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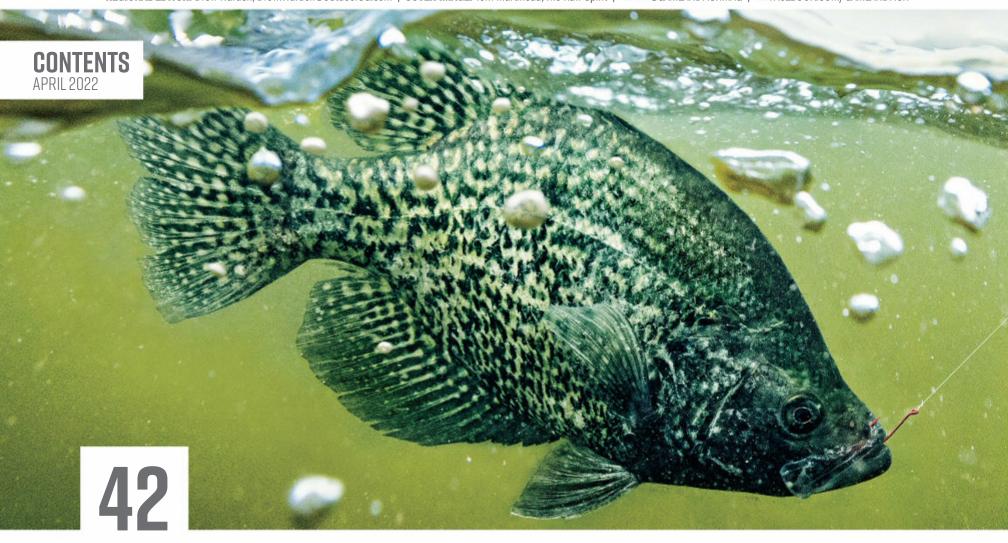


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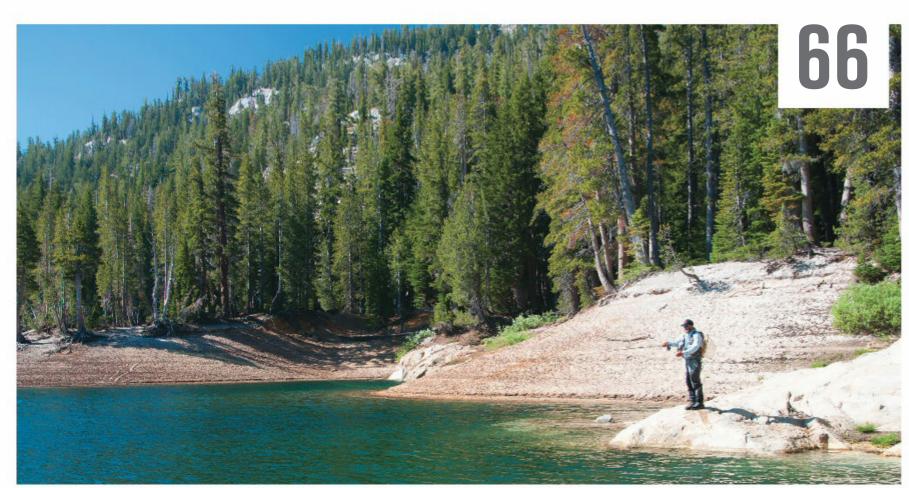
We scoured the floors of SHOT Show to find the best new gear for hunters and shooters.

By Game & Fish, Petersen's Hunting and Guns & Ammo Staff



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SPENDING MONEY

he economy is a hot topic these days, so allow me to relate it to something we can all appreciate while sharing some good news on the subject. A recent report by the Sportsmen's Alliance reveals that hunters and recreational shooters contributed \$149 billion—yes, billion—to the national economy, supported nearly 970,000 jobs and created more than \$45 billion in wages and income in 2020. The report, released in February and titled "Economic Impacts of Hunting and Target Shooting," was produced for the Sportsman's Alliance Foundation by Southwick Associates and funded by the U.S. Fish and Wildlife Service's Multistate Conservation Grant Program.

Those are huge numbers. Here's another: hunters and shooters generated more than \$65 billion in combined retail sales during 2020. Considering how much we all love to buy new guns and gear, maybe that's not so surprising. The report certainly presents interesting data, and for the first time ever, an analysis of how America's hunters and sport shooters contribute to both national and state economies is available for all 50 states down to every legislative district. We all know hunters and shooters impact local economies through their purchases at gun shops, diners, grocery stores and gas stations, but now this report reveals the true extent of such expeditures.

Diving into the report, which is available at sportsmansalliance.org, brings to light fascinating data. For example, deer hunters in 2020 shelled out more than \$23 billion in retail sales, paying almost \$6.4 billion in federal, state and local taxes. The top three states in terms of retail purchases made by hunters were Wisconsin, at nearly \$2.9 billion; New York, at almost \$2.8 billion; and Texas, at more than \$2.7 billion.

The report also lists the approximate number of hunters who participated in the sport in each state, based on hunting license trends, and the number of days they spent hunting there. Texas led the way, with almost 1.3 million hunters spending 22.5 million days hunting in the state. More people hunted in Hawaii (26,000) than Delaware (19,000) and Rhode Island (18,000). If you want a solid estimate of how many folks went afield in your local area, you can find it by scrolling through the legislative district data.

All this goes to show that hunters and shooters have a tremendous positive influence on the economies, businesses and communities across the nation. And that's something we all can be proud of as we enjoy our favorite pursuits.

Adam Heggenstaller Editorial Director

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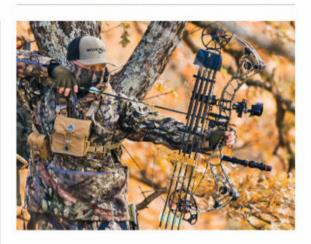
OLDIES BUT GOODIES

There's special satisfaction in going old school, and "Classic Hunting Cartridges You Should Try Again" touts the benefits of six vintage rounds.



GUNS FOR BIRDS

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The moon's phases are listed as New, First Quarter (First Q), Full and Last Quarter (Last Q). Times listed represent the peak activity times for game and fish each day.

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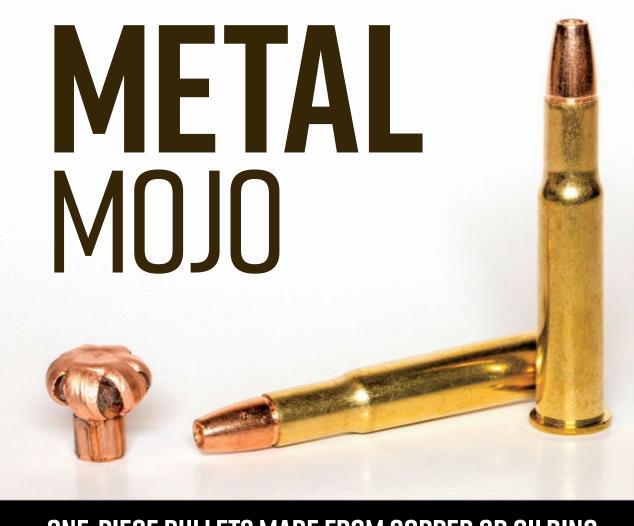


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ONE-PIECE BULLETS MADE FROM COPPER OR GILDING METAL SET THE BAR FOR PENETRATION IN BIG GAME.

By Richard Mann

ost hunters know that conventional bullets have two main components: a lead core and a jacket of copper or gilding metal. Mono-metal bullets are different; they do not have a jacket or core, but instead are made from a single metal or alloy. This homogenous construction offers distinctive performance, but it also causes misunderstanding among hunters used to cup-and-core bullets. Mono-metal bullets are excellent choices for big game, so let's clear up some of this confusion by looking at what they do and how they do it.

For modern centerfire rifle cartridges, the metal in mono-metal bullets is generally copper or gilding metal (copper alloyed with a small amount of zinc). But technically, bullets made entirely from lead, including hardcast lead, are also mono-metal bullets. Of course, bullets made from copper or gilding metal are much harder than bullets made from lead, even hardcast lead. Because of this,

for mono-metal bullets to expand during penetration they must have a hollow point. Modern mono-metal bullets intended for big game are indeed hollow-point bullets.

These bullets expand, or deform, during penetration as fluids enter the hollow-point cavity and create pressure that causes the pre-stressed bullet to open. This expansion is similar to a flower blooming; due to the pre-stressing inside the nose cavity, petals form and peel back along the shank of the bullet toward its base. Many hunters believe that because copper and gilding metal bullets are so much harder than jacketed bullets, their expansion process takes longer. This is a misconception; copper and gilding metal bullets flower-out almost instantly after impact.

Another misconception with modern mono-metal bullets is they do not have enough time or meet enough resistance to open up inside the smaller species of big game. This conclusion is often reached by looking at the exit wound and internal damage. Neither prove inadequate expansion.

An exit wound is not a viable indication of anything except bullet exit. Just because it is small does not mean the bullet did not expand. Small exit wounds created by mono-metal bullets are sometimes due to petals breaking off during penetration. When this happens the bullet shank almost always exits the animal, leaving a very small hole. For the most part, however, petal loss is now a rarity with modern mono-metal bullets unless big bones are hit or the bullet impacts at an extremely high velocity.

For hunters used to seeing internal damage made by jacketed bullets, the damage created by a mono-metal will appear to be less. This can foster the notion of poor expansion. While monometal bullets do indeed expand, their true forte is penetration. A rule of thumb regarding terminal performance is bullets that penetrate the deepest create narrower wound cavities.

Some very experienced hunters, especially those who place extreme value on penetration, believe modern mono-metal bullets are the best choice for big-game hunting. Tim Sundles owns and operates Buffalo Bore Ammunition. He not only crafts some of the finest big-game ammunition available, but also has taken all manner of large animals in North America and Africa. Many of Sundles' premium loads utilize Barnes bullets.

"In terms of terminal performance, Barnes TSX and TTSX bullets have never failed me," Sundles notes. "If I'm hunting big game of over 350 pounds, I always use Barnes solid-copper bullets."

The Buffalo Barnes Lead-Free .30-30 Win. load (above) launches a 150-grain Barnes TSX bullet at nearly 2,300 fps from a 20-inch barrel. In ordnance gelatin this bullet will penetrate to about 26 inches, developing a frontal diameter of around .6 inch. This represents 40 percent more penetration than you'll see with typical 150-grain jacketed bullets fired from a .30-30 Win. It's easy to see why hunters who like penetration also like modern mono-metal bullets. Substantially increased penetration is also why Buffalo Bore loads a 55-grain Barnes TTSX in its .223 Rem. Deer Slaver load.

Mono-metal bullets made from copper or gilding metal are lead-free, which can be a big deal. In California and some locations in other states, bullets that contain any lead at all are prohibited for hunting, making mono-metal bullets the only option. Some hunters have concerns about eating game animals shot with lead-core bullets, claiming tiny lead particles are distributed throughout the meat. This is a contentious subject, and it's unclear if there's any real danger. However, hunters who are concerned about lead can use a modern mono-metal bullet and not worry.

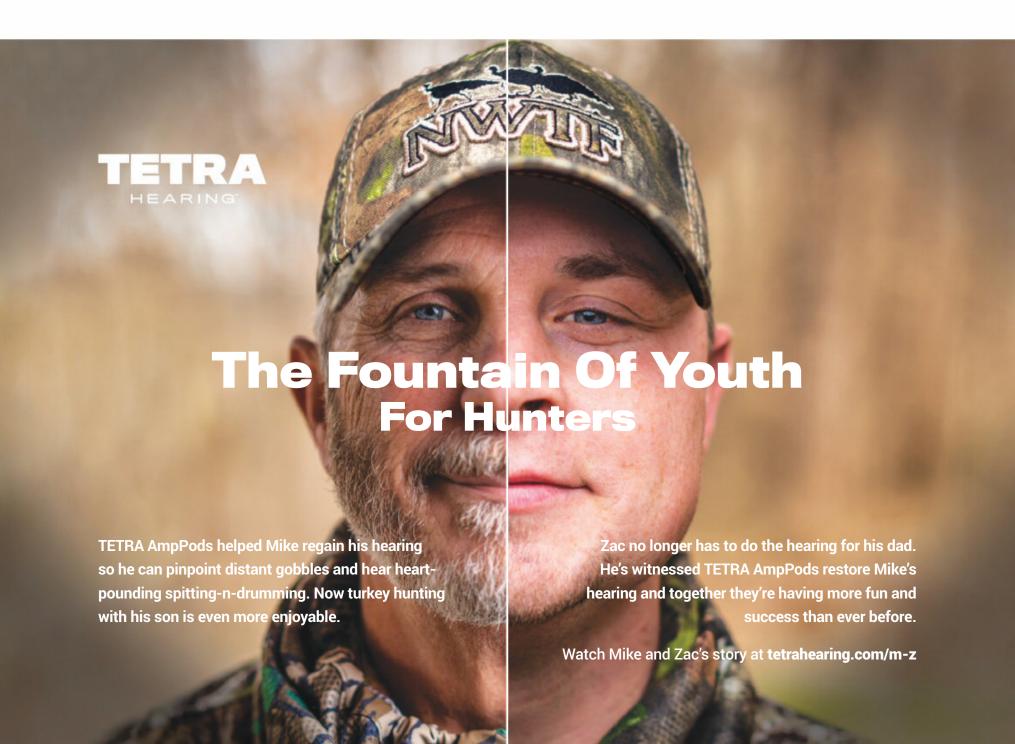
The Barnes X Bullet was the original mono-metal bullet of modern times. Though the X Bullet delivered terminal performance very similar to mono-metal bullets that would come later, it had a reputation for iffy accuracy. Barnes corrected this with the Triple Shock X Bullet (TSX) by adding relief grooves along the bullet's shank. This helped with some fouling issues and improved accuracy. Whether made from copper or slightly harder gilding metal, almost all modern mono-metal bullets are very similar to the TSX in design.

The most recent mono-metal bullet modification is the addition of a polymer tip pressed into the bullet's hollow nose cavity. It helps initiate deformation, and it enhances ballistic coefficient (BC). These tips, often with the addition of a boattail on the base of the bullet, can increase BC by 14 percent or more. The Barnes TTSX, Norma Ecostrike, Nosler E-Tip, Federal Trophy Copper and Hornady GMX bullets are all mono-metal bullets with polymer tips. Their terminal performance is very similar.

This year, Hornady released a new mono-metal bullet called the CX, which stands for "Copper alloy eXpanding." The CX is mostly an enhanced version of the GMX bullet with the addition of Hornady's Heat Shield Tip, which is an integral part of the popular and accurate jacketed ELD-X hunting bullet. This tip resists aerodynamic heating and helps to maintain a consistent BC throughout flight. Hornady offers the CX bullet as a reloading component and in the Outfitter line of ammunition.

Mono-metal bullets need an impact velocity that's about 200 fps faster than comparable jacketed bullets for deformation to initiate. Keep this in mind when shooting at extreme distances. On the other hand, hunters can use lighter weight mono-metal bullets and push them faster. Because mono-metal bullets almost always retain nearly all of their weight, it's not uncommon to step down a bullet weight from conventional norms when using them. The higher impact velocity increases the wound channel and helps circumvent expansion concerns, and penetration depth will still usually exceed that of heavier jacketed bullets.

A mono-metal bullet will not kill deer any deader, but it will penetrate deeper than a jacketed bullet of similar weight. This is no small matter. As the great gun writer and professional hunter Finn Aagaard once observed, "Killing power is a matter of biology, not math and physics, and is influenced almost totally by shot placement, accompanied by sufficient penetration."





KNOW WHEN, AND WHEN NOT, TO USE BRAIDED LINE BY UNDERSTANDING ITS COMPOSITION.

By Dr. Jason Halfen

ost angling situations call for one of the three common varieties of line: monofilament, fluorocarbon or braided. In recent years, technological advances have allowed braided line to expand its range of useful applications while also diversifying the library of different braids that are available. Let's explore the fundamental properties of braided fishing line and examine how the inherent strengths—and weaknesses—of braided line apply to different presentations.

Braided lines are typically constructed from long, tightly woven strands of one of several different polymers, frequently Dacron, Dyneema or Spectra fibers. These are distinctly different from the nylon polymers used to manufacture monofilament and the fluorinated polymer resins extruded into fluorocarbon lines. You may recognize Dacron as the same material used in a wide variety of consumer fabrics. Both Dyneema and Spectra fibers are made from ultra-high-molecular-weight polyethylene, which is fundamentally the same material found in clear plastic sandwich bags.

If you've ever had a sandwich bag blow out of the boat while on the lake, then you know that the bag floats until you have a chance to retrieve it. It makes perfect sense that braided fishing lines woven from Dyneema or Spectra fibers, such as Seaguar and PowerPro braids, respectively, also float. Dyneema and Spectra fibers each have a density of .97 gram per cubic centimeter (g/cm3), which is less than the 1.00 g/cm3 density of water and ensures these lines will float. In contrast, braided Dacron lines sink in water, due to Dacron's density of 1.37 g/cm3 being higher than that of water.

The composition of braided lines impacts their performance characteristics. Consider first the strength-to-diameter ratio of each of the three varieties of fishing line. A braided line will always have a much thinner diameter than comparably rated monofilaments or fluorocarbons, or said another way,



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braided lines will always have a much higher strength-to-diameter ratio.

For example, 12-pound-test Sufix Siege monofilament, a staple of many multispecies presentations, has a diameter of .014 inch. A 100 percent fluorocarbon line with the same rating, like 12-pound-test Seaguar InvizX, has a diameter of .011 inch, more than 20 percent thinner than monofilament of comparable tensile strength. A premium braided line, like PowerPro Super8Slick V2, has a 30-pound-test tensile rating at a diameter of .011 inch, which is the same as the diameter of 12-pound-test fluoro. At the same time, 15-pound-test braids have diameters of .008 to .009 inch, comparable to that of 4-pound-test mono. These line diameter differences may not seem like much, but they make it possible to fish with the thinnest line possible for less wind and water resistance, while allowing more braided line to fit on a reel's spool.





Braided lines are not particularly abrasion resistant, due in part to the fact that they are composed of multiple thin fibers woven together. Individual fibers can fray easily when contacting sharp or abrasive objects, and the failure of even a small fraction of the total number of woven fibers can lead to significant loss of the line's tensile strength. Check braided line frequently for frays and loose fibers, particularly near knots and any areas that may have come into contact with hard cover while presenting baits.

Braided lines trap water within their woven strands, which can make braids challenging to cast when air temperatures flirt with the freezing point. This phenomenon also makes braid a poor choice for ice-fishing applications, especially when fishing outside of a heated shelter. Some braided line manufacturers add a water-repellent coating to their lines to make them more manageable in sub-freezing conditions.

While being the strongest at any given diameter, braided lines are also the most visible both above and below the water. The synthetic fibers woven together to create braided lines are opaque, making the lines easy for anglers and fish to see. Many anglers fishing topwater presentations in heavy cover favor a gray or black braided line to help it hide among the surface grasses and lily pads. Braided lines are commonly combined with fluorocarbon leaders to leverage the strengths of braid with the low visibility and enhanced abrasion resistance of fluorocarbon. If you fish a lot of braid, make a point of learning one or two of the common line-to-line knots—like the Double Uni, Alberto or FG knot—to

effectively link a braided main line to a fluoro leader.

Each line variety has its own stretch and sensitivity characteristics. Braided lines do not stretch at all, and as a result are the most sensitive, and least forgiving, line option. To help provide an insurance policy against near-boat surges from powerful fish, many anglers combine a braided main line with a short section of a stretchy monofilament leader. Alternatively, a more flexible rod with a slower-than-typical action will provide shock absorption above the waterline, helping to keep hooks pinned in trophy-caliber fish.

When selecting a braid, be sure to consider the number of filaments woven together to create the line. Lines with four fibers, often referred to as "carriers," tend to feel somewhat rough and usually are the least expensive of the braided line options. Contemporary eight-carrier braids, like Seaguar Smackdown, Sufix 832 or PowerPro Super8Slick V2, are much smoother and enhance casting distance by reducing friction through the guides. They also have the best strengthto-diameter ratios. Braids with 16 carriers are available, but these are typically "hollow core" lines best suited for biggame saltwater or freshwater adventures requiring knotless braid-to-leader unions. Bridging the gap in carrier counts are two braids from Berkley: x5 with five carriers and x9 with nine.

Braided lines can be one of the most important components in an angler's setup. Leveraging their strengths, while also being mindful of their weaknesses, can improve presentations and lead to more and bigger fish this season.





im Brass looks across the horizontal landscape of northern New Mexico's Rio Grande Plateau, peppered with juniper and mesquite shrubs. The river that named this place is well below us, in a water-scoured canyon, but Brass leads my eye to distant blue shapes out of focus in the shimmering heat.

He's pointing out the island mountain ranges all around us, high mesas and alpine meadows that are defined by their abrupt rise out of the landscape and by the trees and even snow on their higher slopes. They're not part of the contiguous San Juan or Sangre de Cristo ranges with their long ridgelines stepping to crenelated peaks and manicured ski runs. Instead, these unattached ranges are much like islands in the ocean: small, distinct and swimming in a sea of sunbaked sagebrush and pinon.

That's precisely their problem when considering the wild trout they hold, says Brass, at that time the Southern Rockies coordinator for Backcountry Hunters & Anglers (he's now field operations director for the conservation group). We are gathered near Taos, N.M., mainly to fish the Rio Grande inside the Rio Grande del Norte National Monument, but it is hard to ignore those island ranges sailing across the pinon plateau all around us.

"Many of those ranges hold native trout," notes Brass. "The Rio Grande cutthroat is the southernmost subspecies of cutthroats, and a number of streams have them in good numbers. Over in Colorado, native trout include the greenback cutthroat [federally listed as threatened] and the Colorado River cutt [considered a species of concern]. There used to be a yellowfin cutthroat, but it's extinct."

New Mexico has another native trout, the Gila trout, listed as an endangered species in 1973 but downlisted to threatened in 2006. It is similarly landlocked in the headwaters of southern New Mexico's Gila River.

All these fish have a few shared attributes. First, they're favorites of highcountry anglers. Eager to take a drifted fly or a small spinner, they're found in swift, high-gradient streams that are almost all on accessible public land. Second, their habitat is getting smaller, warmer and dirtier by the year, and unlike rainbow or brown trout in a large river system, these tributary trout can't move to more suitable water.

They can't go downstream because their habitat literally ends after a few miles as water becomes too warm and lacking of enough oxygen to support them, or as flows are dewatered by diversions for irrigation or other uses. Upstream, the tributaries slow and flatten as they run into alpine meadows and beaver bogs. Because these native trout are so isolated in islands of habitat, they can't utilize the main response of more mobile species to environmental change: migration.







The Gila trout (top), greenback cutthroat (middle) and Colorado River cutthroat are all species that exist in low numbers. As suitable high-country habitat is threatened, biologists and anglers worry that populations of these Western natives may soon be lost.

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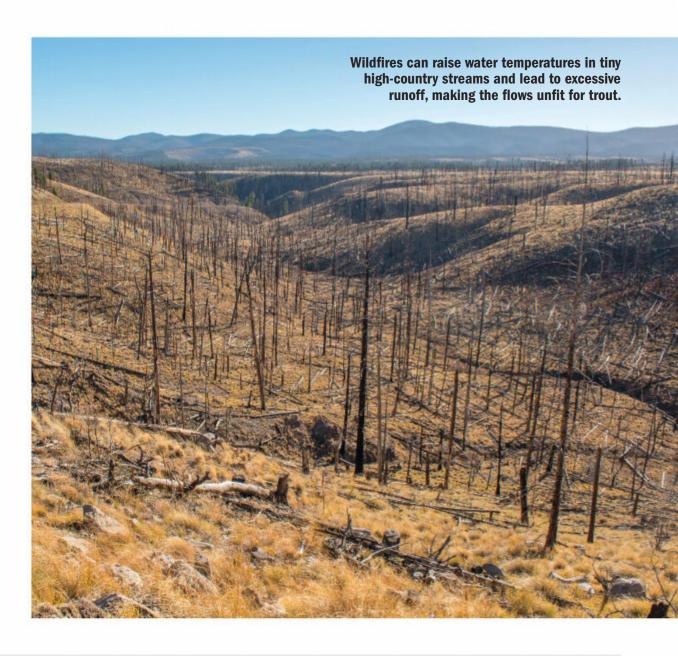
- B. of Maryland

HELP FOR HABITAT

Conservationists are working on ways to insulate the cold-water habitat these native fish require. In some cases, that means timber management that reduces the risk of catastrophic wildfire. In 2012, some 300,000 acres of the Gila River's headwaters were burned, eliminating the Gila trout from six of the species' remaining eight streams. Adult fish were scooped out of rivers ahead of the fire by frantic volunteers in order to protect their genetic stock from loss.

Following the fire, ash and mud from the burned slopes slurried streams and further compromised trout habitat. Land managers are keen to avoid a repeat. But that's hard as the continent's climate warms, forest fire season is longer and more intense every year, and resources are often unavailable for either pre-fire mitigation or post-fire remediation.

Trout Unlimited (TU) announced last summer that its own studies of climate change indicate that the United States could lose as much as half of its viable trout and salmon habitat by the middle of this century. But TU says there's some good news, too, and has put together a



SCI VOWS TO FIGHT WOLF RULING

The group argues relisting wolves as endangered runs counter to conservation.

On Feb. 10, Senior District Judge Jeffrey S. White, of U.S. District Court for the Northern District of California, ruled to return gray wolves to the endangered species list. The decision comes less than two years after the U.S. Fish and Wildlife Service (USFWS) delisted the wolf throughout the lower 48 states, announcing that populations had successfully recovered to the point where management would be handled by state and tribal wildlife agencies.

In its ruling, the district court held that the USFWS cannot delist wolves nationally based on their recovery in two core population areas, the Western Great Lakes and Northern Rocky Mountain regions. Consequently, any plans for hunting seasons to manage wolves in Minnesota, Wisconsin and Michigan—where the population has exceeded USFWS recovery goals



for 20 years-are now on hold. Wolf management in Wyoming, Montana and Idaho will continue to be those states' responsibility, however, as the population in that region was previously delisted by Congress.

The decision is the result of suits brought forth by anti-hunting groups, says SCI, which intervened to defend the USFWS' science-based delisting. SCI points out that although these groups acknowledge some populations of wolves have recovered, they seek

to force the USFWS to restore wolves everywhere—from Maine to Washington. In its ruling the court has misinterpreted the Endangered Species Act (ESA), SCI notes, and raises the bar far too high for a recovered species to become delisted.

"With due respect, the judge's decision is wrong," says SCI CEO W. Laird Hamberlin. "It runs counter to Congress' express intent in the ESA to conserve species to the point that they no longer need the ESA's protections."

There is one bright spot in the decision, SCI explains. The court agreed with arguments by SCI and the National Rifle Association with respect to state management of wolves and upheld the USFWS' conclusion that state management does not pose a threat to wolf populations. SCI will now pursue avenues of overturning the district court's decision to relist wolves.

—Adam Heggenstaller

punchlist of measures that will help trout and salmon navigate a warming world.

The first is conserving the best remaining cold-water habitat, which TU's president and CEO, Chris Wood, notes is "contained within large swaths of unmarred backcountry." Ensuring that roadless areas remain undeveloped, and managing other disruptions in quality habitat are both readily achievable ways to conserve fish, says Wood.

For example, TU advocates for "responsible logging" that keeps streamside buffers intact and ensures that trout and salmon streams have plenty of cooling shade. In addition, the group works with local communities, state and federal agencies and its volunteer base to decommission and remove outdated dams, and to fight "poorly conceived dam proposals" that would be harmful to trout and salmon.

Conserving water itself, which is available in limited quantities, is another organization objective. "TU works with farmers, ranchers and irrigators to make better use of water resources," explains Wood. In some cases, that means retrofitting inefficient irrigation systems or paying water users to guarantee minimum pools for aquatic resources.

MORE CHALLENGES

Compounding the problem of habitat decline is competition with invasive and non-native species, real threats that impair native fisheries. They come in all shapes and sizes, TU notes, from microscopic whirling disease spores to large mats of invasive rock snot. "These attackers either go directly after the fish themselves, such as non-native fish species that eat our native trout," the group explains, "or they work to make habitat unsuitable."

Further, TU says that "irresponsible" industrial development in trout and salmon country is another danger. The organization points to the impacts of fracking in the Marcellus Shale region of the East Coast and reports that about 40 percent of the West's headwater streams are affected by abandoned mines and their toxic runoff. It also notes that "new mining proposals are often in places where the mere construction of a mine would trash irreplaceable trout and salmon habitat."

Will mitigating these impacts, from development and strained water resources to non-native and invasive species, be enough to make the fragile high-country trout habitat of the island mountain ranges liveable for native fish? It's hard to say. Some spots in the American Southwest are on pace to experience temperatures above 95 degrees for more than half the year by 2040 if current temperature trends continue.

Those temperatures will reduce snowpack in mountains, lead to wider and more intense drought conditions, and exacerbate forest fire intensity, according to climate authorities. For Brass and other advocates for native trout, that means we have little time to build resilience into what's left of the cold-water habitat of the mountain ranges of the West.

"If you've ever fished for those little gems, then you know what it feels like to hold a native cutthroat in your hand, like a little piece of the sunset," Brass relates. "We have to keep that as an essential experience for an American angler."



Bushytails and Blackpowder

SUCCESS WITH A FLINTLOCK DURING SPRING SQUIRREL SEASON IS CAUSE FOR BOTH CELEBRATION AND REFLECTION.

Story and Photos By Tony Kinton



rather pleasant morning I would say, particularly for Mississippi with June coaxing May to pick up its pace along the trail. The thermometer in my truck sat solidly at 52. The woods were quiet, mosquitoes cooperative. I primed the pan of the 20-gauge fowling piece and eased to the peak of a ridge I knew well. Buckskin leggings and long-hunter shirt and center-seam moccasins were the perfect attire: silent and protective and proper. Squirrels were my objective.

One obliged first thing after I gained that peak and sat at the base of a hickory. He was scooting along in the leaves, going to a destination that not even he showed signs of knowing. On the roots of one oak, on the trunk of another, up and down a bush. Bouncing and skittering this way and that with his tail twirling and never stopping to accommodate a shot. And then he was gone. Still, even in his brevity, he reminded me why I was here, triggering a warm collection of memories reaching to childhood.

Squirrel hunting serves as the genesis for many hunters, the regimen that affords not only a flush of excitement and perhaps trembling fingers and sporadic breathing for the novice, but also peaceful steps and desired tranquility for the more schooled. The pursuit is likely the first, especially in the South, for budding newcomers. I fell into its inextricable clutches as a 10-year-old; it has held me in bondage since. And this morning, with the fowling piece and that familiar ridge and that squirrel, it had me again. I was in my late 60s and found it uncommon that I was experiencing and enjoying both the excitement of the novice and the tranquility of the schooled.



A limb shook, just below in the hollow from where I sat. A squirrel scurried from that limb tip, onto the tree proper and then off again to another limb. Searching for buds most likely, this bushytail was busy with his squirrelish antics, so I concluded it safe to ease closer. I needed just 10 yards for the robust pattern from the fowler to be thoroughly efficacious. The centerseams made nary a sound in moist leaf duff left over from autumn. I arrived minus detection, but that *click* of the flintlock's cock seemed obtrusive.

A thunderous rumble of blackpowder that we odd folk so cherish molested the placidity. A putrid cloud of blue-gray smoke lay heavy in the woodlot. But neither the boisterous explosion nor the billowing vapor thwarted the assurance of success. A solid thud was evident on the forest floor. I had a squirrel.

I stood in reverence, looked carefully to mark the spot, and then began the process of reloading my long, sleek and fully captivating fowler with powder, wads and shot. I finished by priming the pan.

At this point some may be asking why, specifically why anyone would use flintlock firearms to hunt squirrels. Conclusive and definitive answers are likely as absent as beauty in a mud fence, but some hasty responses will likely be nostalgia, maybe fatigue of all things new, perhaps and logically the cool factor. All perfectly acceptable replies. And valid. As I have tried to unravel this question of why and package it properly into a succinct bundle, I have arrived at three rather ambiguous entities that may still fail to give a clear answer: curiosity, intrigue and wonderment. Difficult to explain, each of these. And perhaps, even in their broad reach into the philosophical, none are satisfactorily adequate.

Wonderment is certainly present. Stepping back proffers the chance to relive the past, if only in theatrics. It is newness birthed by revisiting the old. Wonderment just may contain the other two of that trio highlighted above: intrigue and curiosity. Few can argue that within wonderment, intrigue is a powerful additive. Intrigue bubbles from the depths when one becomes a part

of distant history while living in and being a part of the history that is being made. And curiosity is kin to intrigue. The intrigue that leads one to attempt something will generally answer the veiled question posed by that curiosity: How?

But enough of this. It is sufficient to say some folks fall prey to this backing-up-in-time malady and some don't. They all reach their own conclusions. Now back to that quiet ridge and the fowling piece and the spring squirrels.

I saw another limb shake farther down the hollow. Two squirrels were there, and I began a slow sneak in their direction, the flintlock back in battery. Presently, I found myself propped against a skinny hardwood while two squirrels cavorted about on a much more substantial oak. They were up one side of the trunk and down the other, pausing seldom and fully engulfed in the practice of being a squirrel.

One stopped, postured in that common tucked-up ball formation where a thigh-sized limb joined the tree. I aimed, not pointed as when wing-shooting.





SQUIRREL SMOKERS, PART 1

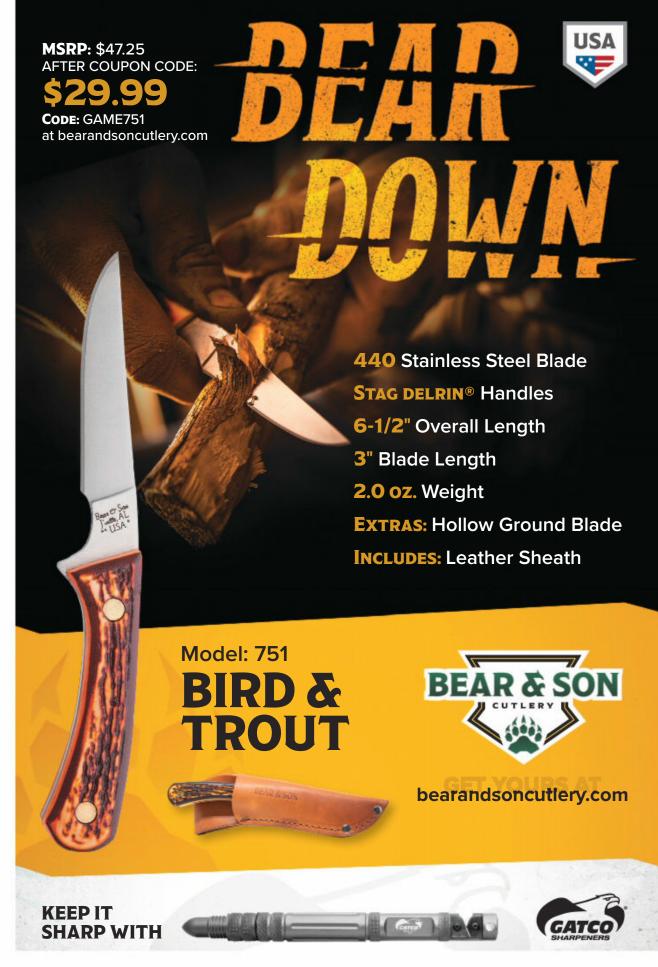
The right load makes all the difference in a fowler.

The fowling piece was an important tool in the early years of this country. Like our modern shotgun, the fowler was a do-all implement. With birdshot and buckshot it worked for small and big game, and practically every household had a fowling piece.

My personal unit (left) is a basic English-style fowler with no frills, just a walnut stock, a lock and a barrel. I did the barrel browning and stock finishing but had a professional builder inlet the stock for the lock, barrel and buttplate. The barrel is a Colerain with that company's turkey-choke system built in. Patterns are tight, and I added a small rear sight to the top flat of the barrel about 10 inches in front of the lock. Coupled with a short blade near the muzzle, sighting is easily and accurately accomplished when hunting squirrels and turkeys.

Fowlers can be a bit touchy during load development. If the rig likes the load, it will reward the shooter with viable patterns. If it doesn't like the load, it is problematic. After a great deal of time on the bench in trial-and-error attempts, I have settled on one load. It works well for squirrels and turkeys, and I see no need for further adjustments.

The load is as follows: 75 grains (measured by volume) of Goex FFg blackpowder; three thin cardboard wads, followed by one Ox-Yoke cushion wad; a 1- to 1 1/8-ounce charge of No. 6 shot; and one thin over-the-shot cardboard wad to keep everything down. While FFFg powder will suffice as a priming charge in the pan, I much prefer the finer FFFFg. Ignition, in my thinking, is a bit quicker.





The diminutive front blade nestled peacefully in the notch of the rear sight I had put on the flat of the fowler's barrel for the express purpose of squirrel and turkey hunting.

That rumble and cloud of smoke again. That thud in the crinkled leaves again. I had collected No. 2 of the day. And since I had no intentions of taking more than two, these destined for an upcoming supper of fried squirrel and gravy, I watched as the second squirrel bounded away. I didn't reload the fowling piece. I simply snipped off a thin green limb with the aid of my neck knife, trimmed one end to a point, and then slipped that through a hind leg of each bushytail for ease of toting. My truck was a quarter-mile away.

While en route to the vehicle, I felt a warm embrace of satisfaction, a flow of contentment. Smugness perhaps. I had done it again, had moved to the distant past in both implements and attire and had collected what I had come to collect. All this was done in a manner that the uninitiated might consider impossible, or at least impractical. I didn't feel it



Loading necessities include powder, a greased patch, round ball and short starter to ease the projectile down the first few inches of barrel.



SQUIRREL SMOKERS, PART 2

Small-caliber flintlocks are effective and stylish.

The Kentucky long rifle, most likely developed in Pennsylvania, is a thing of legend. Sleek, beautiful and accurate, it has had a colorful and romantic history. Common in calibers from .32 to .60, it was and is a proven performer. The so-called Kentucky rifle morphed into several "schools" of building, each possessing its own uniqueness in appearance and embellishment, but all remaining flintlocks.

I have two. One is a .32-caliber Tennessee-style rifle (above); the other a .54-caliber York-style piece. Both are built with left-handed locks. The .54 is employed for deer and other big game, while the .32 is strictly a small-game proposition. In both I use only round balls. The rifling twist is designed for these projectiles.



My hunting load for the .32 is 30 grains (measured by volume) of Goex FFFg blackpowder, one greased pillow-ticking patch cut to size and a .312-inch round ball. I prime with the FFFg. Balls that are a few thousandths of an inch larger or smaller may work in individual rifles, but a ball that's too small generally won't grip the rifling properly and a ball that's too large can be difficult or impossible to load. Some trial-and-error experimenting is in order when developing a load.

The same applies to powder charges. A very few grains up or down can make a

difference in accuracy, but never exceed the maximum listed for a given barrel.

Greasing patches is essential. I use extra-virgin olive oil occasionally in the .32 but prefer common kitchen shortening. While simply smearing the shortening on a trimmed patch with fingers works well, I prefer to melt a blob in a skillet, place the patches in the liquid until they are saturated and then put them on a paper towel to cool. Bear grease, if available, is reported to be a fine (and traditional) patch lube.





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ABOVE: A canvas tent camp provides the perfect place to rest during a hunt that hearkens back to the 18th century. BELOW: Spring or fall, the author and his companions Neal Brown and Mike Yancey find intrigue in hunting squirrels with flintlock muzzleloaders.



was the latter and had proof it was not the former. And I considered another hunt a decade behind the one I had now just completed.

My comrade and I were toting .32-caliber Tennessee flintlock rifles. We had Barlow with us, my partner's mountain cur. He was the best squirrel dog I have ever encountered and was a solid companion on any hunt or in any camp. A loving and gentle being he

was, a gentleman, and a squirrel-hunting machine! He treed, up the skinny trunk of a broken-off poplar. Unusual setting it seemed.

"I believe Barlow is lying for the first time in his life," Neal moaned. Turns out Barlow wasn't lying. One squirrel vaulted out the hollow top and paused. Neal's .32 paid off. Then another within a minute or so. My .32 this time. Neal was reloaded when a third appeared.





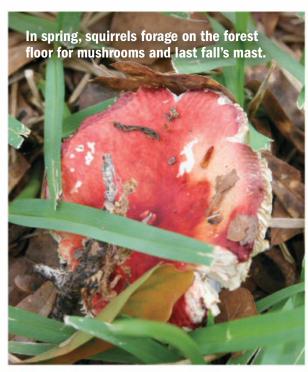
That one went home with us as well. It was a unique situation with a unique dog and two hunters dressed in a unique fashion and shooting unique rifles. The memory remains vibrant in my mind.

Earlier I addressed the question of why as it relates to antiquated firearms. But there are two separate elements that may also beg the same query: spring squirrels and period-specific clothing.

The answer to that spring thing is simple enough for me. And that answer is because the season is open. No, there is no chill in the air and geese are not honking above on their southern journey. Leaves are not multi-colored and drifting downward with a gentleness only autumn can offer. But squirrels are there. Perhaps in slightly different locales than when mast is mature, but

there somewhere in the vicinity. They are eating buds and mushrooms and berries and buried acorns, and they can be successfully hunted.

Clothes? Much like the flintlocks, there is similar curiosity and intrigue and wonderment. I have found the making of those clothes as intriguing as using them. Yes, I have spent countless hours hand-stitching shirts and leggings





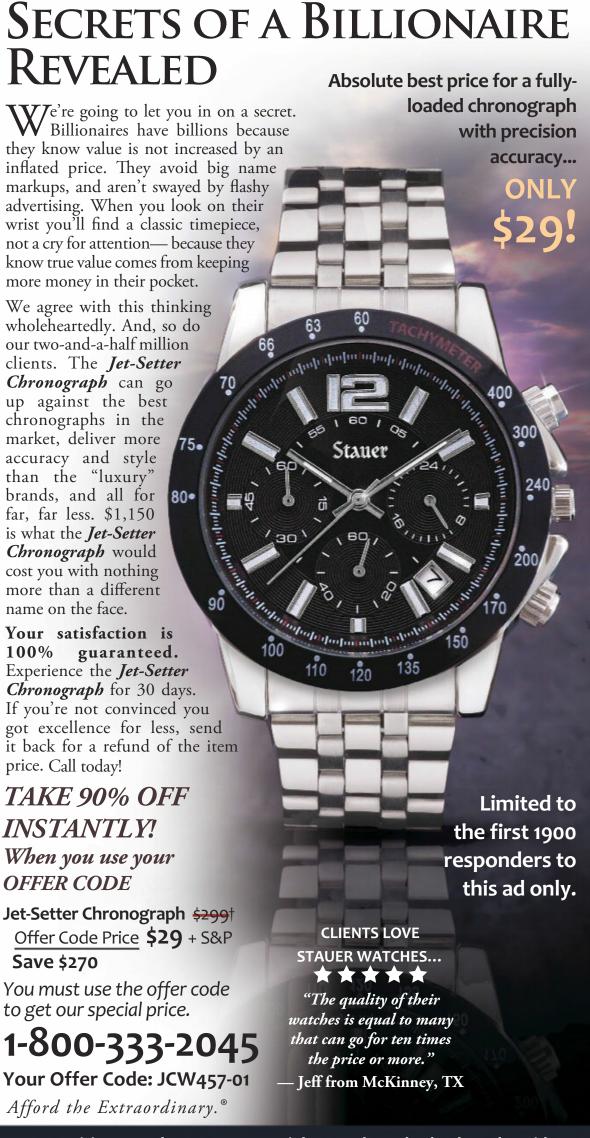


and moccasins. The shirts are made of unbleached muslin and dyed in walnut hulls, the leggings of tanned buckskin. Moccasins of elk or moose hide get my nod. They are rugged.

The curiosity of how those clothes functioned in 1770 is soon answered when a hunter puts them to the task in modern times. Moccasins are virtually silent. Buckskin leggings provide ample protection from briars. Long-hunter shirts dyed in walnut hulls are a natural camo. Wonderment encompasses the wearer of such items each time that person walks a trail or sits against a tree or tips through a woodlot. That wonderment can coax a smile during each step on each sojourn.

Sure, we are far past the 18th century. We now live in a world of more and new, and beeping and dinging, and devices and deadlines. These are not always abominable, but these are not always healthful.

A break could be in order. Dredging up curiosity and intrigue and wonderment amid the mundane, perhaps even amid the items we perceive as comforts, could be rewarding. I offer a flintlock and spring squirrels.



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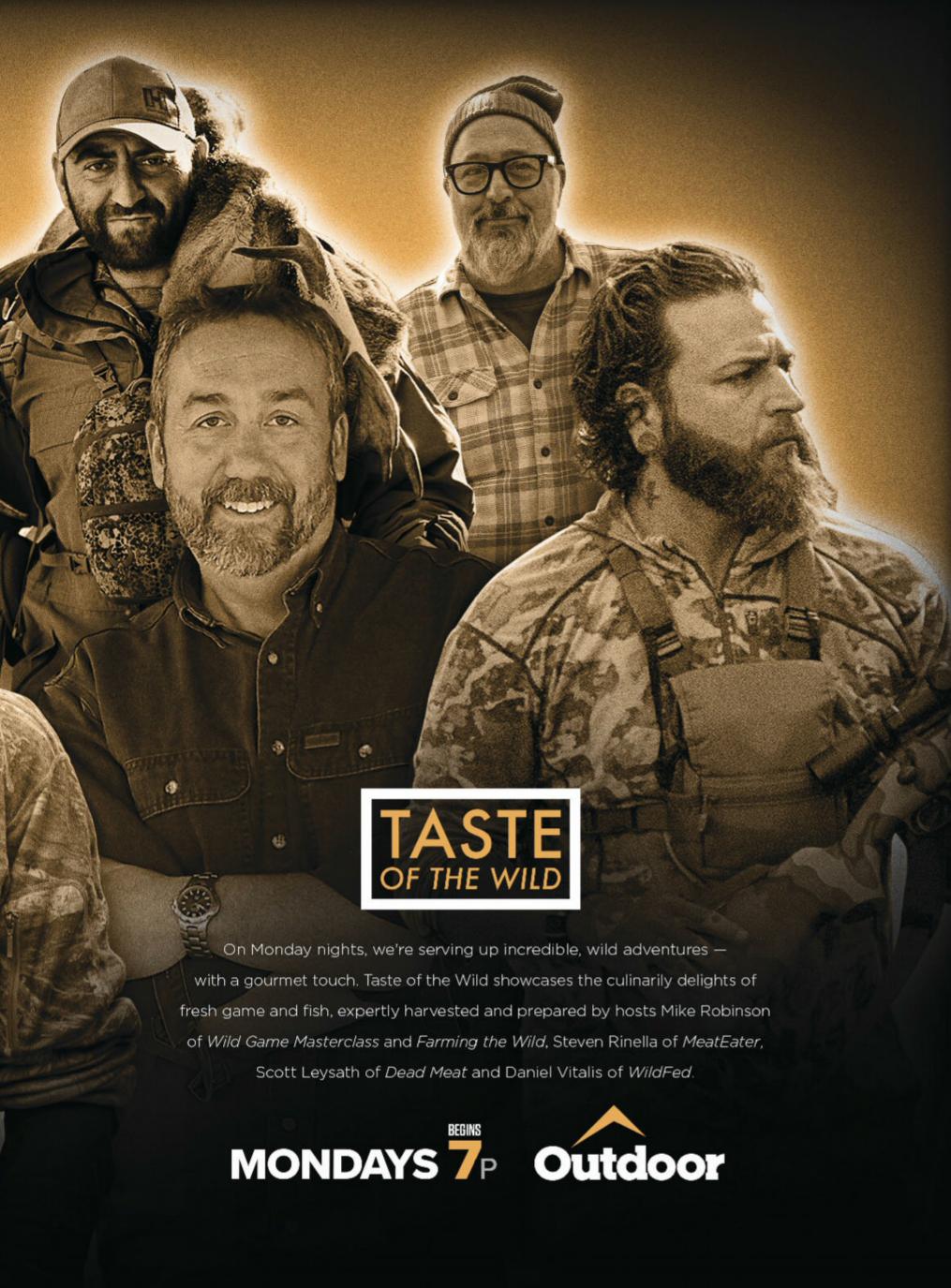
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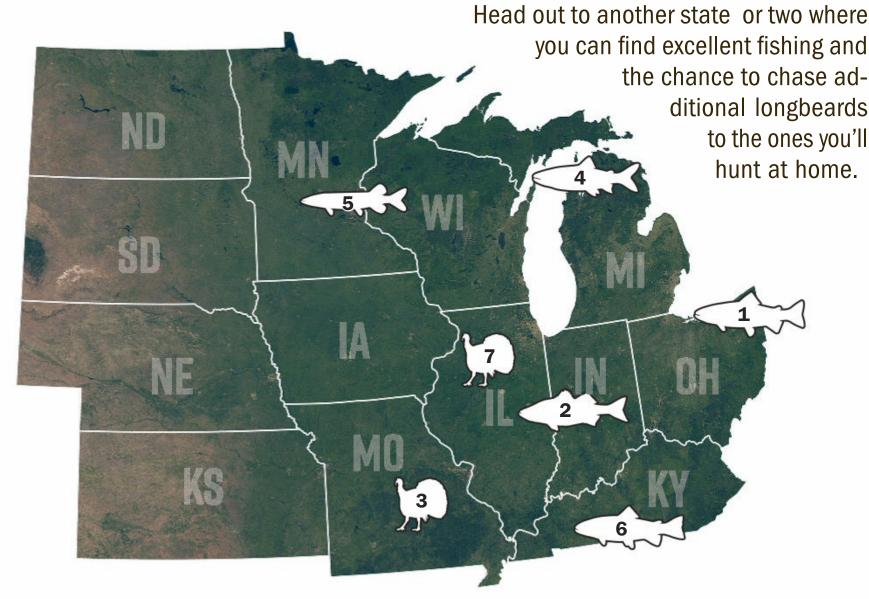


ARUUNU THE MIDWEST

A SAMPLING OF THE REGION'S BEST **HUNTING AND FISHING OPPORTUNITIES** THIS MONTH

By Brandon Butler

f we operated on an annual outdoor calendar, April would be the first month of the year. Trees begin to bud in the southern part of the Midwest, and all the ice is gone except for in the most northern reaches of our region. Turkeys are gobbling and fish are hungry after a long winter in cold water. With many states in the Midwest allowing for just one turkey tag per season, now is a great time to load up your hunting and fishing gear and hit the road.





OHIO STEELHEAD

Steelhead Alley includes parts of Pennsylvania and New York, but the lion's share is in Ohio. The Ohio DNR stocks steelhead in the Vermillion, Rocky, Grand, Chagrin and Ashtabula rivers and Conneaut Creek. The main stretch of Lake Erie tributaries with steelhead are found from Cleveland to the Pennsylvania border. Fly fishing is a popular method of catching chormers, but anglers with spinning gear also do well floating spawn sacks below bobbers.



HOOSIER STRIPERS

Indiana's Cecil M. Harden Reservoir offers many angling opportunities, but the large stripers lurking in its depths make this reservoir a special destination. The reservoir has an average depth of 24 feet and a maximum depth of 70 feet, and there's good access for both shore and boat anglers. With five public boat ramps on the lake, it is easy to find a location to launch your craft, and the lake's numerous coves offer privacy from the crowds.





SHOW-ME TURKEYS

Missouri's turkey season always begins on the third Monday in Aprilthat's the 18th this year. You can kill two male turkeys in total, but only one can be in the first week. In the second and third weeks, you can kill your second bird, or two if you struck out in week one. However, only one bird may be killed per day. Missouri has about a million acres of state-owned conservation areas. Visit the Missouri Department of Conservation website (mdc.mo.gov) to find a good one near you.



GRAND TRAVERSE LAKERS

Michigan's Grand Traverse Bay has historically been a hot spot for native lake trout. Long before stocked salmon and steelhead stole the spotlight, lakers were the most sought-after sportfish in Lake Michigan. Many anglers still find pursuing lake trout a special endeavor, especially on the bay, which warms up faster in the spring. Look for lakers in the 25- to 50-foot depth range. If you do catch some, smoking is the preferred method of preparing them, as lake trout are often quite greasy.



TWIN CITIES PIKE

Minnesota offers a lot of wilderness fishing opportunities for northern pike, but those living in the metropolitan area around the Twin Cities don't need to travel far from home to tangle with these large predators. A few waterbodies you can count on to produce northerns are Lake Minnetonka, Forest Lake, the Mississippi River and the Prior Lakes.



CUMBERLAND RIVER TROUT

The tailwater below Lake Cumberland is one of the most popular trout fishing destinations in the Midwest. The fertile, flow-controlled water produces both big numbers and large trout. This includes the state-record brown trout, which tipped the scales at 21 pounds. The 75 miles of Cumberland River in Kentucky offers anglers a great opportunity to float and fish. However, trophy trout anglers should focus on the stretch below the dam.





ILLINOIS YOUTH TURKEY

Youth turkey season is split into two weekends in Illinois. The first occurred March 26 and 27. For youngsters unable to connect on the first go-around, April 2 and 3 offer another chance. This second segment of the season, like the first, allows the harvest of a male turkey only. Hunting hours are a half hour before sunrise until 1 pm. If you need a turkey hunting spot, check out the Illinois Recreational Access Program (IRAP). The state has leased a little over 20,000 acres for turkey hunting from private landowners in 41 counties.



f forced to use only one turkey call, I wouldn't hesitate with my choice: It's the pot-style call, hands down. Widely referred to as a "slate" call (slate was once the most common material for the playing surface), pot calls are perhaps the most versatile turkey calls out there. In the hands of even a moderately skilled caller, pot calls can mimic virtually every turkey sound going, and do so well. Even better, they're among the simplest calls to run; give me twenty minutes with most newbies, and I can have them making realistic clucks, purrs and yelps on a pot call.

However, like any instrument, there are tips for running and maintaining a pot call. Follow the steps below to become a pot-call master.

PREP THE SURFACE

Virtually every pot call comes out of the box with a sound board too slick to play. Prep the call by working the surface with a small piece of light sandpaper (100-grit or finer). Sand lightly across the surface in one direction only. This will create slight ridges in the material that will grab the tip of your striker, creating the friction that results in turkey noises. Don't sand heavily, just enough to rough up the surface.

Pot calls come in a variety of surfaces (slate, glass, ceramic, aluminum, etc.), and each material might require its own type of sandpaper. I usually buy a variety pack that includes different grits so that I can experiment and find the proper grit for a particular call.

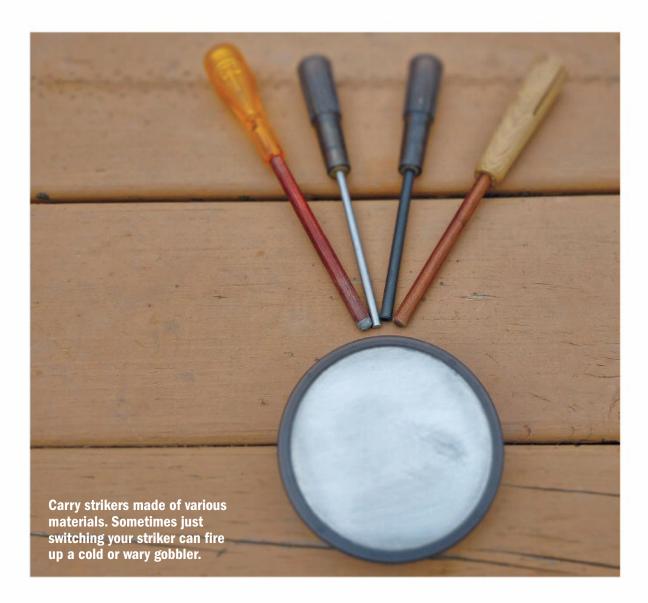
SAND THE STRIKER

Like the pot call surface, the tips of most strikers are often too slick to make good turkey music. Use sandpaper to rough up just the tips of your strikers. Sometimes, I'll sand hard enough to slightly alter the shape of the striker tip, but only if I feel I'm not getting the right sounds when I run the striker against the pot.

Strikers also come in a variety of materials (wood, plastic, carbon, etc.) that require different amounts of work and/or sandpaper type for best results. Again, experiment until you find the right one.

HOLD IT UP

The most tempting way to hold a pot call is flat against the palm of your hand.



However, doing so only deadens the sound the call will make. In fact, if you flip over most pot calls and look on the bottom, you'll typically see a series of holes drilled in the pot itself. These are designed to let sound escape from the bottom of the call as you scratch the striker against the surface. Holding the call flat against your palm closes these holes and wrecks the acoustics.

Instead, hold the call up with your index finger and thumb around the frame. This allows sounds to come from the top and bottom of the call, resulting in much more realistic and louder notes.

SCRATCH A DIME

Although a standard pot call is typically about 4 inches across, you'll only work a section of the surface not much bigger than a dime at any one time. Resting the edge of your striker hand lightly against the rim of the call, make a single stroke toward your chest with the tip of the striker. This single note is a "cluck."

To make a yelp, repeat the cluck motion several times. Create a purr by dragging the tip of the striker along the surface. Cutting is achieved with the exact same action as a yelp, except you press the striker harder against the surface and speed up its motion. Practice these three basic calls until you're comfortable, and you'll be able to call in most gobblers.

Note: Most pot calls seem to have a "sweet spot" where the notes you produce either sound better or are simply easier to make (or both) than at other spots on the call. Turn the pot call in your hand and use the striker in different areas until you find that one dime-sized spot where it sounds best. Once I find the sweet spot, I like to make a pen mark or other indicator on the edge of the pot (not the playing surface) so I can find it quickly and easily when I'm calling to a turkey.

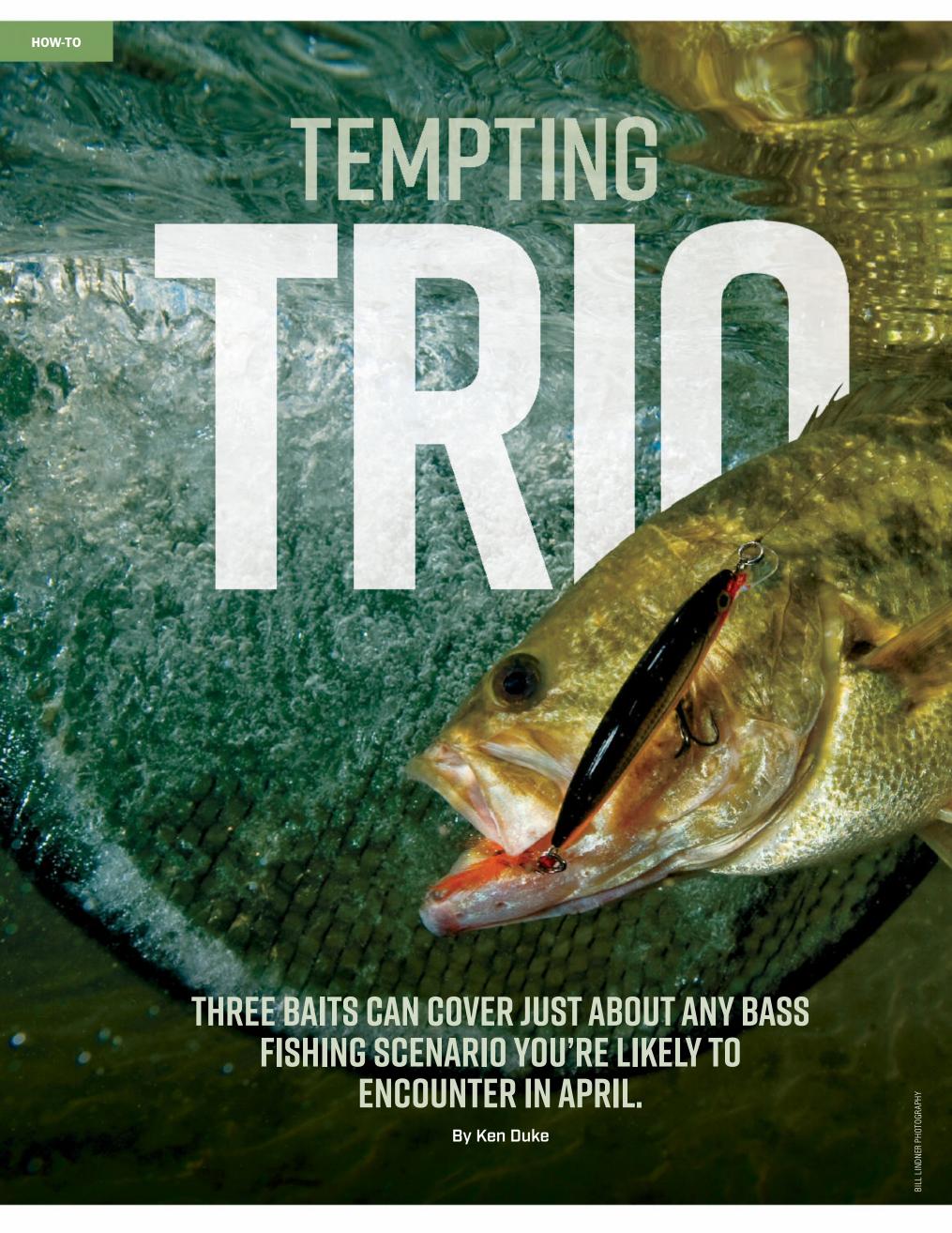
SWITCH THE STRIKER

One reason pot calls are so versatile is that using a striker of a different wood or material can produce different tones from the same call. I like to have a striker with a hardwood dowel, one with a softwood dowel and at least one synthetic (carbon, metal, etc.). Often when a gobbler has shut up on me, I've been able to fire him up again simply by switching to a different striker.

KEEP IT CONDITIONED

Run a pot call long enough and you'll inevitably hear the sound deaden or change, or you'll have difficulty playing a good note on your sweet spot. This is almost always because the striker tip or the call surface has become slick or taken on some moisture. Keep a small piece of sandpaper and/or a Scotch-Brite pad in your vest and use it to lightly touch up your call surface and striker tip, and you'll be back in business. I glue a Scotch-Brite pad to the back of a piece of sandpaper. When dry, I cut into smaller pieces, which I store in a baggie in my vest. **(III)**







s a bass angler, there's a lot to love about April. Winter's chill is mostly over—though there's still enough cold weather blowing through to keep one eye on the forecast. It's often very warm—but certainly not summery. Meanwhile, bass are either preparing to spawn, already in the process of spawning or have just finished spawning. There's just enough going on to keep you guessing-wondering if you should zig...or zag. However, despite all the anticipation for April fishing trips, the excitement often turns to frustration over the bass you don't catch.

The moral here is, "Don't count your bass before they're caught...even in April." To better position yourself for greater success this month, consider simplifying your fishing. In fact, you can trim your bait selection to three classic lure types that cover the top, middle and bottom of the water column. Sometimes simpler is better, and that's certainly true in April.

UP TOP

Who doesn't like catching bass on topwater baits? There's something magical about a good fish annihilating a surface lure that just can't be duplicated with a subsurface strike, and over much of the Midwest, April is the first month to produce consistent topwater action.

If the weather and water are very warm, various topwater baits can produce in April, depending on certain variables. For instance, walking baits like the Heddon Zara Spook are great if the bass are active, but it takes an aggressive retrieve to get them to "walk." Buzzbaits often require a faster retrieve than April bass like. Poppers are fine, but anglers often fish them too fast for

However, one style really stands out across the whole month—prop baits like the Smithwick Devil's Horse, Berkley Spin Rocket and River2Sea Chris Lane Big Mistake. What makes the prop bait special at this time is that you can breathe life into it in a small space and with the slightest twitch of your rod tip. When the likely strike zone is measured in a few short feet, the prop bait gives you the most action per inch, tempting bass that may be lethargic, protecting a nest or guarding fry.

Ply the top when the water is in the high 60s or 70s or when you suspect bass are in the extreme shallows for spawning or feeding. In the early part of the spawning season, look to protected areas in the northwest part of your favorite fishery—where the water warms first—and target shallow cover like brush, stumps, grass and boat docks.

A key to being a great prop bait angler is accurate casting. You can't be timid when casting these lures, which have two or three treble hooks, if you hope to fish the best cover. Good gear will help. A 7-foot, medium-action casting rod and medium- or high-speed reel spooled with monofilament testing at least 14 pounds is best. As an alternative, use braid as your main line along with a short monofilament leader, but under no circumstances should you use all braid or fluorocarbon. Braid without a mono leader will tangle in the front prop; fluorocarbon sinks, destroying the action of the lure.

IN THE MIDDLE

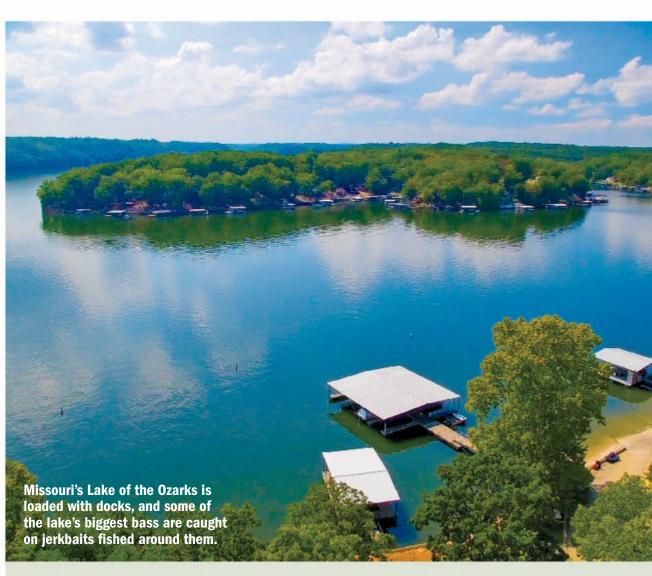
For generations, bass anglers have considered the jerkbait to be a cold-water lure, but that's not entirely accurate. Jerkbaits are great lures whenever bass are holding in the mid-depths (4 to 10 feet) and especially when they're targeting baitfish or are a bit lethargic.

Recent successes on the national tournament trails have brought a new focus to the jerkbait. Hank Cherry posted back-to-back Bassmaster Classic wins in March 2020 and June 2021—both on jerkbaits and under extremely different conditions.

Lures like the Berkley Stunna, Megabass Vision 110, Smithwick Rogue and SPRO Mike McClelland McStick are just a few examples of outstanding jerkbaits that are proven fish catchers. The best colors tend to match the baitfish in your waters, and suspending models often outproduce floaters because they stay in the strike zone longer.

April jerkbaiting is often best just before the bass move into spawning areas and right after they leave the nesting grounds. That's when they can be found off points, around weed lines, near riprap, in standing timber or suspending off docks and bridge pilings.

The best jerkbait retrieve is something that varies from day to day or



SPRING SWEET SPOTS

Five Midwest bass fisheries to hit in April

April can be spectacular almost anywhere. However, there are several Midwest hot spots where the fishing action approaches "can't-miss" status. If you're looking to trailer up the boat and go, check out these five options.

LAKE OF THE OZARKS, MISSOURI

With 54,000 surface acres, LOZ (as it's often called) has plenty of water to go around and more different bass species than you can shake a graphite rod at. Boat docks are the key shallow cover here, and a well-placed jerkbait might just tempt the pre-spawn lunker of a lifetime.

KENTUCKY LAKE, KENTUCKY

At 160,000 acres, Kentucky Lake is legendary bass water that extends from the Bluegrass State into Tennessee. Invasive carp have adversely affected the fishery, but the fishing is still excellent, and April is a great time to fish here. Hit the backs of pockets as bass prepare to spawn. Work the 5- to 12-foot depths with jerkbaits and jigs, then—as the month progresses—move shallower with jigs and prop baits.

NEWTON LAKE, ILLINOIS

Covering just 1,750 acres, Newton is one of the smaller lakes on this list, but among the most impressive. Recent changes to the regulations of hot-water discharge here—namely less generation—may be impacting fishing pressure more than the bass, which are still larger than average.

LAKE WANAHOO, NEBRASKA

This tiny lake (637 acres) offers lots of cover, and its many shallow, rocky areas are ideal for April jerkbaits. If the weather's cold, increase the length of your pause between twitches.

TABLE ROCK LAKE, MISSOURI

Another Show-Me gem, Table Rock can be extremely clear, even during periods of spring runoff. Make long casts and choose natural colors. Jerkbaits shine here in April.



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even hour to hour. Experiment until you find the cadence that bass respond to at that moment. A good general rule for jerkbait retrieves, though, is to give the lure a few hard snaps to get it down near its maximum depth before shifting to a series of sharp twitches. A lot of very successful anglers will default to a twitch-twitch-pause retrieve in which the pause varies in duration based on how lethargic the fish seem to be. If the water's cold (below 60 degrees) or the action's slow, the pauses get longer.

ON THE BOTTOM

Before we dig into the bottom approach, one note is important. Bass can be bottom-oriented in two feet of water or 40 feet of water, and in April, the best depth is likely to be nearer the former than the latter, especially if the bass in your waters are spawning.

Any number of bass baits can help you ply the bottom and get strikes, but one moves to the head of the class in

April—the jig and soft-plastic trailer. Why the jig over the plastic worm, a deep-diving crankbait or some other bottom-crawler? There are a couple of reasons.

First, the jig is likely the best crayfish imitator in the lure world, and crayfish are becoming abundant over much of the Midwest in April. After hibernating through the winter, they're now out and very vulnerable.

Second, the jig is extremely versatile, snag-resistant and a renowned big-fish bait. You can cast a jig into just about any cover and expect to get it back, often attached to a nice bass.

There are lots of different jig styles on the market, but two in particular outperform the rest in April—the swim jig and the flipping jig. Head styles vary between the two, but the biggest difference is usually the hook. A flipping jig hook will be of a much heavier gauge, requiring heavier line and a rod with a heavier action. The swim jig will likely have a more streamlined head and a lighter wire hook.

The swim jig is a great tool for covering water in April. You can cast it around shallow cover or structure and slowly swim it back to the boat, much like slowrolling a spinnerbait. The best retrieve is often one that hugs the bottom and bumps into anything and everything that a bass might call home. After contact, be prepared to set the hook.

The flipping jig is best in heavy cover, in dingy water or when the situation calls for precise presentations to tight spots. Here, strikes are most likely to come on the initial fall.

Successful jig trailers can range from the chunk style to small creature baits with lots of wiggly appendages. Generally, you should choose your trailer based on water temperature. The colder the water, the less action you want. If the water's in the 50s, start with a chunk. If it's in the 70s, go with something that really moves.





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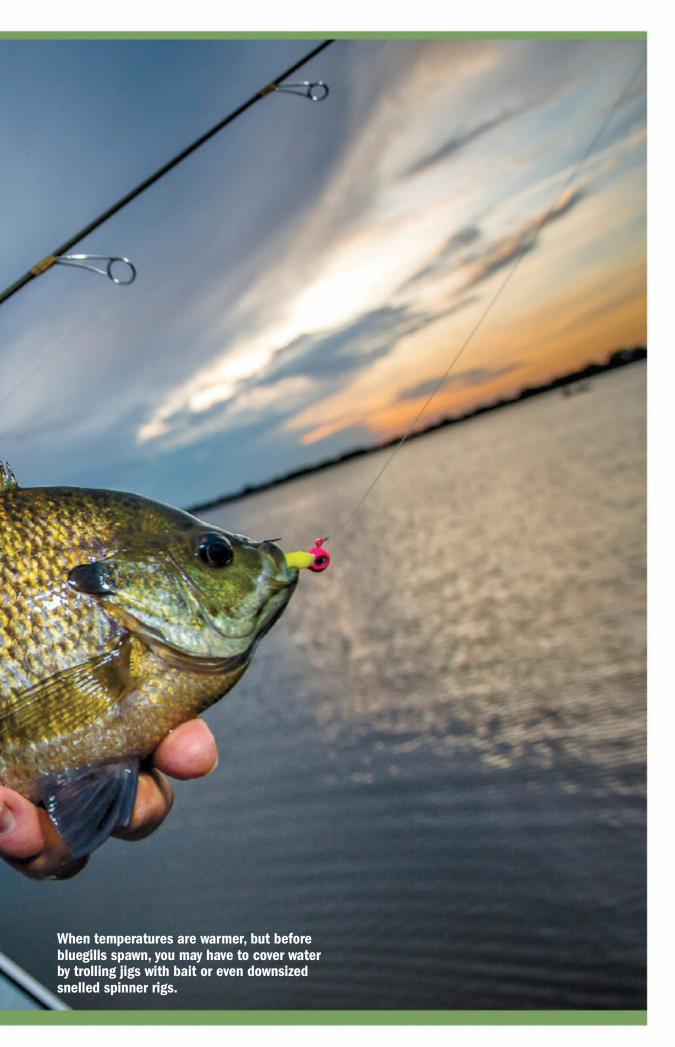
CUSTOMERS-HOT ONE DAY AND COLD THE NEXT. A DETERMINED ANGLER CAN FIND SUCCESS EITHER WAY.

By Joel Nelson

ver feel like early-season Midwest panfish have a personality disorder? Calm weather and warming temps put these fish in a fairly agreeable mood. On the other hand, a stiff and cold northwest breeze makes them act like a totally different species. Even when fish are headlong into their springtime spawning rites and rituals, a cold snap can quikely push them back into

locations and feeding patterns they'd long since abandoned.

Of course, this doesn't mean they won't eat. It just means they might not be in the same places where they were caught last April—and likely won't be caught the same way either. So, where can you track them down this time of year under either scenario? And how can you catch them once you do, regardless of their attitude?



CRAPPIES

Warm Conditions

Biology dictates that crappies head to the shallows first in search of suitable spawning habitat. This can happen with water temperatures as low as the mid-40s, even though actual spawning temps are anywhere around 55 degrees and above. In a perfect year, weather marches onward in a predictable warming trend that gives fish—and anglers—a chance

to catch up and adjust to the spawning process. In some of those seasons, fish will stage just off the edge of shallow bulrush beds, pencil reed or developing cabbage flats, staying there for days and even weeks until they push up, spawn and eventually leave for deeper water.

During warm weather, especially when calm, these fish will be visible in clear water and easily targeted. Even in turbid water, fish can be caught in

a variety of ways depending on depth. When closer to the magic spawning temperatures, crappies are typically shallower, requiring floats to dangle jigs in their faces in order to get them to bite. These can be simple hair jigs with no bait or, when trending colder, tipped with finesse plastics and eventually live bait for the coldest temperatures.

Cold-Front Conditions

During cold fronts, fish locations can change drastically. In the early part of the season, fish may push out to 30 feet of water or more, suspending just like they did over their previous wintering holes. At this time of year, you may use simple 2D sonar or side scanning to find them spread out along inside turns and bends in the deep basin contours. These fish require some vertical coaxing, and jigging below a winter-style electronic ice flasher can yield great results. It allows anglers to fish live bait on 1/16to 1/8-ounce jigs and watch the fish's reaction to it.

A cold front closer to spawn time is just as troublesome. Here, it typically pushes crappies back to staging areas just off the first break near spawning areas. Many crappies won't vacate spawning areas at all, but catching them shallow in ultra-clear, cold water after a front has rolled through is tough. For these fish, consider backing out and fishing the edges of the spawning area or staging area itself, with many fish scattering and moving just out of the shallows a few feet deep.

The Depth Spectrum

No matter the cold front or the time period, it's important to think of the spring-time crappie spawn along a depth continuum. If you're an avid ice-angler, you likely know where fish were during the mid-winter period. With any experience or some basic lake cruising during the right temperature periods, spawning crappies usually aren't that difficult to find.

What's hard to find are scattered fish reacting to a cold front. To do that, draw a line between winter and spawning locations and start your search. Early on, work the deeper end, then head toward the shallows later. When possible, utilize your electronics heavily to narrow down your search.

Bait Selection

Consider bait choices along a continuum, too, from negative to neutral to aggressive. Live-bait options like maggots on ice jigs will fool finicky cold-water crappies at depth early, whereas casting jigs and plastics often works better on the aggressive and warm end of the spectrum later in the season. However, when a cold front strikes, you'll typically do well to slow everything down, get vertical if depth allows and study the fish on a flasher. Aggressive crappies don't require this kind of treatment, so don't fuss over this level of detail if you don't have to, but never be afraid to nose-hook a crappie minnow on a tiny jig and float it just above a school of deeper fish in the middle of a cold front.

Avoiding Errors

When it becomes prime time and fish are teeming in the shallows, your number-one goal is to not shoot yourself in the foot. These actively feeding fish will eat a variety of baits presented in front of them and under a float, but not if you float your boat over the tops of their heads. Especially in clear water, be ready with 7-foot rods or longer and fresh mono or fluorocarbon, and prepare to make long casts.

Work from the outsides of the shallow zone in toward the shallowest cover portions. And do your best to fish in front of where you're heading, that way you're only clearing out fish you've already cast to.



BLUEGILLSA Different Animal

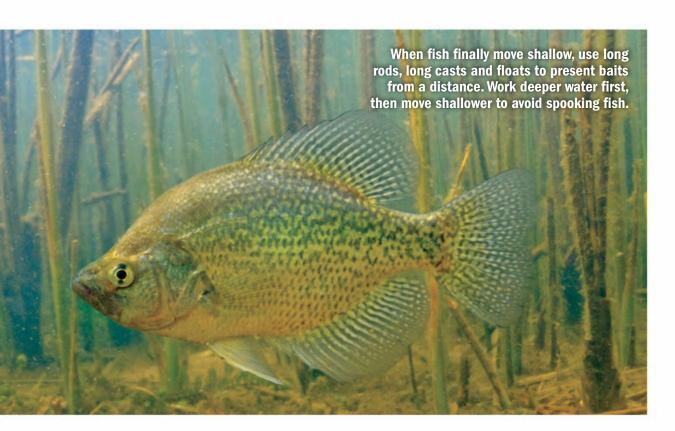
While crappies are the classic springtime angling pursuit, bluegills are anything but. Seasoned 'gill-getters know that the bluegill spawn can occur a month or more after the peak crappie spawn. Because of this, fewer anglers chase 'gills during this time of year. That said, bluegills operate on travel routes just like crappies. These routes are just a bit more ambiguous, and fish are a little more scattered. They also tend to travel less overall during this time period.

Anglers often catch 'gills while chasing crappies, and though their paths

and locations don't always cross, you can certainly increase your chances at bluegills by downsizing from the getgo. The same ice jigs and spoons that produced crappies and bluegills during the winter will work wonderful here for both species. However, if you upsize your jig-and-plastic combinations, work primarily with minnows or fish larger hair jigs, you'll hook fewer 'gills whether you're parked on a great school of them or not.

Locations

As with crappies, to find springtime bluegills, it's best to start with known wintering locations. Often, again as with crappies, these are deep weed breaks of even basin areas, just on the shallower end of them. If crappies are suspended at 25 feet in 45 feet of water, 'gills often will be, too, along inside turns at the edges of those basins. Add some deep weed cover or good breaks that hold invertebrates, and you've got a bluegill spot they can hang in or near for at least the colder portions of spring. Inside turns are effectively "ravines" or "funnels" that channel fish movement from shallow to deep, so you should always start your search on the deeper end of the funnel with electronics before heading shallower. As water skinnies, side-imaging becomes your friend, allowing a look far to either side of the boat when the sonar cone angle below it covers precious little underwater real estate.



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Warm Conditions

During warmer portions of the spring season, bluegills can be notoriously scattered, so it often helps to employ a little movement to your presentation. It's never too early to start slowly trolling small jig-and-live-bait combinations, or even snelled spinner rigs behind 1/8-ounce-orso bullet-nosed sinkers. While frequently thought of as a walleye technique, a small spinner rig with an appropriate No. 8 octopus hook tipped with maggots or a chunk of crawler can find 'gills like few other presentations. With water temperatures

Cold fronts often require slowing and scaling down your presentations. Fishing vertically with smaller jigs and live bait is often just the ticket for these conditions.

approaching 60 degrees or warmer, don't be afraid to add motion to the equation and troll in less than 10 feet of water.

Cold-Front Conditions

If, or when, a cold front strikes, don't hesitate to return to those wintering and early-spring locations. Just like with crappies, an ice-fishing flasher can help dramatically, allowing you to hover over inactive fish, study their response and tease them into biting, hardwater style. Downsize, fish live bait or at least micro plastics and stay above the school, picking off fish that rise to your presentation. Just like during ice season, cold-front 'gills can study a lure like few other species, even snubbing seemingly perfect presentations for unknown reasons. That's what makes this game a bit more precise and requires focus to seal the deal.

OBSERVE AND ADJUST

If fish are sliding from deep to shallow, then temporarily heading deeper, how is an angler supposed to find them on a given day? First and foremost, pay attention to recent weather patterns and how your day differs or aligns with the rest.

Warmer-trending temperatures are typically a good thing, while cold, windy outliers often push fish away, especially if it's a prolonged front. With cold fronts, consider focusing fishing efforts during afternoons. This is when the water will be its warmest and hopefully will get fish active and feeding. Some small hatches occur, and periods of invertebrate activity can increase toward dark as well.

Electronics are always a big part of the puzzle, and live-finding technology certainly aids the game. That said, it isn't always easy to target-ID the species of choice you're seeing on any kind of sonar. In these instances, a small, handheld underwater camera can yield dividends, as it offers insights on bait choice, size of fish and, ultimately, how aggressive fish seem to be.

In the end, spring fishing for crappies and bluegills is about cruising that winter-to-spring travel continuum and properly presenting appropriate baits for the weather you're encountering. If you can find them, the fish will usually tell you what they want. When you do, be sure you're basing strategies on the conditions at hand, not those of past springs.







t was a classic turkey standoff. Dad and I had struck the gobblers late in the morning—a pair of toms that climbed all over my calls. Our original setup felt like a long shot. More than 300 yards of real estate separated us from the gobbling pair and, while we plunked our butts down immediately, I knew we were asking them

to come a long way to investigate the hen they'd heard. Fortunately, I was able to spot the birds with my binocular and realized, after a few volleys back and forth, that this exchange could be at the stalemate stage.

On one hand, we could dig in our proverbial heels and get just as stubborn as the turkeys. In fact, I've had that work more times than I can count over the years. On the other hand, we could take the fight to the gobblers, using cover and terrain to slip in closer. More than once I've wiggled in tight to an obstinate gobbler, yelped and clucked a few times and barely had a chance to snick the safety off in time to kill the bird.



So, what did dad and I do that fine May morning? I'll tell you, but you'll have to wait a bit. Being able to answer the "Should I wait, or should I move?" question is one of spring turkey hunting's toughest skills, and coming to the right choice requires careful thought. Here are some factors to weigh when deciding whether to sit tight or get a move on.

PROPERTY SIZE

Perhaps the most obvious factor in this decision is the simplest: Do you have room to move? Some of my best turkey properties are just 20 to 40 acres. On ground like this, it's not only wisest, but also safest, to simply sit still and force birds to come to you. In fact, moving around a lot on small properties

is often counter-productive. I don't believe turkeys are smart in the sense that they are capable of thought, but they are super sharp when it comes to recalling places where they have encountered danger and those where they haven't. Bump birds much on a small tract, and they are likely to start avoiding it on principle.



On the other hand, I hunt huge tracts of public land in Wisconsin with more room to move than I can handle in a season, much less a three- or four-day hunt. Plus, the terrain is rolling and the cover thick, which means that if I'm careful I can reposition on a gobbler with little fear of spooking him. Not to sound too cavalier, but if I bump one bird, I've got plenty of territory to cover to find another one. In short, I can afford to be aggressive on an individual bird, knowing that with a little work I can find another.

AVAILABLE TIME

Among the biggest factors to consider when making the move-or-stay decision is how much time you have to work the turkey. I remember well when several of the states I hunted closed at noon or 1 p.m. (this is still true for some states) and any time I struck a late-morning turkey, I knew the clock was ticking on any decision I had to make. Of course, the same holds true if I run into a hot turkey in the evening (and yes, this happens). In certain scenarios, I'm often limited to just a couple hours of hunting, like when I squeeze in a flydown hunt before work. I tend to be a little more aggressive on such hunts, pushing the envelope if I feel I have a chance at getting tight to the bird.

On the flip side, some situations practically demand patience. Whenever I bow-hunt turkeys, I just set my mind to a different pace, one where I dig in and wait for turkeys to make a mistake. The caveat here is I've typically done the necessary homework of scouting and listening to birds. I know where they like to be and the times of day they prefer to be there.

So, if I've done all this prep work, why bomb around and potentially bump the very gobblers I've invested so much time into understanding. In my mind, it's far better to rely on MRI (most recent information) and let turkeys do what they already want to do, albeit with a little coaxing from my calls and decoys. As my old friend and turkey expert Mark Drury likes to say, time means nothing to a turkey.

BREEDING PHASE

One of the most critical factors to any turkey hunt is having a handle on the breeding progression of area birds. If your state opens—as many do—before peak breeding occurs, the odds of a gobbler coming eagerly to calling skyrocket. This situation is comparable to the late pre-rut for whitetails. While males of the species are primed and ready, most females are not ready to breed.

This leaves the guys highly vulnerable to calling, as the girls they've been pestering have been largely uninterested. Suddenly, they hear one who sounds receptive, and it's off to the races. Whenever I know I'm ahead of peak breeding, I tend to be more patient, even with a bird that gobbles a lot but doesn't seem to be moving. Generally, if I just settle in and keep talking to him, I feel I have a good chance of him breaking and coming into my setup.

Once hens become receptive, however, the gloves may have to come off. I've hunted with some of the country's very best turkey callers, and even they would admit they're not good enough to call a tom away from a hen that's determined to breed. If you've got any fade in your camo, you've heard and/or seen this: a gobbler, one that may even talk to you now and then, in the company of a hen that is determined to be the only show in town. She will sass you, boss you around and do her very best to lead the longbeard into a place where she has his full and complete attention.

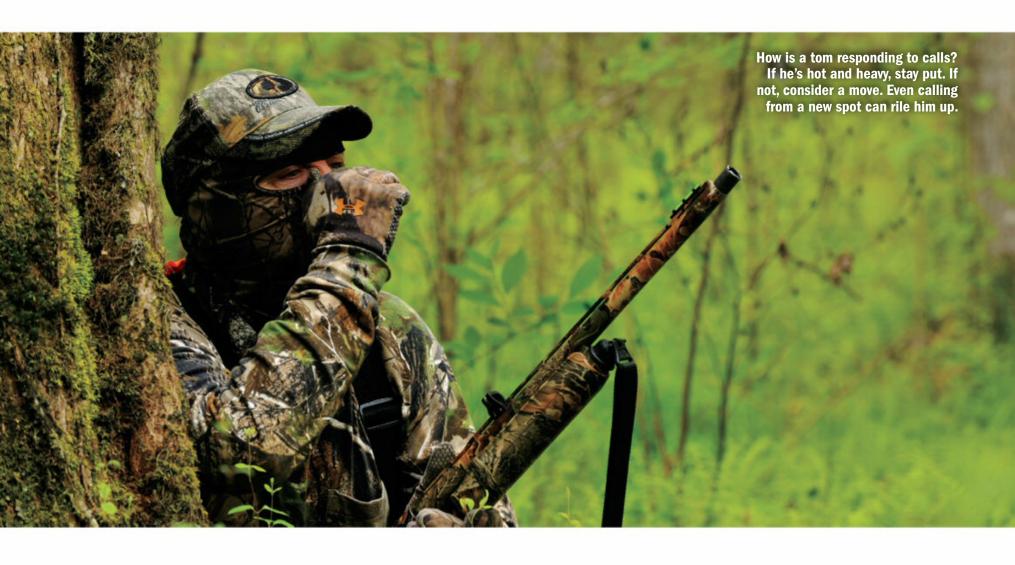
When turkeys are behaving like this, I almost always get more aggressive, especially if I can see the offending duo and use terrain and cover to get tight with them. If I can anticipate their route and get ahead of them, even better. Once again, calling to a bird 50 to 100 yards off—and already heading your

direction—is usually far more successful than yelping from afar.

Once the breeding peak is past, things get really interesting again. I've had such a wide range of responses from late-season gobblers that I view it as one of my favorite times to hunt. I've had gobblers literally run to a hen yelp from half a mile, while others seem uninterested in girl talk but are desperate to group up with their fellow toms. Others still almost yawn at calling, as if they simply want it all to be over.

At this time, I mix patience and aggression. If I strike a gobbler, the first thing I do is sit down and take some time to figure him out. However, if he's not moving, I put my track shoes on and take the fight to him. It's a balancing act, but it's also an excellent time to kill one of the biggest toms of the season.





GOBBLING TEMPERATURE

There are many skills that a successful turkey hunter must acquire, but few are more important than the ability to read a bird's mood by the frequency and intensity of his gobbling. My oldschool buddies refer to this as "taking his temperature," and most of us have heard of this in one form or another. If a gobbler is letting it rip, we say that he's "hot." And most of us know enough to plunk our butts down and let the gobbler walk into his own death.

But any temperature below "smoking" can sometimes be difficult to read, like the gobbler that starts out hot but then responds only occasionally. Or one that gives a good roar or two right off the bat, then shuts up. What do you do with birds like those? Is the tom with a hen and simply hoping to draw another into his harem...or is he just an old stubborn tom that's used to planting his feet and waiting for girls to come running?

There are rarely easy answers when attempting to figure out these lukewarm turkeys. Sometimes, changing up calls will fire one up. Other times, a long period of silence will pique a tom's curiosity or irritate him enough to make him gobble hard and come walking in. Other times still, just the smallest change in calling location can make a bird think his girls are getting away (or coming closer), and he'll start gobbling his head off again.

One of my favorite tactics, assuming I have time, is to just keep mixing up yelping and gobbling and clucking and fighting purrs. This often attracts a somewhat more distant gobbler that comes in and completely changes the dynamic. Many times, the original gobbler will realize he's got competition and bluster his way in, the lead suddenly removed from his feet.

Taking a gobbler's temperature is a skill honed over many seasons and probably never completely mastered. But I try to learn something from every turkey, whether I kill him, bump him or never completely figure out why I failed. This, in my mind, is the beauty of spring gobbler hunting: dueling with turkeys as often as possible, losing some showdowns, celebrating others and learning something from every one.

MAKE THE CALL

Let's revisit that turkey standoff I alluded to at the outset. What did my dad and I do with that pair of late-season gobblers? Well, after a series of gobbles in response to our yelps, the buddy birds drifted off just a bit. While they still

gobbled occasionally, we were able to read their mood just enough to know that they were losing interest. It was time to make something happen.

I actually shut up for a time, not caring if the birds wandered off a bit. I knew they were close to a good food source and wouldn't stray far. Then we packed up, crept into a nearby wood line, and started cutting distance to the birds. One of the best parts of hunting in May is that abundant foliage often makes moving toward birds highly possible. And in this case, we were able to slip so close it was almost too close.

When we'd approached to what I thought was about 75 yards of the last gobble, I pulled out a pot call and made a simple cluck and purr. The responding double gobble was so ferocious we literally dove for cover, scrambling to set up. Within minutes a pair of pulsing white heads were in view. While I knew no calling was necessary to lure the birds into gun range, I wanted the toms to focus on my position and hopefully not spot any movement dad made as he raised his gun. Seconds later the 870 boomed and a late-season trophy was dead in the clover. We don't always choose the right option when answering the "stay or go" question, but that day, happily, we did.









baits under a float. However, how an angler presents these lures or baits with respect to current speed makes all the difference when stalking silver ghosts in Great Lakes tributaries. So, let's discuss the proper technique for fishing a float rig, the appropriate gear to use and some of the most productive places to fish these proven presentations.

TECHNIQUE

Wherever you stand in a stream, you'll encounter currents that vary in speed from bank to bank and top to bottom. The grade of the land determines the overall speed of the current, but the banks and floor of a river produce friction, slowing columns of water that brush against them. Air also produces friction, though less than earth. Meanwhile, the surface of a river moves slower than the current a few inches down, but much faster than the current near the bottom.

When you allow a float to travel at surface speed, the bait (often fresh steelhead eggs tied in a spawn sack), bead or fly tied below trails along behind like a reluctant dog on a leash. This is not an ideal presentation, though it sometimes works. The slower the pool, the more vertical the rigging remains and the more effective the presentation. In fast water, however, allowing a float to travel at surface speed is far less effective since the float passes over the fish before the bait reaches it. Instead, keep as much of your line off the water as possible, ensuring it's behind (upstream of) the float, and periodically "check" the float.



Checking involves stopping and holding line off the water with a high rod, which stops the float's drift for a second or two. If you can accomplish this without pulling the float out of its current lane, even better. When you check a float, the bait or lure suspended beneath continues drifting. It slips ahead of the float, where hooking tends to be most efficient and where the presentation becomes more natural. Keep tension on the line so the float leans back toward you. If it's leaning downstream, your presentation is off.

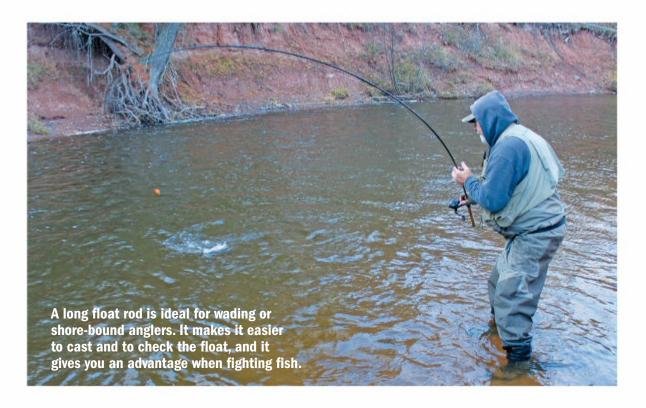
RIGGING

The perfect float rig is a combination of an effective river float, proper weighting to reach the right depth in a natural way, a long float rod, good baits and a quality main line and leader. Twelve- to 15-foot float rods from the bank and 9-to 10-foot float rods from a drift boat or

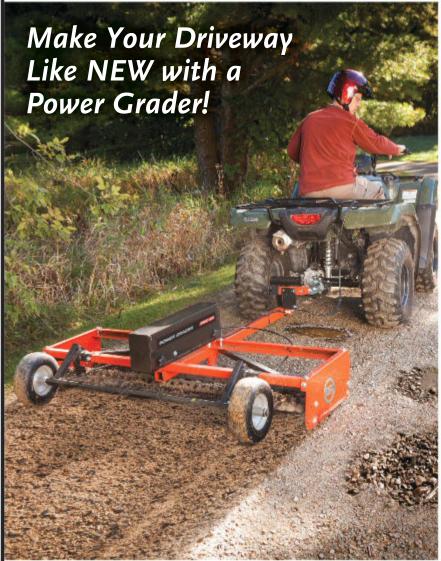
jet boat are ideal. In terms of line, I like an 8- to 10-pound monofilament main line, specifically Maxima Ultragreen and Ande Premium. All monofilaments eventually become waterlogged and sink behind the float, and Ande and Maxima lines do, too, but it seems to take longer with them, and temperature and UV light also seem to affect them less than others. For leaders, I like 4- to 6-pound Raven and Seaguar fluorocarbon.

Float and weight requirements are a bit more specific. Any old bobber won't do for steelhead. For the best results, you need a float specifically designed for river fishing. Eagle Claw Steelhead Floats, Drennan Loafers and Raven Floats are prime examples. In general, river floats have elongated oval bodies that are narrower at the bottom, which allows current to slip around them when checked. Stems extend top and bottom for attaching the float to the line with silicone sleeves.

For weight, you want just enough to draw the float down to the "water line" indicated by the change in color from clear or natural on bottom to bright colors on top. Especially important, however, is the spacing and placement of sinkers (I like Raven Soft Shot), and this usually depends on current speed and water clarity. In slow, clear water, place all the sinkers up high, just under the float. In average flows and clarity, a "shirt button" pattern, with shot spaced several inches apart, is in order. In fast, cloudy water, placing all sinkers together about 2 feet above the bait works best. In all cases, the largest shot needs to be placed highest and the tiniest shot lowest on the main line. Avoid placing shot on the leader.



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FINE FLOAT FISHERIES

Seven sweet steelhead spots to ply this spring

AU SABLE RIVER, MI

The Au Sable is a wide, navigable river with some shore access, guides with jets and access points for boats. The steelhead run from Oscoda on Lake Huron stops at Foote Dam. The Au Sable is famous for large steelhead in the mid to upper teens.

BIG MANISTEE RIVER, MI

This is one of Michigan's finest steelhead rivers, drawing fish in the upper teens each year. The run stops at Tippy Dam near Wellston—one of a few good shore-fishing spots on the river, which is largely surrounded by wetlands. Ground flow is excellent, making this one of the most stable rivers on Earth.

MUSKEGON RIVER, MI

The entire lower stretch of the Muskegon up to Croton Dam offers fabulous steelhead fishing opportunities, covering 40 to 50 miles of perfect habitat with enough parks and public land for plenty of shore access, though this big river is best explored by boat. Gorgeous high, forested banks border both sides of the river in many spots.

ST. JOSEPH RIVER, MI

The St. Joseph enters Lake Michigan at Benton Harbor in Michigan's southwest Lower Peninsula. A dam at Berrien Springs stops the run some 30 river miles from the big lake. It's the widest of Michigan's Silver Coast rivers, and a fantastic steelhead spot.

SHEBOYGAN RIVER, WI

The Sheboygan River enters Lake
Michigan at Sheboygan, just south of
Green Bay, Wisc. All fish are stocked.
Access is good from town up to the
Kohler Property, where a River Wildlife
membership is required. Pools are slow
and deep there, and the steelhead run is
one of the most prolific in the region.

ROOT RIVER, WI

The Root River is stocked with more steelhead than any other Wisconsin river. Its proximity to Chicago brings thousands of anglers every spring, so expect crowds. But there are so many steelhead, and so much habitat, that any open spot on the bank could produce. Most fishing is done on foot.

TRAIL CREEK, IN

Trail Creek near Michigan City, Ind., is a bucket-list river for foot-patrol anglers. It's known for drawing huge Skamania (summer-run steelhead) in the 12- to 18-pound range. Almost narrow enough to leap across in places, it runs pretty deep. Stealth is required to hook up. Wear camo, walk softly and keep your head low.



The shirt-button pattern, where feasible, produces the most elegant presentation. Heavier shot, spaced a few inches apart, carry the rigging down through the fastest current quickly. Lighter sinkers below allow the rigging to be swept forward in an arc, even in slower currents near bottom.

LOCATION

Steelhead spawn in the spring in quick, shallow riffles with gravel floors. With water temperatures around 40 degrees, females carve out a nest and release eggs while a male releases milt. Fishing for spawners is not recommended in rivers with natural reproduction, like Michigan's Pere Marquette. In put-and-take waters, fly fishing is often the best way to approach spawners.

Float fishermen look for pre-spawn fish. Those steelhead are typically found somewhere near spawning riffles usually in the closest run or pool downstream in water temperatures of 36 to 42 degrees. "Dropbacks" (post-spawn fish), meanwhile, might be resting in any slow, deep pool. They're exhausted and typically scarred up, but they fight like demons. I once had a dropback hen leap into a low overhanging tree, bounce off several branches, play cat's cradle with my line and break free.

Early on, in very cold water, small 1/64- to 1/32-ounce jigs tipped with waxworms or spawn bags work best to anchor baits in the flow (steelhead won't chase in cold water). As actual spawning nears, steelhead position ever closer to the upstream end of a pool or run. Casts

should be made into the shallow water above the drop-off and "dragged" so the bait sweeps ahead and extends to the edge of the deep water. This is best accomplished with beads above or spawn bags right on bare hooks, such as No. 8 and No. 6 Owner Mosquito hooks.

CHASING STEEL

Before or after the spawn, few things in angling stop hearts like a disappearing float and a suddenly thrashing rod. A silver bullet emerging from the flow to twist and turn in the air is a rush that simply must be experienced to be fully understood. And I would argue that—when done properly—there is perhaps no more effective way to experience it in spring than by drifting enticing baits beneath a float.

God Is Near

My Grandson,
In Happy Moments
Praise God
In Difficult Moments
Seek God
In Quiet Moments
Worship God
In Painful Moments
Trust God
For Every Moment
Thank God

Inspirational Message Etched on the Back

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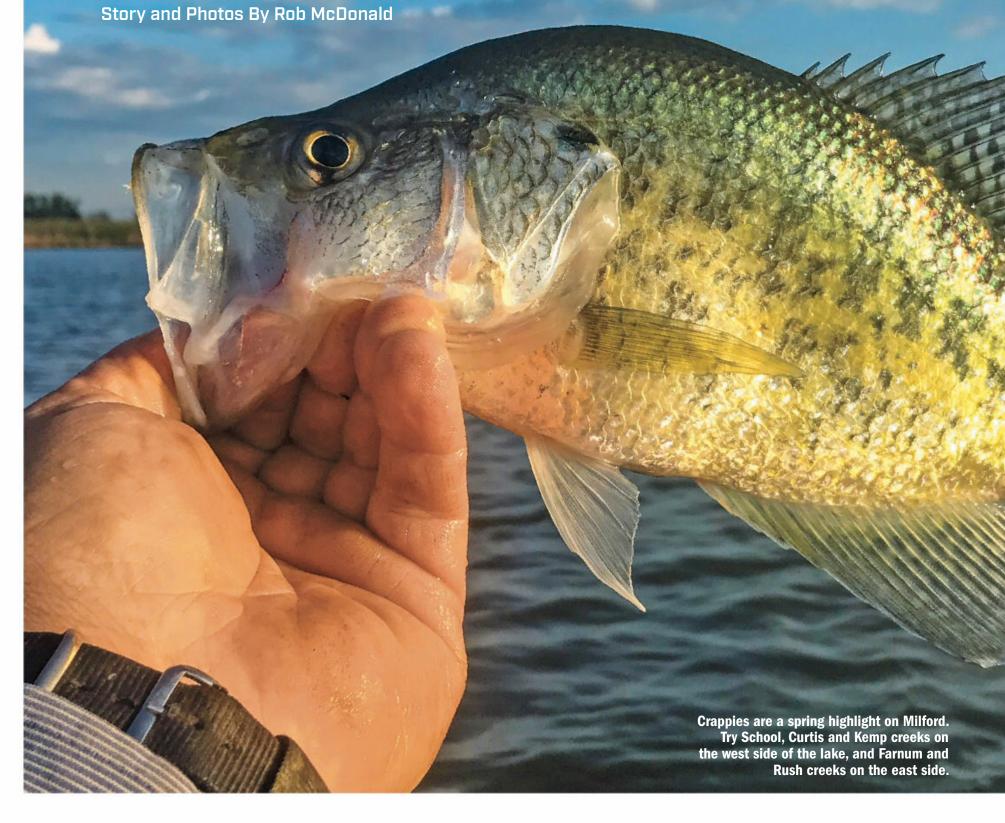
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THE MAGIC OF

KANSAS' LARGEST LAKE OFFERS PHENOMENAL SPRING PANFISH **ACTION,** AS WELL AS A MIXED BAG OF OTHER ANGLING OPPORTUNITIES.





pring is a special time for anglers. Warming waters signal the beginning of the spawning season for many species, especially crappies and white bass, which feed ravenously leading up to the spawn. Both spawn heavily, migrating en masse to spawning grounds when water temperatures reach the optimal levels: 57.2 degrees for white bass and 62 degrees for crappies.

Most anglers are aware of this event and spend considerable time each spring chasing these fish in nearby waters. However, locating a fishery that produces both solid numbers of fish and superior specimens can sometimes be difficult. Many bodies of water hold fantastic populations of smaller fish. Others contain smaller populations of larger fish. But, if you can find that Goldilocks fishery that provides a nice mix of both, you can enjoy fast action and trophy fish.

In recent years, Kansas' Milford Reservoir has become one such place for crappie and white bass anglers. Situated in east-central Kansas north of Junction City, Milford Lake has a maximum depth of 65 feet and spans nearly 16,000 surface acres, making it the largest body of water in Kansas. Unprecedented flooding in 2019 gave the watershed at Milford an exceptional boost in nutrients, and it also increased the amount of forage and cover. As a result, the panfish population here—especially its crappies and white bass—is on the upswing of a boost cycle. In fact, there may be no better time than now to ply its fertile waters, and with a generous creel limit on crappies (50) and no limit on white bass, you can certainly bring home some fish for the fryer, too.

CRAPPIES

While white bass and crappie are similar-sized fish that both spawn around the 60-degree water temperature mark, their habits and patterns are often different from one another. No doubt, you can definitely hook a few white bass when targeting crappies and vice versa, but most anglers narrow their focus to one species or the other in the spring. So, to start, we'll examine crappie fishing on Milford.



Where to Look

As days grow longer and water temperatures warm, crappies start moving from their winter pattern—suspended along sunken structures—to shallower, warmer waters. Still keying on underwater structure such as rocks, brush piles and drop offs, male crappies are the first to move up into shallower waters in anticipation of the arrival of spawning females. Both black and white crappies are found in Milford, and both species take on a deep, dark black—almost blue—coloration as the spawn draws near. Often in the early spawn, male fish are the only ones that anglers will catch in shallow water.

No matter what period of the spawn you're fishing, keep tabs on the surface water temperature. Also consider changes between upwind and downwind sides of the lake. Crappies will start staging along shallow structure as the water warms, but if cloudy days or rain drop the water temps too much, fish will simply retreat to deeper water.

Spawning crappies can be caught almost anywhere along shallow-water structure at Milford. However, keep in mind both the structure that fish are moving to and the structure they are leaving. Areas like School Creek on the west side of the lake, for example, offer hard rock bottom and broken structure both at depth and in the shallows. Many crappie anglers know of this spot, but there's still plenty of water to try.

Don't overlook Curtis and Kemp creeks either. Their sunken brush piles have held fish all winter, and those same crappies can often be found along nearby banks when the temperatures are right.



When springtime winds push hard across the lake from the west, check for warmer water on the east side of the lake at the Farnum Creek and Rush Creek areas. Search for spawning fish in the shallows where the soft mud bottom firms up along the rocks. Making long casts of ranging depths with horsehead jigs is great for finding fish and identifying their depth and the structure they are keying on at the time.

Tactics and Tackle

Once you've found springtime crappies either in pre-spawn, peak-spawn or post-spawn patterns, it's time to get the fish to eat. Often, live bait is tough to beat. Hang nose-hooked 2- to 4-inch shiner minnows under a bobber on a No. 2 to No. 4 sickle hook. Or, if the idea of live bait doesn't appeal, try 2- to 3-inch 1/8-or 1/16-ounce crappie jigs with plastic, hair or feather bodies. You can cast and retrieve these jigs, but a vertical presenta-

tion under a slip bobber is deadly after you pinpoint the fish and their depth.

Light-action spinning tackle works terrific for crappie fishing, but to fine-tune your presentation, try a 12-, 14- or even a 16-foot crappie rod to reach out and drop your bait right on a fish's nose. With these long rods, you don't cast to the fish. Instead, let out enough line to match the depth where fish are present. Then, simply reach out with the long rod and drop your bait in place by lowering the rod tip.

Light-action 2-, 4- or 6-pound-test monofilament line is totally appropriate for crappie fishing, and plenty sporty. If you find yourself constantly losing hooks and jigs to snags, spool on 50- or 60-pound-test braided line. Braid has no stretch and offers fantastic sensitivity, as well as the strength to straighten light hooks and thus save tackle and time in tying on new rigs. My crappie rods stay spooled with 60-pound braid all year.

ACTION IN ALL SEASONS

Catfish, bass, wipers and other species provide angling opportunities year-round at Milford.

Crappies and white bass tend to hog the spotlight on Milford in the spring, and justifiably so. However, other species offer great fishing in these same months, and at other times throughout the year.

Big bruiser channel, flathead and blue catfish tend to dominate in the summertime. In fact, Milford has built a solid reputation in catfishing circles, particularly for its large blue cats. Bass reign supreme for many anglers in the spring and early-summer months. The smallmouth bass bite, especially, can be quite good.

Hard-hitting hybrid striped bass (aka wipers) can bite well in early spring, but action can be crazy in late summer and early fall as they—and their smaller white bass cousins—devour shad on the surface. Some years, wiper fishing remains good right up until winter.

This solid mixed-bag fishery is largely the product of the lake's healthy forage fish base, which includes shad, golden shiners and goldeyes. That, combined with effective management and supplemental stocking efforts, has built a foundation for strong game fish populations, both in terms of numbers and size. Anglers who make the trip to Milford—in any month—will have plenty to keep them busy.



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WHITE BASS

As with crappies, water temperature triggers the white bass spawn. Large schools congregate and start moving into upstream inlets that feed water into Milford Lake as the spawn approaches. When the water temperature and the incoming currents are right, the white bass spawn can be a fantastic spectacle. Fish will stack up in the narrow, upper ends of creeks and along riffles across the Republican River.

Where to Look

As the pre-spawn approaches, try your luck at the inlet areas where feeder creeks and the river make their way into the main lake. Here again, male fish begin moving up first, making their way as



far upstream as they can in preparation for fertile female fish. White bass can move into a creek almost like a wave, with lots of fast action that seemingly shuts off after a while. In truth, fish may very well have moved farther upstream or back downstream, depending on the progress of the spawn. Many times, peak spawning activity happens far upstream on a feeder creek barely 6 feet across, or else just downstream from a riffle the fish cannot navigate.

If you're fishing around the Republican River that feeds the reservoir, search for white bass making their way upstream where smaller creeks feed into the river. If the river is swollen and feeder creeks are backed up from spring rains, white bass can sometimes be found along the dam where they are drawn to the current created by the lake's outlet.

Tactics and Tackle

White bass can be voracious eaters, particularly of shad; as such, shad imitations are ideal. Try throwing 1/8- or 1/16-ounce jig heads, horseheads or beetle spins paired with white, pearl, blue or ivory plastic bodies. Curly-tail jig bodies or swim baits from 2 inches all the way up to 4 inches also work well to entice a white bass strike. Other baits to consider include spoons, small spinners and hard-bodied plugs made to imitate forage shad.

Light- and medium-light-action rods paired with spinning or spin cast reels spooled with 6- to 8-pound monofilament line are perfect white bass outfits. If you're lucky enough to find peak-spawn fish in a narrow creek or along a riffle, a short 5 1/2- or 6-foot rod is plenty to pitch and retrieve those jigs.

MAKE A MILFORD RUN

Kansas' Milford Reservoir is a fantastic fishery planted practically dead center in the Lower 48. Rich with opportunity and plenty of access, this body of water is right off Interstate 70. It's about a 2-hour drive from both Kansas City's and Wichita's respective airports, which makes it an easy trip for traveling anglers. White bass and crappies are plentiful and highly accessible to anglers in the spring, so whether you're looking to fill a cooler or just have a good time, Milford can deliver.



PLANNING POINTS

Where to stay and eat around Milford Lake

ACORNS RESORT

This full-service resort and campground sits along the shoreline at Milford. It offers cabins, lodge rooms, yurts and RV campsites. The swim beach, restaurant (The Cove Bar & Grill) and convention area overlook the lake near the private docks, which also offer boat rentals. Private fishing guides can pick you up at the resort dock as well.

GRANDPA BOONE'S CABIN AND OUTFITTERS

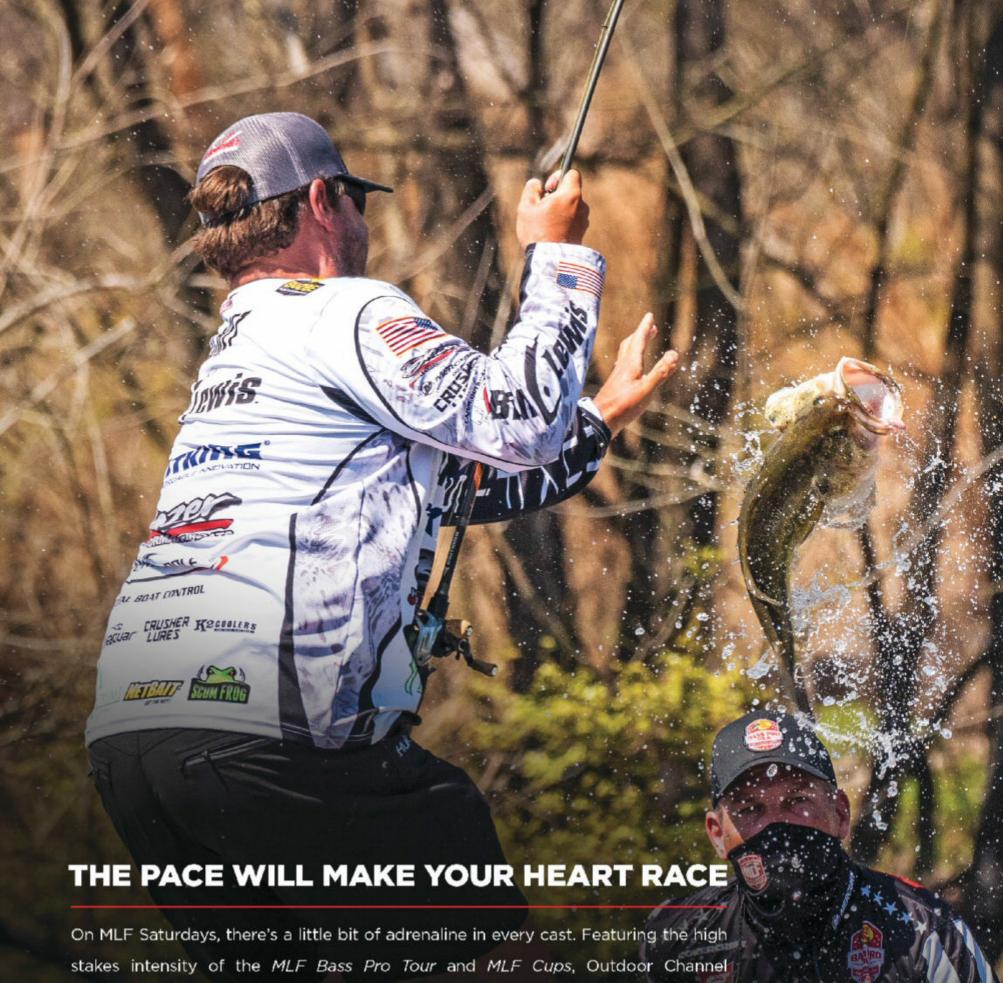
This is a fantastic, family-friendly base for all things Milford. Owner and guide Brad Roether operates a fleet of tri-hull pontoon boats set up for serious fishing. The Grandpa Boone's crew mainly targets crappies in the spring. A client landed the lake-record crappie (3 pounds 12 ounces) in 2021. Grandpa Boone's also offers accommodations for clients at the lodge and a bunkhouse at their headquarters in Milford, Kan., across the street from the Milford Tropics bar and restaurant.

OTHER ACCOMMODATIONS

Cabins and campgrounds at Milford State Park; home rentals in Milford and Wakefield, Kan., and hotels in nearby Junction City and Manhattan, Kan.

DINING OPTIONS

Hit up Suzy Q Neighborhood Grill in Wakefield for a tasty burger and fries, or try their homemade chicken-fried steak. If you're craving Mexican food, check out La Isla Mexican Cuisine and Cantina in Wakefield, which has all the tasty classics you'd expect.



On MLF Saturdays, there's a little bit of adrenaline in every cast. Featuring the high stakes intensity of the MLF Bass Pro Tour and MLF Cups, Outdoor Channel showcases the heart-pounding competition that bass fishing fans crave. We follow it up with MLF All Angles, breaking down all the action with exclusive interviews and behind the scenes highlights.

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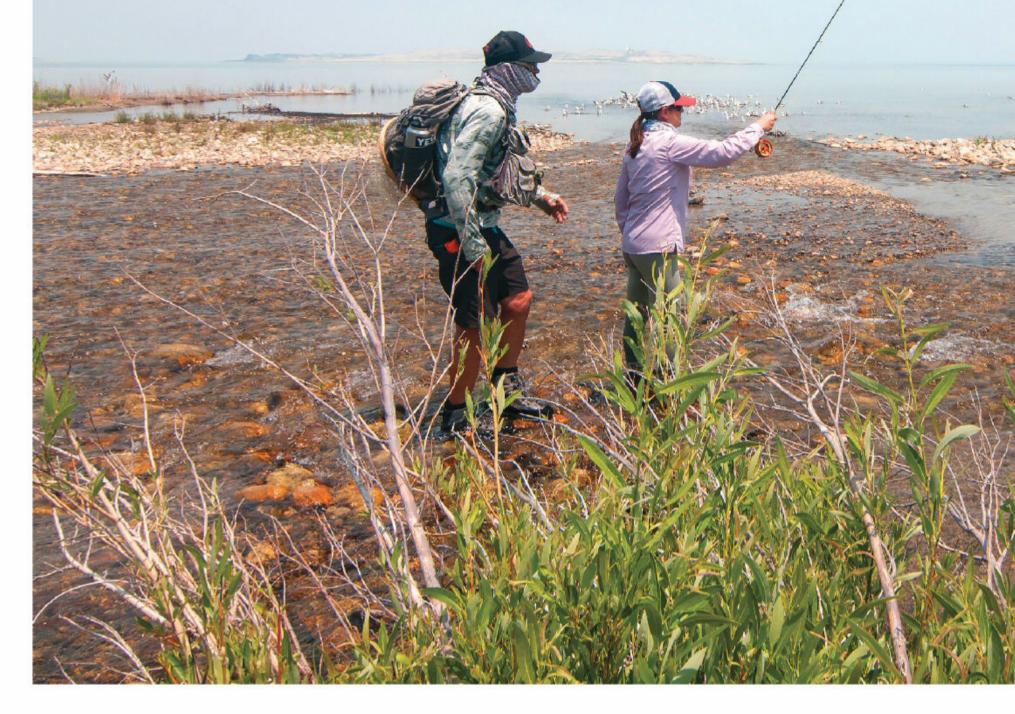




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THE CANYONS OF CALIFORNIA'S HIGH SIERRA REGION OFFER BROOK, RAINBOW AND BROWN TROUT, BUT SAFE AND SUCCESSFUL FISHING REQUIRES CAREFUL PLANNING TO AVOID THE AREA'S WILDFIRES.

Story and Photos by Larry Larsen





here was a tinge of smoke in the air when we walked out of the Westin Monache Resort amid California's Sierra Nevadas and jumped in guide Scott Flint's SUV. The wildfires were several miles away from Mammoth Lakes. We were in no danger, but our experienced guide suggested we start our day a couple of canyons over from the one we had fished the previous day.

"The winds will be light today, and I checked the status of all the fires in a 50-mile radius of Mammoth," Flint noted. "We shouldn't have a problem in at least three of the five nearby canyons. But, rather than hike down 300 feet as we did yesterday, let's start out on a small lake to the north that is full of brookies."

He reasoned that if the creek's water had turned roily overnight from fire impact to the headwaters some 15 miles to the west, we wouldn't want to hike down the loose rock walls and then turn around to climb out of the canyon for nothing. For 60-somethings, such exercise without a fish-catching break can be strenuous.

Battling hungry brook trout while wading along the shores of a beautiful smoke-free lake that morning was a good way to go. We caught 12 beautiful brookies in about three hours. We returned the following day and caught a bunch more.

The smoke finally blew through the lower canyons into Mammoth Lakes late that afternoon. Unfortunately, a good friend was scheduled to fish with Flint the following day. The entire town was smokey, as was the lake I had fished the previous two days.

Flint checked the predicted wind strength early that morning and noticed that winds would be strong at a higher elevation. As a result, the guide decided to take my friend up the mountains to a small lake in an upper canyon at a higher elevation than where we had fished previously. There, as he had hoped, heavy winds over the top of the canyon kept the smoke confined to the valley below.

"I checked the wind direction and flows of all area waters," the guide told me later, "and I decided to drive 35 miles north toward Tioga Pass and Lee Vining Canyon. We fished Lee Vining Creek, which was smoke-free with crystal-clear water, where we caught some nice wild rainbows. I'll go anywhere to produce greater success for our guests."

WATERSHEDS AND WILDFIRES

Flint is based in Mammoth Lakes and to a lesser extent Lake Tahoe (in cold weather he also works in the ski industry). The 61-year-old trout guide has fished the High Sierra for 41 years and has been guiding out of the Troutfitter Fly Shop (thetroutfitter.com) in Mammoth Lakes for the past 22 years. He guides about 90 days a year and fishes around 200 days. He also has been a certified instructor at the prestigious Clear Water Lodge and

guided 10 years in the backcountry out of Saddlebag Lake.

According to Flint, California has numerous, far-reaching wildfires each year, and many affect anglers. In fact, most of the state's largest fires have occurred during the past three years. The Dixie Fire of 2021 is reportedly the state's second largest of all time.

Based on my previous four trips to California during the warmer months of the year to three different mountain areas of the state, fires are common. There were active fires 20 to 40 miles away from my fishing grounds. Fires aren't limited to California, of course. Several other Western states also experience annual fires in their forests and mountain areas that may threaten trout anglers.

Flint guides anglers with spinning and fly tackle from Lake Tahoe south 250 miles to Bishop. Within that area among the Sierras are myriad canyons. He has fished hundreds of lakes and







LEFT: Winds at higher elevations can keep smoke at bay, but it depends on their direction. CENTER: Four decades of fishing the High Sierra have bestowed Flint with knowledge of hundreds of canyons, streams and lakes, which in any given conditions provide numerous options for a safe and pleasant trip. RIGHT: Many streams can be effectively fished from the bank or while wading.







creeks within 25 miles of Mammoth Lakes. Each day, the guide has to develop a plan. Flint analyzes wind direction and strength, watershed layout, gradients and rainfall, weather reports and other factors to determine the optimal fishing locations for both productivity and safety.

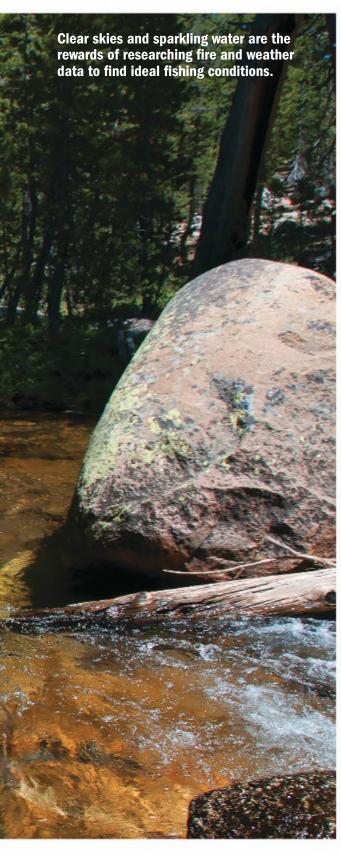
The guide is an expert on determining the best waters in the region to fish while avoiding the effects of forest fires in the surrounding mountains and canyons. He has developed a multi-step procedure for researching, gathering and analyzing the data that is vital to a successful day on the water.

Flint gets up early each morning and checks real-time data for the specific waters he is considering fishing. He uses the U.S. Geological Survey Water Watch website to gather info on current water conditions, levels and flow volumes. This data helps him determine if he and his clients can safely wade-fish or if a drift boat might be better.

Next, the guide checks a weather app (he prefers Weather Underground) for the wind forecasts of all the areas that he has licenses to fish. Flint determines the effects that wind speed and direction will have on each area, on nearby wildfires and even on his clients' fishing abilities.

For example, some anglers may not be proficient at casting in a heavy breeze. Knowing the predicted winds over the whole region, he then compares five to seven canyons that have waters to fish. With the data, Flint can predict how the winds will affect the smoke in each canyon as well as the visibility and turbidity of the waters moving through them. His goal is to put clients on the stream or lake that has the best conditions available that day.

The most essential data for safety afield while fishing is the daily wind directions, he points out. Smoke blowing through a canyon can easily affect an



find colder temperatures and fewer bugs. The guide would probably move a little lower to a warmer fishery with longer exposure to the sun.

"That's very important, especially when you start getting the changing of the seasons and you don't have the prolific hatches early in the morning like you do in warmer times," Flint cautions. "You may have to wait for a later time of day when the air heats up and the sun pockets come through. Then the bugs get more active and the hatch will begin. In cold and windy weather, the early morning bugs may

postpone their hatches two or three hours sometimes."

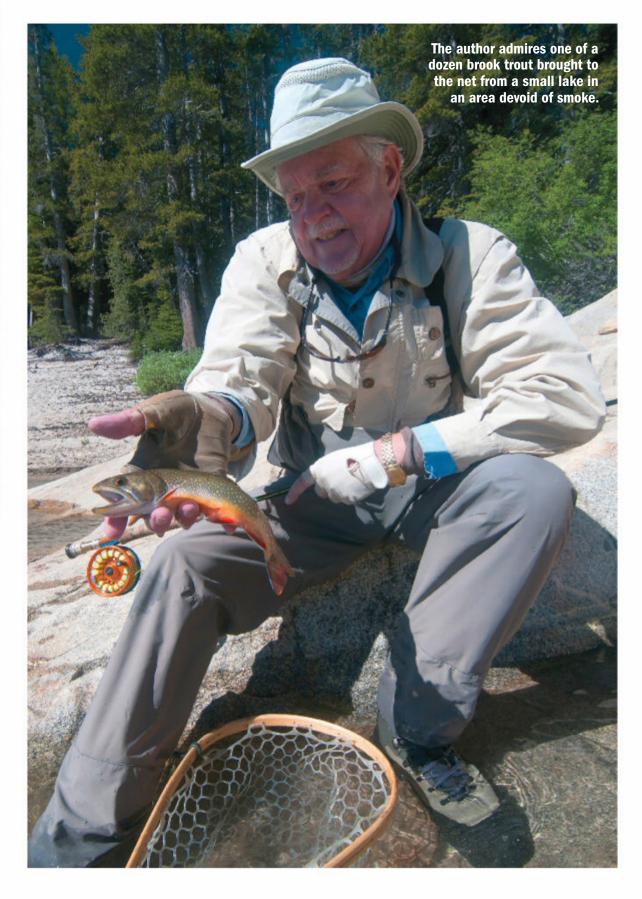
Flint stresses the importance of surveying and analyzing the local weather and fires for safe fishing. He notes several apps provide wildfire locations, their previous movements, their containment percentage and the potential for rain.

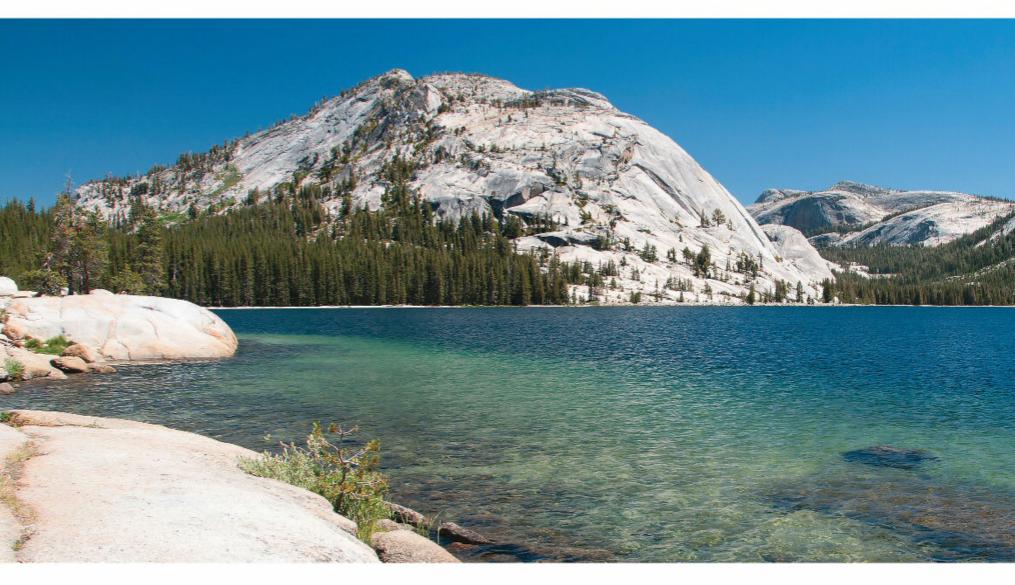
"You don't want to get in the way of firefighters," Flint says. "Having extra vehicles or people they have to worry about in the vicinity of the fire is not good. There shouldn't be any remote chance of obstructing or interfering with personnel that are fighting the fires."

angler's lungs. Another concern: a big rain event dropping several inches of precipitation that occurs toward the end of a wildfire may blow out a fishery with dirty runoff and charred forest debris.

"A sudden rise in water level and too strong a flow for safe wading may affect a fishery and the angler, depending on their experience level," cautions Flint.

Flint also studies the forecast data on water and air temperatures to determine the potential insect-hatch activity on each water body. For example, if there is a cold north wind coming down a canyon, he wouldn't choose to move to a higher elevation because he would



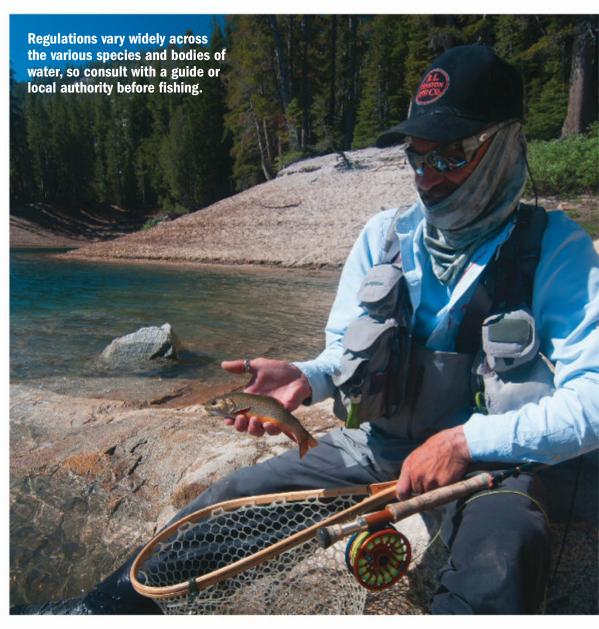


HIGH SIERRA SUCCESS

Like most guides, Flint has preferred trout waters and may head for them when the conditions are ideal: the wild-fires are minimal, the daily winds are confining fires to other canyon areas, and the fisheries' water clarity and flow are optimal. Flint's favorite water is the San Juaquin River, which he calls the "epitome" of fly fishing. It's a wide river with tall trees on the shoreline, big boulders throughout and clear water. He points out that it is easy to wade the river bottom and fun to fish.

"The best moving water for trophy brown trout is the East Walker River in Bridgeport, which has a lot of fish over 10 pounds," says Flint. "For cutthroat trout or large brown trout, I would go to Crowley Lake. Most all of the lakes around Mammoth Lakes have lots of rainbows, but June Lake and a few surrounding it have huge populations of rainbow trout. Another good lake for rainbows is Crowley."

For brook trout, Flint heads for a couple of lakes in Yosemite National Park. "One that I call 'Brookie Heaven' is in an area that is less traveled now due to the Park Service covering up the trail





that runs up to it," he notes. "They did that to help minimize visitors into that area. Fish in there get over 5 pounds."

Several of Flint's clients have landed whopper-size trout. One of his guests caught an 8 1/2-pound rainbow on his first cast of the day on the Owens River. After landing the fish, the guy fished another 15 minutes and was still shaking so bad, he decided to call it a day, according to the guide. He paid Flint and left. To this day, that fish is the largest rainbow any of Flint's clients have caught.

The largest brook trout caught by one of Flint's clients was a 5-pounder out of a small lake near Sonora Pass. Another client, former Major League Baseball All-Star pitcher David Wells, caught a 13-pound brown trout from a still-water lake. The largest golden trout Flint has seen landed weighed around 8 pounds, and it was caught in a "secret" lake and released. This small lake would get a lot of pressure if the word got out, according to the guide.

"The golden trout do get much larger, though, in the southern Sierras," Flint

points out. "My biggest personally caught cutthroat was taken from the headwaters of the Owens River and weighed approximately 7 pounds. Currently, there are fish that will double that size in the river systems!"

The other experienced guides at the Troutfitters shop can also put their customers on big fish. Plus, the fullyequipped shop can provide all tackle and gear when trips with their guides are booked. The area regulations vary greatly on many of the waters around Mammoth Lakes. It is wise to hire a guide who knows the better waters and the regulations for specific places.

Some stretches of water require artificial lures only, while others may accept all tackle types. Other waters may be restricted to anglers using only barbless flies. Creel limits, along with minimum and maximum fish lengths, also vary depending on the water or area being fished. And with the threat of wildfires around the area, having an experienced guide will allow you to focus on the great fishing found in the High Sierra.







n December 2021, TenPoint made history when it introduced the Nitro 505, the fastest reverse-draw crossbow on the market. With a 400-grain hunting arrow, the bow produces velocities exceeding 505 fps, creating 227 foot-pounds of kinetic energy. Nearly as impressive, the Nitro 505 measures an ultra-compact 6 1/2 inches wide from axle to axle when cocked and 30 1/2 inches long, and it weighs 7.9 pounds (without accessories).

TenPoint re-engineered the barrel, string and cables, and cam system to both produce and withstand the extra torque and energy. The bow is brawnier than predecessors but is balanced and easy to handle. The reverse-limb design helps balance the bow by taking the limbs off the front of the rail. Balance is maintained with the center-mounted riser, eliminating any front-heavy feel and making the bow easier to hold steady for better accuracy.

The "magic" in the bow is the 17-inch power stroke. The longer the arrow is on the rail, the more energy transfers from the limbs and string. The long power stroke also creates a smoother, quieter shot. It keeps the arrow nock engaged with the string for an additional 4 inches compared to traditional crossbows. TenPoint designed a new nock to handle the energy of the Nitro 505 and ensure optimal string engagement with every shot.



The string and cables have four extra strands for strength, stability and higher energy transfer. The more extensive string and cables required a new design for components like the RX8 cam system that rotates 404 degrees. The cams have a deeper groove and improved cable spacing to accommodate the larger diameter string. TenPoint uses its proven Vector-Quad cable technology to stabilize the cams and limbs for consistent, repeatable performance. The system uses four cables

instead of the traditional two, eliminating cam lean and generating straight nock travel. The quad cables produce less noise and more consistent accuracy downrange. The beefed-up design also helps reduce vibration.

Modern crossbow technology begs the question: Why would you not buy a crossbow that can be de-cocked safely? TenPoint's ACUslide Auto-Brake Gear System allows for silent cocking as well as safe and controlled de-cocking of the crossbow. Stop the cocking handle in the middle of the sequence, and it stays in place, freezing the string where it is on the rail. The operator is always in control, and the ACUslide system is designed to prevent user accidents. TenPoint engineers beefed up the brake pad for more braking power to handle the energy of the Nitro 505.

The cocking system operates with a Dyneema cocking strap. Netherlandsbased DSM manufactures Dyneema, an ultra-high-molecular-weight polyethylene. The material exists in long molecule chains with extra-strong intermolecular bonds. It is the strongest of any thermoplastic and a super-light fiber. This advanced and robust material can handle more than 2,000 pounds of force. TenPoint sources Dyneema as it is two times stronger than the company's previous strap and up to 15 times stronger than steel. The 7 1/2-inch Xtend adjustable crank handle, coupled with the ACUslide, requires just 5 pounds of cocking effort and is stored in the buttstock of the crossbow.

TenPoint places its two-stage S1 trigger in the Nitro 505. It uses an advanced roller-sear system that delivers a consistently crisp, 3 1/2-pound pull weight. The trigger helps hunters maintain accuracy by breaking cleanly with no creep. It is

equipped with a dry-fire inhibitor (DFI) to prevent releasing the string without an arrow. The DFI is fitted with a nylon-filament arrow retention brush to grip the arrow, align it with the rail, and reduce noise and vibration. An integrated stringstop system further reduces noise and vibration after the shot.

The crossbow's rail is upgraded with a 20-inch Micro-Trac fluted aluminum barrel to reduce the flight deck surface by 50 percent. The minimized string-to-barrel contact both increases accuracy and provides longer string life. A narrow rail means less contact, less friction and cleaner arrow delivery. The crossbow barrel is fastened to an ultralight, two-piece Tech-X stock with weight-reducing cut-outs. The stock houses the ACUslide system and offers a raised comb that helps align the eye with optics.

During testing, the Nitro 505 proved consistent and fast, producing three consecutive chronograph readings of 509 fps. It is faster, and dare I say more impressive, than advertised. The energy carried by the arrows became apparent on impact, often knocking over targets. Plan to have arrow-release fluid or a pulling device to retrieve arrows, as the Nitro 505 sinks them deeply.

Speed is a big part of marketing crossbows. However, hunters can convert the speed of heavier arrows and broadheads into increased kinetic energy and penetration. A heavier arrow will also help quiet the bow even more. The Nitro 505 will still beat most other bows in speed even with a heavy arrow.





Even more important, the Nitro 505 was torture-tested during its development to ensure durability, safety and lasting performance. Engineering prototypes proved to be reliable, accurate and consistent in speed after 25,000 shots.

The Nitro 505 comes in two finishes: Veil Alpine camo or new Moss Green.

The bow ships completely assembled in a Ready-To-Hunt package that includes the ACUslide cocking and de-cocking system, an EVO-X Marksman Elite variable-speed scope with external adjustment turrets, an integrated string-stop system, six EVO-X CenterPunch premium carbon arrows and a six-arrow Tech quiver. The bow is also available with a Burris Oracle X or Garmin Xero X1i laser-rangefinding scope (at additional cost).

While speed is the prominent trait, beefed-up components, strings and cables quiet the bow and control energy. Together they do not result in a heavier bow, as the total weight is still less than 8 pounds. The newly engineered Nitro 505 offers hunters many advanced benefits in a very manageable package.





SPECIFICATIONS

TENPOINT **NITRO 505**

tenpointcrossbows.com

TYPE: reverse-draw crossbow

VELOCITY: 505 FPS (with

400-gr. Pro Elite carbon arrow)

AXLE-TO-AXLE WIDTH: 6 1/2" cocked, 12" uncocked

LENGTH: 30 1/2"

WEIGHT: 7.9 lbs. (with ACUslide)

POWER STROKE: 17"

DRAW WEIGHT: 300 lbs.

COCKING FORCE: 5 lbs. (with

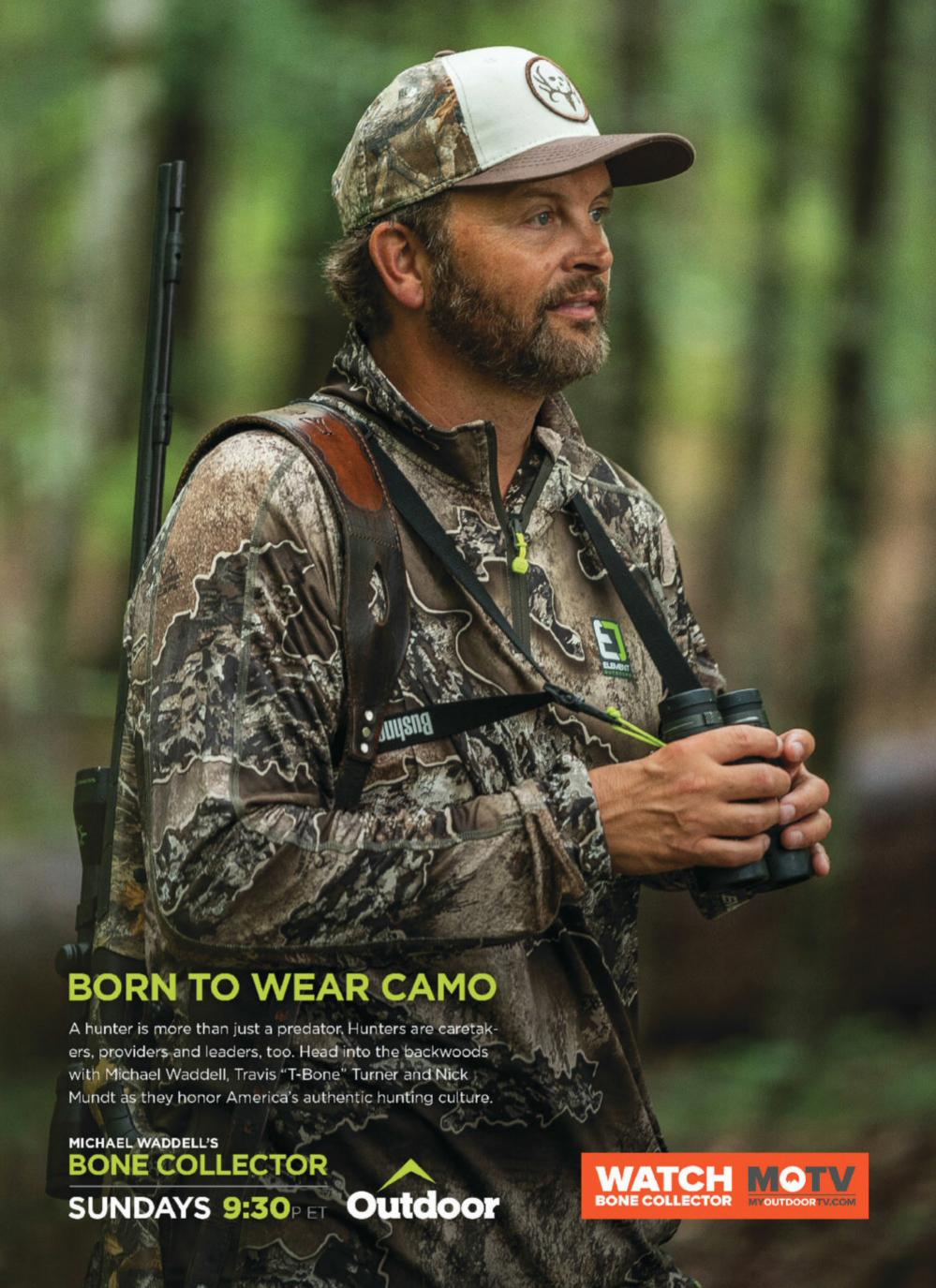
ACUslide)

TRIGGER: two-stage S1; 3 1/2-lb. pull weight

STOCK: Composite

FINISH: Moss Green, Veil Alpine

MSRP: \$3,049.99 (Moss Green, Ready-to-Hunt package with EVO-X Marksman Elite scope)







HERE'S THE INSIDE SCOOP ON THE **HOTTEST NEW FIREARMS, OPTICS, AMMO AND ACCESSORIES**FOR SHOOTERS AND HUNTERS STRAIGHT FROM SHOT SHOW 2022.

By Game & Fish, Petersen's Hunting and Guns & Ammo Staffs

espite the uncertainty and continued disruption of the COVID-19 pandemic, the Shooting, Hunting and Outdoor Trade (SHOT) Show made its return to Las Vegas, Nev., this year during the week of January 18-21. The event, produced by the National Shooting Sports Foundation, brought together thousands of firearms, ammunition, optics, apparel and outdoor gear companies to introduce the year's new products.

After the cancellation of last year's live show, *Game & Fish* editors were eager to gather with manufacturers for a week of learning about—and trying out—new gear. We joined fellow editors from other Outdoor Sportsman Group brands, such as *Petersen's Hunting* and *Guns & Ammo*, to report on what we found. Our coverage comprises the SHOT Show New Product Premiere, an in-depth look at the latest trends in hunting and shooting products to make your next outdoor adventure a success.

Interviews with product managers and engineers will air on Outdoor Channel and Sportsman Channel, as well as on our website, gafmag.com.

SHOT Show grew its total footprint to more than 800,000 square feet since 2020. The convention recorded more than 43,000 registered attendees representing 100 countries, and more than 2,400 exhibitors. It was a lot to take in, but we narrowed down the products to the following list sure to excite hunters, shooters and outdoor enthusiasts.



BROWNING X-BOLT SPEED OVIX

browning.com

Western hunters need no introduction to the X-Bolt Speed rifle, which has quickly gained a reputation for performance under all conditions. The precision-machined steel receiver is mated to a free-floated, sporter barrel that's been fluted to decrease overall weight. Both are finished in a smoked bronze Cerakote that complements the weather-resistant composite

stock in Browning's new Ovix camo pattern. A 60-degree bolt throw speeds the action for fast follow-up shots, not that you should need one thanks to the X-Bolt's proven accuracy. The new Feather Trigger is user adjustable from 3 to 5 pounds.



danieldefense.com

Before Daniel Defense became a leader in manufacturing AR-pattern rifles, founder and CEO Marty Daniel was a black-gun enthusiast looking for a better way to mount accessories. His work resulted in the Rail Interface System (RIS) II, a fore-end with uninterrupted Picatinny rail and plenty of room for lights, lasers and even grenade launchers. The resulting SOCOM contract launched Daniel into the gun business, and his company has not stopped innovating.

This year, Daniel Defense launches a new line of fully ambidextrous RIII carbines, including DD4, M4A1 and MK18 platforms. The guns will also feature new RIS III fore-ends with full-length top rails and full-diameter Magpul M-LOK ports. Expect all lengths and colors to be available, and the RIS IIIs will attach with the same six-bolt mount as the RIS II. And yes, they can still mount grenade launchers.



FN HIGH POWER

fnamerica.com

The people asked and FN has answered. Announced for 2022 is an all-new High Power 9 mm semi-automatic pistol. Inspired by John Browning's final pistol design, and one of the world's most prolific service sidearms, the new High Power is nonetheless a new platform built around the needs and sensibilities of modern shooters. Some things will be familiar, such as the overall dimensions and aesthetics of the pistol, including the keyhole muzzle profile and extended slide-release lever.

However, some things are very different. FN put a lot of design energy into refining the ergonomics and updating the mechanics. The result is a higher capacity pistol—17+1 rounds of 9 mm—that locks up tight like a 1911 but disassembles as easily as a FN509. It even shares the same sight dovetail as the company's flagship polymer pistol, so aftermarket options are available immediately. Best of all, the new High Power is made in the USA at FN's Columbia, S.C., facility.



LIVE FREE ARMORY AMP

livefreearmory.com

If Live Free Armory (LFA) isn't a familiar firearm brand yet, trust us, it will be. With an extensive background in engineering and manufacturing, LFA has been building major components for many of the biggest and most recognizable gunmakers. Now, the Florida-based firm is leveraging its expertise and expansive production capabilities to offer its own take on the perfect pistol. Enter the Aluminum Match-Grade Pistol, or AMP. The new 9 mm bears considerable resemblance to

a Glock 19 in terms of proportions and profile, and there is some compatibility between the two platforms. That said, the AMP's most distinctive feature—besides its ported steel slide, milled aluminum frame and interchangeable grip panels—is its modular fire-control unit. Machined from stainless steel, the chassis-style unit allows LFA to hold extremely tight tolerances, ensure the reliability and durability of critical components, and eventually build a line of pistols around the same foundation.



ROCK ISLAND ARMORY STK100

armscor.com

Tested by Guns & Ammo's Joe Kurtenbach, the Rock Island Armory STK100 proved to be a reliable and accurate opticsready pistol that handles like a dream thanks to its full-size profile and machined aluminum grip. Its weight—1 pound, 14 ounces—thoughtful ergonomics and 4 1/2-inch barrel makes the STK 100 a soft-shooting platform, and the Glockpattern magazines, internals and fire-control system ensures

functionality with a wide range of ammunition. The fact that it also includes an optic-mounting plate further enhances Armscor's reputation for utility- and value-driven products. In 2022, look for the STK100 to reach wider distribution and receive an upgrade to its sight plate that will allow for compatibility with a greater variety of red-dot optics.



SMITH & WESSON CSX **AND VOLUNTEER XV**

smith-wesson.com

Like the Shield EZ several years ago, Smith & Wesson's launch of the new CSX pistol took us by surprise. While it falls into the micro-9 mm concealed-carry segment, the CSX takes a different approach than, for example, the company's polymerframe, striker-fired Shield Plus. The CSX is a hammer-fired, single-action 9 mm with an aluminum frame and 10+1 or 13+1 capacity. The CSX seems tailormade for deep concealment. Also new from Smith & Wesson is the Volunteer XV series

of AR-15-pattern rifles. Featuring stock and grips from B5 Systems, and Bravo Company handguards on some models, the Volunteer offers quality components while maintaining competitive prices. Several models are initially available, including two standard configurations—with or without iron sights—a Pro model with a metal fore-end and PWS 556 muzzle brake, and a DMR version with an 18-inch barrel.





TAURUS G3X, GX4 T.O.R.O., DEFENDER 605 **AND TX 22 COMPETITION SCR**

taurususa.com

Even though 2021 was a great year for a lot of gun companies, few were more productive, or more proactive, than Taurus. That trend continues into 2022 with Taurus' Georgia plant and Brazilian facilities continuing to pump out new offerings. For starters, the G3X pairs a G3c slide with a full-size frame for a best-of-both hybrid. For those who want an even smaller pistol that doesn't sacrifice utility, the new micro-compact GX4 T.O.R.O. is an optics-ready model of the acclaimed 11+1/13+1-capacity 9 mm. Wheelguns have been a popular topic of late, and Taurus' Defender 605 in .357 Mag. comes in a variety of flavors, including a 3-inch-barreled model in Tungsten Cerakote with Altamont wood grips. And if that weren't enough, Taurus' rimfire pistol is getting even more features in the TX 22 Competition SCR (Steel Challenge Ready). Already accurate, reliable and optics-ready, the newest TX 22 adds a muzzle compensator for an even softer shooting experience.



UMAREX PRIMAL 20 SLUG GUN

umarexusa.com

One of the most exciting entries in the big-bore airgun category, the Primal 20 delivers a 395-grain, 20-gauge slug for 430 foot-pounds of hard-hitting energy. That's enough power to take down most big-game animals where airguns are legal for hunting. The secret? A plastic wad that expands to seal the projectile inside the barrel to create a muzzle velocity of 700 fps. An onboard air tank can be pressurized to 4,000 psi via an easy-to-use Foster quick fitting. Perhaps best of all, the Primal 20 can be set up for left- or right-handed shooters, and it features a dual safety system with combined drop safety and push-through manual safety.

5th Generation Nitric Oxide Breakthrough Proven in Clinical **Trials to Restore Maximum Blood Flow in 5 Minutes**

A newly improved version of America's best-selling male supplement gives 60-year-old men the results they enjoyed in their 30's.

America's best-selling male lium-dependent vasorelaxation." performance enhancer just got a lot better.

It's the latest breakthrough for nitric oxide - the molecule that makes pleasure possible by increasing blood flow right throughout your body.

Nitric oxide won the Nobel Prize in 1998. It's why "the little blue pill" works. Thousands of studies confirm NO is the key to performance.

And this new discovery increases nitric oxide availability resulting in even quicker, stronger and longer-lasting pleasure.

One double-blind, placebocontrolled study (the "goldstandard" of research) involved a group of 60-year-old-men.

didn't exercise. They didn't eat healthy. And researchers reported their "nitric oxide availability was almost totally compromised," resulting in HALF the blood flow of a man in his peak.

But only five minutes after the first dose their blood flow increased dramatically, almost back to levels of a perfectly healthy 31-year-old man! "It's amazing," remarks nitric oxide expert Dr. Al Sears. "That's like giving 60-year-old men the power of 30-year-olds."

WHY SO MUCH EXCITEMENT?

Despite the billions men spend annually on older nitric oxide therapies, there's one wellknown problem with them.

They don't always work.

A world renown physician explains why. He's studied nitric oxide for over 43 years. He is the physician-in-chief at a notable hospital in Boston. He says a "deficiency of bioactive nitric oxide... leads to impaired endothe-

In plain English, these older products may increase levels of nitric oxide. But that's only half the battle. If it's not bioactively available then your body can't absorb it and won't perform.

Experts simply call it the nitric oxide "glitch." And until now, there's never been a solution.

5th GENERATION NITRIC OXIDE FORMULA FLYING OFF **SHELVES**

further Upon research, America's No. 1 men's health expert Dr. Al Sears discovered certain nutrients fix this "glitch" resulting in significantly better improvement in blood flow.

He's combined those nutrients with proven nitric oxide boosters in a new formula called Primal Max Red. In clinical trials, 5,000 mg is required for satisfying performance. Primal Max Red contains a bigger, 9,000 mg per serving dose. It's become so popular, he's having trouble keeping it in stock.

Dr. Sears is the author of more than 500 scientific papers. Thousands of people listened to him speak at the recent Palm Beach Health & Wellness Festival featuring Dr. Oz. NFL Hall of Fame quarterback Joe Namath visited his clinic, the Sears Institute for Anti-Aging Medicine.

Primal Max Red has only been available for a few months — but everyone who takes it reports a big difference. "I have the energy to perform three times in one day, WOW! That has not happened in years. Oh, by the way I am 62," says Jonathan K. from Birmingham, AL.

HOW IT WORKS

your blood vessels. Specifically, the inside layer called the endothelium where nitric oxide is made.

The problem is various factors thicken your blood vessels as you age. This blocks availability causing the nitric oxide "glitch." The result is difficulty in getting and sustaining healthy blood

How bad is the problem?

Researcher shows the typical 40-year-old man absorbs 50% less nitric oxide. At 50, that drops to 25%. And once you pass 60 just a measly 15% gets through.

To make matters worse, nitric oxide levels start declining in your 30s. And by 70, nitric oxide production is down an alarming

Primal Max Red is the first formula to tackle both problems. Combining powerful nitric oxide boosters and a proven delivery mechanism that defeats the nitric oxide "glitch" resulting in significantly better blood flow. There's not enough space here to fully explain how it works, so Dr. Sears will send anyone who orders Primal Max Red a free special report that explains everything.

MORE CLINICAL RESULTS

Nutrients in Primal Max Red have logged impressive results.

In a Journal of Applied Physiology study, one resulted in 6 times MORE nitric oxide. And these increased levels lasted up to 12 hours.

"I measured my nitric oxide levels, you can buy a test kit from Amazon," reports 48-yearold Jeff O. "Monday night I showed depleted."

Then he used ingredients Loss of staying power starts in Primal Max Red and, "The



A new discovery that increases nitric oxide availability was recently proven in a clinical trial to boost blood flow 275% resulting in even quicker, stronger and longer-lasting

results were off the charts. I first woke around 3 a.m. on Tuesday ready to go. My nitric oxide levels measured at the top end of the range."

FREE BONUS TESTOSTERONE **BOOSTER**

Every order also gets Dr. Sears testosterone boosting formula Primal Max Black for free.

"If you want passionate pleasure you had in your younger days, you need nitric oxide to get you going. And testosterone for energy and drive," says Dr. Sears. "You get both with *Primal* Max Red and Primal Max Black."

HOW TO GET PRIMAL MAX

To secure free bottles of Primal Max Black and get the hot, new Primal Max Red formula, buyers should contact the Sears Health Hotline at 1-800-910-7293 within the next 48 hours. "It's not available in drug stores yet," says Dr. Sears. "The Hotline allows us to ship directly to the customer."

Dr. Sears feels so strongly about Primal Max, all orders are backed by a 100% moneyback guarantee. "Just send me back the bottle and any unused product within 90 days from purchase date, and I'll send you all your money back," he says.

The Hotline will be open for the next 48 hours. After that, the phone number will be shut down to allow them to restock. Call 1-800-910-7293 to secure your limited supply of Primal Max Red and free bottles of Primal Max Black. You don't need a prescription, and those who call in the first 24 hours qualify for a significant discount. Use Promo Code PMAXGF0322 when you call in. Lines are frequently busy, but all calls will be answered.

AMMUNITION



BARNAUL AMMUNITION

barnaulammo.com

Last year saw considerable speculation about the future availability of steel-cased ammunition based on an import restriction imposed by President Biden's executive branch. Whether those actions take a bite out of the supply or turn out to be largely symbolic, we were reassured at the 2022 SHOT Show by exclusive importer MKS Supply that Barnaul Ammunition is still available. In fact, the company reports that it is still receiving

multiple containers each month—a good sign for budget-minded American shooters. Manufactured in Russia, the steel-cased ammo is sold in bulk 500-round cases in a variety of rifle and pistol calibers, including: 5.45x39 mm; .223 Rem./5.56 NATO; 6.5 Grendel; 7.62x39 mm; .308 Win./7.62x51 NATO; 7.62x54 mm R; .30-06 Sprg.; .380 ACP; 9 mm Makarov; 9 mm Luger; .40 S&W and .45 ACP.



BLACK HILLS 10 MM HONEY BADGER

black-hills.com

Designed by some of the best in the business to be a barrier-blind personal-defense projectile, the solid-copper Honey Badger is based on monolithic construction and a fluted profile. Unlike hollow-point bullets, the Honey Badger does not expand, but instead uses its speed and rotation to deliver performance. The resurgence of interest in 10 mm semi-automatics has prompted Black Hills to develop the new 10 mm Honey Badger 115-grain load for personal defense

and, specifically, defense against dangerous game animals. The key penetration and rapid internal damage are keys to stopping any predator, and Black Hills' internal testing in ballistic gelatin shows the 10 mm bullet driving to 20-inch depths and causing 5-inch-diameter temporary cavities. That performance is on par with a .44 Mag. 240-grain hollow-point bullet or a .300 Blackout 115-grain copper monolithic bullet!



WINCHESTER COPPER IMPACT

winchester.com

For 2022, Winchester has expanded its Copper Impact ammunition series, increasing caliber availability and adding shotgun ammunition to the line. Hunters now have access to the increased accuracy and devastating terminal performance of solid copper Extreme Point hollow-point bullets with distinctive polymer tips that create both a large-impact diameter and immediate expansion upon contact. As a solid bullet, the Extreme Point produces greater weight retention over standard jacketed bullets. Copper Impact bullets are perfect for hunters who go afield where lead-free ammunition is required, but its performance doesn't compromise, making it an excellent choice wherever big game is found.

SHOT SHOW



LEUPOLD PATROL 6HD 1-6X24 MM leupold.com

Leupold is an American optics manufacturer with a strong history and expertise in designing riflescopes for both sporting pursuits and military and law enforcement requirements. The new Patrol 6HD 1-6x24 mm leverages that legacy. Leupold's law enforcement end-users needed a rifle optic that was rugged and capable in both close-quarters and extended-distance situations. Leupold's premier low-power variable optic, the VX-6HD 1-6x24 mm riflescope, was nearly a perfect match and was a proven dangerous-game scope. The Patrol 6HD keeps the light, compact and durable 30 mm main tube design

of its VX-series kin, as well as its premium optical qualities and illuminated reticle. Distinguishing the Patrol, though, is an integrated power-selector throw lever—great for making adjustments with gloved hands—and two options for reticle and turret configuration. The first features a FireDot Duplex with capped turrets for fast and simple operation. The second configuration includes the CM-R2 bullet-drop-compensating reticle and an exposed elevation turret to give shooters the option to dial-up or hold-over on longer shots.

OPTICS & ACCESSORIES

CALDWELL E-MAX SHADOWS PRO

caldwellshooting.com

With so many great hearing protection options on the market, there's no reason not to wear ear-pro to the range or on the hunt. Caldwell has upgraded its popular E-Max Shadows in-ear protection with easy-to-operate user interface buttons to eliminate fumbling for their controls. The Pro plugs quickly connect to Bluetooth enabled electronics and last up to six hours, for a full day of hunting or shooting. They amplify range commands, game calls and other ambient sounds, but feature a 25-decibel noise-reduction rating to protect the user's hearing. The storage case doubles as a charging unit, complete with visible LED battery indicator.



LOCKDOWN PUCK

lockdown.com

This simple little box keeps tabs on a gun safe, or other secure location, even when the user is not home. Simply mount it in place and connect to the Lockdown Logic app on a smartphone. The Puck can be set up to push notifications to one or more contacts, alerting the owner to changes in temperature or humidity, and unauthorized movement or other activity. The included sensor magnet sends an alert when the safe door or drawer is open or closed. Fully customizable and compatible with other Lockdown security products, the Puck puts home security at your fingertips, no subscription required.



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NIGHT FISION OPTICS READY STEALTH

nightfision.com

For 2022, Night Fision is offering low-light sights ideally suited for use with red-dot optics. Not content with the suppressor-height-or-bust proposition for backup irons, the tritium-powered team at Night Fision developed the Optics Ready Stealth line. With options developed specifically for the different makes and models of popular semi-automatic pistols, the new sights provide an uncluttered field of view and offer a lower-third co-witness arrangement with a pistol-mounted optic. Like the company's iron-sight options, the Optics Ready Stealth sights have more tritium per sight and make use of a domed lens to ensure the brightest possible aiming point. The sights use Night Fision's Perfect Dot high-visibility fluorescent orange or yellow sleeve, which holds the tritium securely within the steel sights and also makes the front sight easy to see and fast to acquire in daylight conditions.





SILENCER CENTRAL BANISH 338 SUPPRESSOR

silencercentral.com

Compact isn't usually associated with anything related to the .338 caliber, but Silencer Central aims to change that with its new Banish 338 Suppressor. Measuring little more than 9 inches long and weighing just 17 1/2 ounces, it's the smallest magnum



suppressor on the market, and also the quietest, with a sound reduction of 33 decibels. The direct-thread design is built of titanium and Inconel for light weight without sacrificing the durability needed to withstand magnum calibers. The silencer is easy to disassemble and clean with the included key. Plus, shopping with Silencer Central is easy, thanks to a streamlined process that delivers the suppressor right to the door of customers in the 42 states where silencer ownership is legal.

STREAMLIGHT TLR-6

streamlight.com



For personal-defense-minded consumers, the selection of an appropriate firearm is often an exercise in compromise, with vying factors including capacity, concealment and shootability. As we've seen in recent years, sub- and micro-compact 9 mm pistols are evolving at a break-neck pace, and really proving to be an ideal solution for many shooters. Keeping pace and adding utility are Streamlight's TLR-6 tactical gun lights, which are perfect companions for concealment pistols. The TLR-6 models conform to the design of specific pistols to offer secure fit without disrupting the gun's function or design intend. Despite its small size, the TLR-6 pairs a 100-lumen light with a red laser sight to offer enhanced low-light capability and an additional aiming solution. The TLR-6 is powered by two CR 1/3N batteries, and models are available for most popular pistols including the SIG Sauer P365, Springfield Armory Hellcat, Smith & Wesson Shield and Taurus GX4.

TASER SELF DEFENSE BOLT 2 AND STRIKELIGHT 2

taser.com

In addition to its familiar Pulse products and professional series of less-than-lethal electric de-escalation tools, TASER Self Defense is committed to providing personal-protection equipment to, well, everyone. The Bolt 2 may wear a discreet white housing, but it contains full threatstopping potential. The unit's dual probes have a 15-foot range and can immobilize an assailant with full muscle lock-up for up to 30 seconds. A 210-lumen LED aids in identification, and a laser sight makes aiming more intuitive. For those who prefer a contact-distance tool and deterrent, the StrikeLight 2 may have the appearance of an ordinary flashlight, but the included stun gun packs a wallop. Pairing a multi-mode, 800-lumen light with a pain-compliance de-escalation tool, TASER provides defense in a product that, for some, may be more comfortable and accessible than a firearm.





TURKEY CALLING BASICS

LESSON NO. 1: FIND A GOOD PLACE TO PRACTICE.

t was only a few short weeks before spring turkey season opened, and Shane still hadn't mastered the mouth calls he'd received for Christmas. "Listen to the tapes," his father had told him, "and practice, practice, practice until you sound exactly like the guys on them."

After dinner one Tuesday evening, Shane went to the living room, turned on the VCR and popped in the "All-Stars of Spring II." But before he'd even finished a full series of yelps, his mother yelled at him sharply from the kitchen.

"Shane! Keep it down!" she said in her raspy voice. "I'm on the phone."

Thinking quick, Shane at once unplugged the VCR, grabbed it and his calls, and headed to more promising

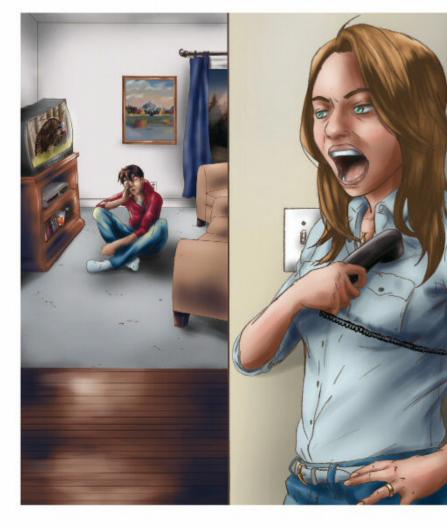
fields up in his bedroom. He closed his door, hooked up the VCR, punched the play button and tried it again. Only this time his attempt at a kee-kee run was cut off by the alarm shrieks of his little sister.

"Shane!" she cried through the door. "Knock it off already! I'm trying to study over here."

A few moments later he heard his mother's commanding voice again. "Shane! Not while your sister is studying. In fact, no more hen callin' in the house, period."

"Gah!" crowed Shane down at her.

"Shane! Did you just back-talk me?" she yelled. Shane could tell she'd moved closer toward his location, perhaps from her roost near the telephone to the foyer at the bottom of the stairs. He could sense the excitement in her voice had increased substantially.



"No ma'am," shouted Shane. "That was a gobble."

"Well, no gobbling either," she thundered back.

Frustrated, Shane stormed out his bedroom, flew down the stairs, marched through the dining room and strutted out the front door. Finally alone, he sat on the porch swing and adjusted the diaphragm call in his mouth. He pulled in a big breath, pressed his tongue hard against the latex on the roof of his mouth and let loose a piercing cutt into the cool night air.

Three neighborhood dogs immediately answered. The closest one began growling and jumping at the chain-link fence that held him at bay. Shane saw his neighbor's porch light come on just before ol' Tom Cole poked his bald head out the screen door and looked around.

"Dang it," whispered Shane under his breath. He gathered up his calls once again and skulked back inside to the study where his father was doing taxes.

"Dad, you told me to practice, but I can't find anywhere to—"

"Yeah, I know," said his father. "I heard everything. And that's a good lesson for a turkey hunter. Listen intently to every bird you hear, noting the distance, direction and tenor of their calls. With practice you'll be able to distinguish individual birds and be able to take a mental snapshot of where they are in the woods when you can't see them."

"That's great, Dad," said Shane, "but for now I just want to practice my yelps."

"Well, one thing I failed to tell you about is practicing around women who don't hunt," his father replied. "It doesn't matter if it's a

perfect-sounding hi-ball, buck grunt, elk bugle, howl or putt. They can't stand the sound of any of them. I don't know what it is, but something about the tone annoys most women like fingernails across a chalkboard."

"Well then," said Shane, holding his hands up in defeat, "what should I do?"

"You do what men have been doing since the dawn of time, or at least since the automobile revolution," his father advised. "You practice alone in your truck, with the windows rolled up."

"I'm only 14, Dad. I don't have a truck," noted Shane.

"Here you go, boy," said Shane's father as he tossed his son the keys to the Ford. Shane caught them and gazed at his father with amazement.

"Don't worry about it," said his father. "It ain't this old bird's first dust-up with momma hen!"

Shhhhh. No wake zone.



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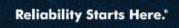
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