Fifth in a series on rifles and cartridges for North American big game. In this issue, a look at short- to mid-range cartridges...

The Great Old Brush Busters

Sometimes you need punch more than range!

By Craig Boddington
B&C Professional Member
Photographs courtesy of author

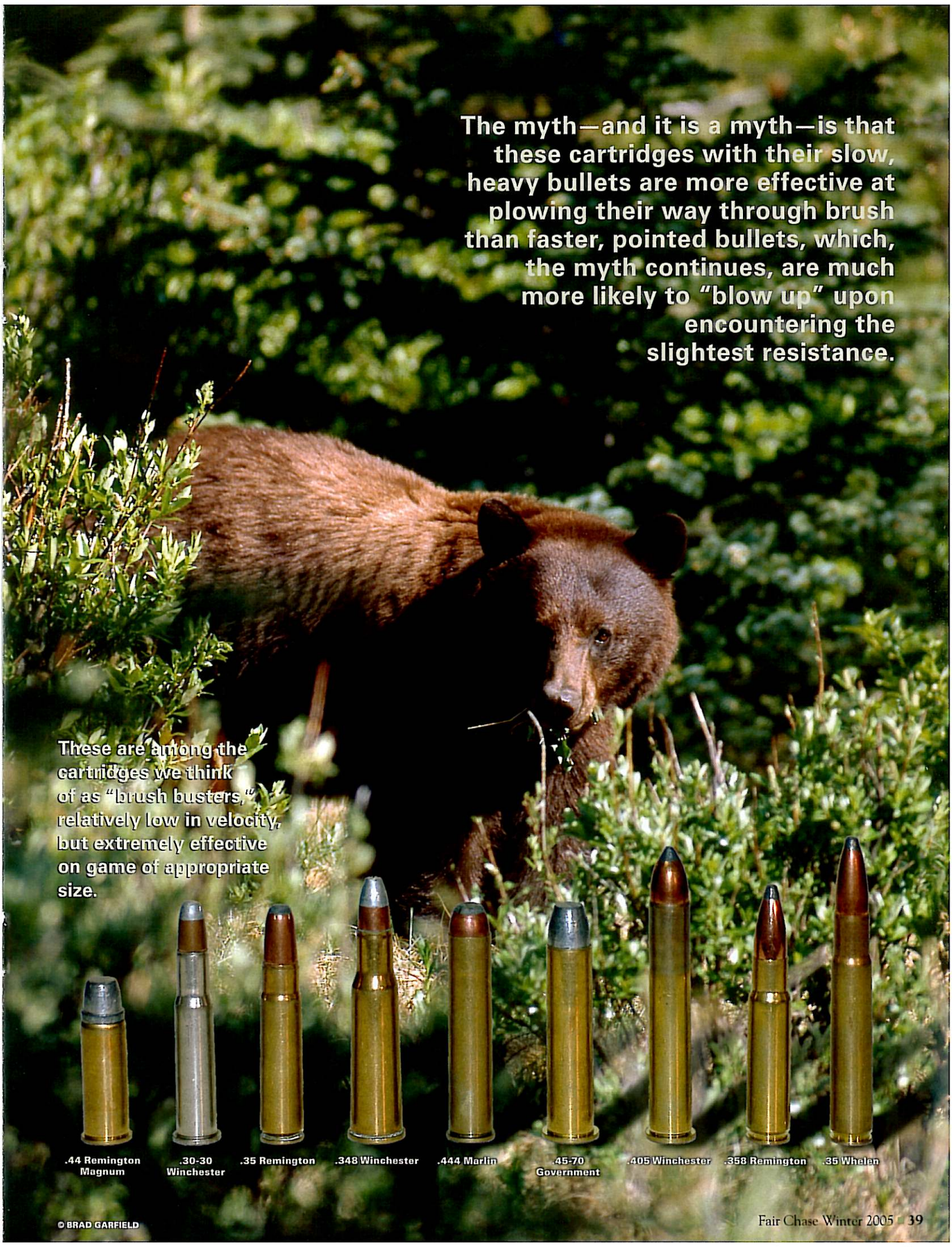
American hunters have thirsted for high velocity and flat trajectory at least since the 1950s, when the first magnum craze burst onto the scene. In the early 1990s, this craving seemed to have abated, with renewed interest in old favorites like the .270 Winchester and growing popularity of newer, relatively mild cartridges like the 7mm-08 Remington. Then, in the late '90s, we entered a new era of magnum fever that has seen an unprecedented number of new magnum cartridges hit the market in a very short time. Fast cartridges are great—if you need them, and, even if you don't, if they give you confidence to make your shot. The new magnums are also great; as we've seen in previous issues, they truly do all (or almost all) their manufacturers say they will.

In good black bear and moose country with my old Winchester M71 in .348. I know I'll have to get relatively close to use this open-sighted rifle, but that's half the fun.

In the midst of all this euphoria over high velocities and resulting high downrange energies and flat trajectories, there remain some fundamental facts that too many of us overlook. First, no game animal in North America is bigger, tougher, or more difficult to put down today than it was a century ago (or, for that matter, ten centuries ago). Second, a great many of us are still taking our game at the same relatively short ranges that our grandfathers did. Third, a lot of us have the desire—and some of us have the genuine need—to drop our game as close to "in the tracks" as possible. The first premise is irrefutable and applies to all. If the second two happen to apply to you, then you might consider taking a look at the tools your grandfathers and great-grandfathers used to accomplish these tasks.

"BRUSH BUSTERS"

The class of cartridges we think of as "brush busters" is characterized by relatively large caliber, heavy bullets moving at fairly low velocity. Blunt bullets slow down fairly quickly, so they shed energy fast and have steep trajectory curves, both combining to limit effective range—certainly in comparison to modern magnums. The myth—and it is a myth—is that these cartridges with their slow, heavy bullets


The myth—and it is a myth—is that these cartridges with their slow, heavy bullets are more effective at plowing their way through brush than faster, pointed bullets, which, the myth continues, are much more likely to "blow up" upon encountering the slightest resistance.
These are among the cartridges we think of as "brush busters," relatively low in velocity, but extremely effective on game of appropriate size.
.44 Remington Magnum
.30-30 Winchester
.35 Remington
.348 Winchester
.444 Marlin
.45-70 Government
.405 Winchester
.358 Remington
.35 Whelen
© BRAD GARFIELD

are more effective at plowing their way through brush than faster, pointed bullets, which, the myth continues, are much more likely to "blow up" upon encountering the slightest resistance.

Not to put too fine a point on it, but this is BS. No bullet, of any weight or caliber at any speed, is particularly reliable at holding its course through brush. Years ago I did some testing by shooting bullets of various shapes and calibers through a baffle board of staggered vertical dowel rods, replicating brush. The target was placed at various distances beyond the dowels. Everything tried, including the legendary .375 H&H, deflected to some degree. If the target was placed directly behind the dowels there was a reasonable chance the bullet would strike within the size of, say, a deer's vital zone—although the bullet holes were often sideways, indicating keyholing. If the target was more than a few feet beyond the dowels, then you needed a lot of luck to hit the target at all—and any sane hunter would conclude that shooting through brush was a bad idea. Surprisingly, in my testing and similar testing colleagues have done, cartridges like the .243 Winchester and .25-06 Remington, with very fast, sharp-nosed bullets, actually held their course better than time-honored "brush busters" like the .45-70.

So I like to see the phrase "brush busters" in quotes. This attribute of the slow-moving, heavy-bulleted cartridges is a fairy tale. On the other hand, most of the cartridges in this group are typically chambered in rifles that are fast handling and easy to carry, like our traditional tubular-magazine lever actions from Marlin and Winchester. These are definitely "brush rifles," with or without quotation marks, because they're perfect for use in close cover.

The actual cartridges we're talking about here probably start with the great old .30-30 Winchester, still a fine deer cartridge;

FROM THE TOP: A good South Texas whitetail taken with my old Winchester Model 94 Trapper in .30-30. The .30-30 has accounted for untold numbers of deer since 1895; within its range envelope it remains a sound choice today. I keep a traditional peep sight on my .30-30 because, historically, the cartridge is as limited in range as this sighting equipment. I used my Winchester M71 .348 with 250-grain Barnes flatpoint bullets to take this big bison bull. The hitting power of the "brush busters" with heavy, blunt-nosed bullets has always seemed to me to exceed what the paper ballistics might suggest.

The Great Old Brush Busters

goes up through the milder .35s, including the .348 Winchester and .35 Remington; and then up into the .40s. The classic "big-bore brush busters" are the .444 Marlin and .45-70, but you can't ignore the reborn .405 Winchester or the relatively new .450 Marlin, sort of like a .45-70 on steroids. Come to think of it, you can't ignore the big-bore cartridges designed (at least initially) for handguns: .44 Remington Magnum, .480 Ruger, and the new .460 and .500 Smith & Wesson cartridges.

A RAGE FOR RANGE

All of these cartridges have in common moderate velocity that limits effective range. Cartridges used in rifles with tubular magazines have been further limited by the historic requirement to use very blunt-nosed bullets. This is because, in a tubular magazine, the nose of one cartridge rests against the primer of the cartridge in front of it. There is, therefore, a real danger that, under recoil or if the rifle is dropped, cartridges with sharp-nosed bullets could be detonated in the magazine. The pistol cartridges are also limited in that, traditionally, they are loaded with relatively short, light-for-caliber bullets that have poor aerodynamics and thus tend to shed velocity fairly quickly.

There are matters of degree here. The .30-30, introduced with smokeless powder back in 1895, develops about 2,300 feet per second (fps) with standard factory loads and its most popular 150-grain bullet. This is much faster than the standard 405-grain load for the .45-70, just 1,115 fps. This load is designed to replicate in velocity and, more importantly, pressure, the original blackpowder load first introduced clear back in 1873, so as to be safe for use in the oldest .45-70 rifles with the weakest actions, like the trapdoor Springfield. There are much faster loads available for the .45-70, but none of them reach 2,000 fps. The .348 Winchester has a huge case and is faster than the .30-30 (and carries a heavier bullet). The .358 Winchester is similar in velocity to the .348. (The .358 was specifically developed by Winchester to replace the .348.) The .35 Whelen is faster. Both the .358 and .35 Whelen are usually chambered in rifles with box magazines, so can use aerodynamic spitzer (sharp-pointed) bullets, but they still don't compare well in velocity, trajectory, or even downrange energy with our standard deer cartridges from .270 to .30-06, let alone with our fast magnums.

This means that these cartridges are poor choices in open country. The faster cartridges, with the right loads, bullets, and sighting equipment, and when applied to game of appropriate size, are perfectly viable out to 250 yards or so, but the slower numbers like the .35 Remington, .444 Marlin, and .45-70 are at their best when limited to not much more than half that. So maybe you wouldn't choose them for hunting caribou, pronghorn, or wild sheep (although, believe it or not, the great Jack O'Connor, best-known as the lifelong champion of the .270, actually took one of his desert sheep with a Winchester Model 71 in .348!).

So what? There's a whole lot of hunting country where terrain and vegetation restricts potential shooting distances. Good examples include a great deal of whitetail country, from small woodlots wherever

Traditionally we think of "brush busters" as rifle cartridges but, truly, the big-bore handguns we have today—.44 Magnum, .454 Casull, .460 S&W, .480 Ruger, .500 S&W—definitely fall into the same category. **BELOW:** The .405 Winchester was Roosevelt's "lion medicine" in the old M1895 Winchester. It remains effective in the lever action, but is even more versatile in a scoped Ruger Number One single shot. My daughter, Brittany, took this wonderful wild boar with her Ruger Number One in .405 Winchester. A slender young lady, she doesn't like recoil—but the .405 doesn't bother her a bit. Effectiveness without a lot of blast and recoil are hallmarks of the "brush busters."

whitetail deer are hunted to Southern swamps to Northern forests. How about the rain forests of the Pacific Northwest, where black bear, Roosevelt's elk, and black-tailed deer are hunted? Or the oakbrush slopes that cover much of the southern Rockies, or Montana's jackpine jungles, all good country for American elk? Or the alder thickets of coastal Alaska, whether you're hunting bear, moose, or Sitka blacktail deer?

There are also hunting techniques and situations that are self-limiting in range. These include black bear over bait or with dogs, and any situation where the game is called in, whether it's a big whitetail that comes to rattling antlers, an elk responding to a bugle, or a moose coming to a cow call. Also, let's not ignore the fact that limiting your range and thus increasing the challenge can be fun, as millions of bowhunters will be quick to point out. As a technique, stalking is fun—and some animals, by virtue of preferred habitat, limited vision, habits, or some combination—are more "stalkable" than others. I would put bears, wild hogs, javelina, and, in many situations, moose in this group.

STOPPING POWER

Okay, so you don't always need a whole lot of ranging capability. You hunt thick cover, whether from a stand, over bait, or by still-hunting, and you know a shot beyond, say, a hundred yards, is extremely unlikely. Or you just want to get as close as you can. You've already made the decision you will hunt with a modern firearm, not a bow or muzzleloader. It should be obvious that, if a cartridge like the .300 Winchester Magnum is effective at 300 yards it would also be effective at 100 yards. So why in the world would anyone choose one of our slow-moving cartridges offering so much less versatility?

I think there are three good reasons why our good old "brush busters" remain popular with so many hunters.

First, these cartridges are chambered in popular gun models. Tubular-magazine lever actions are traditional favorites in North America, as American as apple pie—and almost equally popular in Canada and Mexico. There are millions and millions of lever-action rifles still in use. They're easy to carry, fast handling, and, for most of us, faster for the second and subsequent shots than bolt actions.

Second, there's the matter of "stopping power." Our "brush busters" have the reputation for packing a heavy punch that puts game down quickly. I think this part of the legend is well earned. This is relative in that the cartridge must match the game, and the cartridge must be used within its appropriate range envelope. The .30-30 Winchester, for instance, is a marvelous deer cartridge, just as effective today as it was in

The Great Old Brush Busters

1895. It's a marginal elk cartridge and a very poor choice for big bears, but at close range it does a great job on deer. Larger cartridges like the .35 Remington, .444 Marlin, and .45-70 are extremely effective on black bear, elk, and even moose, also at close range, and the .450 Marlin and, with heavy handloads in modern rifles, the .45-70, are plenty of gun for the largest bears, also provided the range is close.

The operative words above are "close range." If your rifle is accurate and you know the trajectory, you can certainly hit a deer at 300 yards with a .30-30. In the Spanish American War a few very talented American soldiers did effective sniping at 1,000 yards and more with trapdoor Springfields. At longer ranges, however, you have two problems. First, energy levels drop off quickly, exactly how quickly depending on the cartridge and bullet. Second, as velocity drops bullet performance becomes less than optimum. I came very close to losing a good buck I shot at just a bit over 100 yards with a 170-grain flatpoint from a .30-30. Note that this bullet is slower than the 150-grain load, and I was shooting it from my short-barreled Model 94 Trapper, so velocity was lower yet. Although there was no reaction and no blood trail, I was certain of a solid hit so we kept looking and we found him, not very far but in terribly thick stuff. The bullet had cleanly centered both lungs just behind the shoulder, but the bullet had passed through, showing no expansion whatsoever. I'd have been just fine at closer range, and at any range I'd have been better off with a faster 150-grain bullet that would have expanded a bit more.

However, with the right caliber and bullet choice for the game hunted, and at short range, our "brush busters" are devastating, offering plenty of stopping power (with no quotes required). Exactly why this should be is a bit hard to explain, since energies are much lower than are generated by our fast, modern cartridges. For instance, with its fast 300-grain bullet at 1,690 fps, the .45-70 has over 1,900 foot-pounds of muzzle energy. The various .300 magnums churn up twice as much energy, yet hunters experienced with the old warhorse know a .45-70 will generally drop a deer much more quickly than any fast magnum.

I think the answer lies not in raw energy, but in how that energy is transferred to the animal on impact. Traditional loads for our "brush busters" use roundnose or flatpoint bullets, while most of us shoot more aerodynamic sharp-pointed bullets in our rifles chambered to faster cartridges. A blunt-nosed bullet initiates expansion more quickly than a spitzer, transferring energy more quickly. This, to me, explains why the .30-30 is so wonderfully effective on deer-sized game. Its energies are relatively low by today's standards, never as much as 2,000 foot-pounds at the muzzle, but the .30-30 hits very hard.

Hornaday's new "LEVERevolution" ammo features their new "evolution" bullet, a pointed bullet with a "soft" polymer tip, greatly increasing aerodynamics, yet safe to use in traditional tubular-magazine lever actions. In addition to the .444 Marlin rounds shown, initial offerings include .30-30, .35 Remington, .45-70, and .450 Marlin.

Bullet shape remains a factor with the larger calibers, but you also have the simple fact that the caliber is larger. A .45-caliber bullet displaces more tissue instantly than a .30-caliber bullet. Period. This may not be reflected in the raw energy figures, but you see it on game, and I've seen it enough to absolutely believe that frontal area makes a difference.

For my personal use the "brush busters" are most useful for black bear and wild hogs, which, although not native, are the most important big game animal where I live on California's Central Coast. With both black bears and wild hogs I know I can get close, at least most of the time, and trying is at least half the fun. Perhaps more importantly, I know the big, slow-moving bullets offer the punch I want. Elsewhere, elk hunters in the Pacific Northwest and a fair number of moose and bear hunters in Canada and Alaska cling to the "brush busters," and for the same reasons. A lot of close-cover whitetail hunters continue to rely on the old .30-30 because it works, and it offers all the power needed. But a lot of whitetail hunters use the big-bore brush cartridges—.35 Remington, .444 Marlin, .45-70.

Exactly why provides insight into how these cartridges work. Many whitetail hunters are obligated to hunt on relatively small parcels of land, which works just fine with a homebody like the white-tailed deer. Whether good or bad, a lot of hunters are also obligated to hunt in woods they share with many other hunters. Under these conditions, it is desirable to drop a buck right now, within sight of your stand and with no chance for it to cross a fenceline, or expire under another hunter's stand. You can argue that a .45-70 is needlessly powerful for any deer, but absent a head or neck shot, it's a fact that the big, heavy, hard-hitting bullet will drop a deer more quickly than a lighter, faster bullet. Over the years a lot of reader mail has suggested that numbers of whitetail hunters use the old big bores for exactly this reason.

The third reason these cartridges, most of them very old, remain popular is because they do their work with little muzzle blast and moderate recoil. Velocity is a key factor in the kinetic energy, expressed in foot-pounds, developed by a projectile; the formula uses the velocity squared, so energy goes up very quickly as velocity increases.

Slower cartridges with heavy bullets have tremendous momentum, and the increased frontal area of larger calibers enhances rapid energy transfer, but our "brush cartridges" cannot compete with fast modern cartridges in terms of raw energy. But guess what? Velocity is an equally important factor in figuring foot-pounds of recoil! Sure, a .45-70 with heavy loads kicks, but look what it can do! And its recoil is no worse than a .300 magnum. The .30-30 is a pleasant pussycat to shoot, and so is the old .35 Remington. You get efficiency without a lot of fuss. High velocity also increases muzzle blast, the faster the cartridge the sharper the crack. If you need range, these cartridges aren't for you, but if you want efficiency on game without a lot of fuss they're just plain wonderful.

COMPROMISE CARTRIDGES

There are a very few extremely good cartridges that don't quite fit my profile of low-velocity "brush busters," but aren't quite fast enough to be considered with our modern fast-moving cartridges. They share the attributes of the "brush busters" in that they have heavy bullets of fairly large diameter, but they're a bit faster and thus a bit more versatile. Since they're faster they do have a bit more recoil, but they are still not in the realm of magnums like, for example, the .338 Winchester Magnum—and they are still limited in range, though not so limited as classic brush cartridges like the .45-70. Most of these cartridges also have the advantage of being chambered to box magazine rifles, so they can be utilized with more aerodynamic sharp-pointed bullets. As we've seen, this probably reduces energy transfer, but this is mitigated by their large caliber and higher velocity.

Cartridges I'm thinking of that fall into this category include the nearly obsolete .356 Winchester (designed for tubular magazines), the .358 Winchester, the .35 Whelen, and the recently resurrected .405 Winchester. I love both the .358 and the .35 Whelen. The former, chambered in a short-action lever action like a Savage 99 or Winchester Model 88, is a truly underrated hero. Pushing a 250-grain bullet at nearly 2,500 fps (with good handloads), it is wonderfully effective on even very large game out to well past 200 yards, provided you understand it. The .35 Whelen, using the longer .30-06 case, is faster and even more effective. Both do their work with surprisingly mild recoil. The last couple of years I've spent a lot of time with the old .405 Winchester, Theodore Roosevelt's "lion medicine." Now back in the strong Ruger Number One single shot as well as newly manufactured Model 95 Winchesters, it's a wonderful short-range cartridge for the largest and toughest North American big game.

LEVERevolution

Though there are some gems out there like fast light-bullet loads for the .45-70 and Hornady's spitzer loads for the .405 Winchester, one of the challenges with our "brush busters" is that most cartridge, bullet, and load development for this class of cartridge stopped long before I was born. This is unfortunate because the cartridges are still very effective and there are millions of rifles still in use, but it's difficult to combat the hype surrounding the dozens of faster cartridges that have come along. Until now.

One of the most exciting developments I've seen in years is LEVERevolution from Hornady, a line of genuinely innovative ammunition that I suspect will breathe new life into our great old "brush busters."

LEVERevolution is the ammunition, just now being released as you read these lines. Using similar propellants and loading techniques that made faster "Light Magnum" and "Heavy Magnum" loads possible, the ammunition achieves a considerable velocity gain over traditional loads, without increasing pressure: 160-grain .30-30 at 2,400 fps; 200-grain .35 Remington at 2,225 fps; 265-grain .444 Marlin at 2,325 fps; 325-grain .45-70 at 2,050 fps; 325-grain .450 Marlin at 2,225 fps. These gains are considerable; the .45-70 load churns up over 3,000 foot-pounds of energy, a tremendous gain. However, since these are all cartridges designed for tubular magazine lever actions, the immediate comment is "So what? The required flatpoint bullets will still drop like a rock."

So what, indeed. The second half of the project is the "evolution" bullet. It's a polymer tipped bullet, like so many others on the market, except the polymer is like soft rubber, not hard. It allows an aerodynamic shape that will hold its velocity much better, but will not detonate in the magazine. Depending on the cartridge, the slight velocity increase and the huge increase in the bullet's aerodynamics combine to cut the drop at 250 yards nearly in half. Suddenly these old cartridges can be viable to 200 yards and, in some cases, a bit more. Lost is that devastating energy transfer of the flatpoint bullet, but gained is modern bullet technology, with the polymer tip initiating expansion. Because of this there will still be times and places where some of us will choose conventional flatpoints in our "brush busters." But the capability for added range, in my view, gives these great old cartridges a whole new lease on life. ■