (This area is under the water of the Fort Peck Reservoir today.) It was here that he may have earned the "Liver Eating" moniker. The diaries of C. M. Lee, a gunsmith near Fort Musselshell, say that Johnston and other woodcutters were attacked by six

Sioux Indians in 1868 at the mouth of the Musselshell River near his woodyard. One Indian was killed in the gunfight. In sight of the remaining five Sioux, Johnston is said to have stabbed the Indian with his big "scalper" knife. A small piece of liver remained on the blade of the knife. "Want a

chaw?" Johnston asked as he licked, or pretended to lick, the knife.

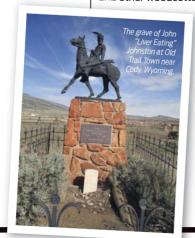
Of course, another source says that Johnston always enjoyed the taste of fried liver and got the name from eating the livers of antelope taken to feed the woodcutter's camp.

Later in life, John Johnston became a lawman. He was at one time a deputy in Billings, Montana and later was Sheriff of Red Lodge, Montana. Reports are that he "kicked" troublemakers down, and continued to kick them until they were unconscious. The beatings were so bad that it was said anyone who witnessed one of his beatings would never forget it.

Whatever Liver Eating Johnston actually was, or wasn't, is an unsolved mystery. In all probability he was a sailor, soldier, scout, hunter, trapper, whiskey-peddler, guide, woodcutter, Sheriff... and drunkard. His life was certainly an exciting one.

It is interesting that, later in life, he wrote several articles, which were published in Helena and Missoula, Montana newspapers, to clear his name "in his own words" if we can believe those words). Among other things, he claimed that he never had a wife, Indian or otherwise. And that, he was not a Crow killer but was friends with and respected by them... even though he had killed several "in self-defense."

We do know for sure that John Johnston died in a veteran's home in California on January 21, 1900 and was buried in a Los Angeles veteran's cemetery. In 1972, possibly because of the movie, Jeremiah Johnson, Tri Robinson, a school teacher in Lancaster, California, became interested in Johnston's life story. With research, he learned that Johnston had requested to be buried in his old stomping grounds in the Northern Rockies. A campaign by the 7th grade students and their teacher resulted in John "Liver Eating" Johnston's body being relocated to the Old Trail Town, at Cody, Wyoming in June of 1974. Robert Redford was one of the pallbearers. MP



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