

The 6.5s

Long ignored stateside, 6.5mm cartridges have surged of late. Should your next rifle be a 6.5?

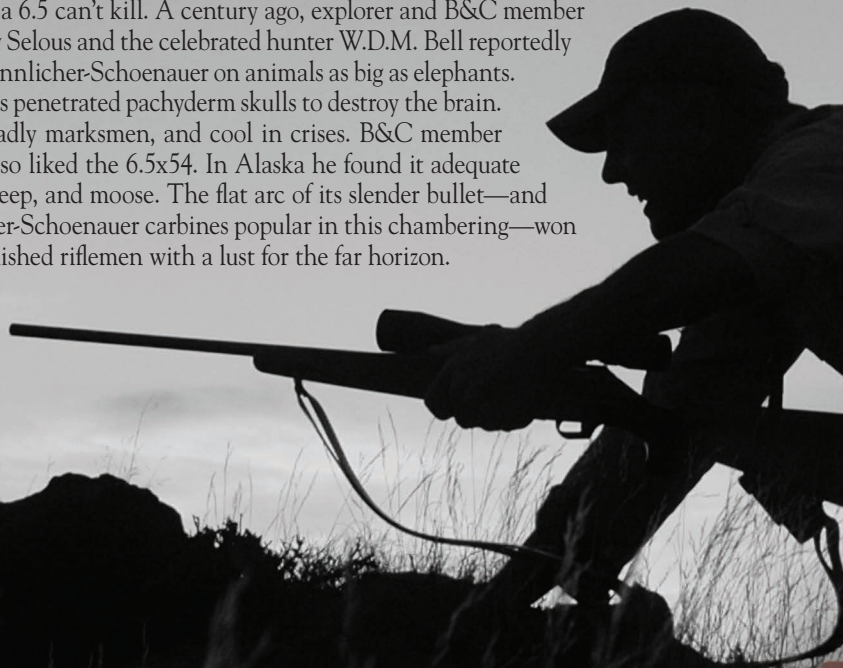
“Not enough gun,” said my professional hunter. Perhaps, I conceded, without saying so. A bull eland can weigh a ton. Mine was a deer rifle, by most measures. Still, when we spied the beast in scrub thorn across a broad basin, I chambered up. We closed quickly. When the cover got thin, I bellied forward alone. At 80 yards, I found a shot alley and cinched the sling tight—then settled down to wait. The eland was bedded, quartering off; I wanted to see front rib. My muscles had begun to cramp when at last the bull stood. But he turned instantly, presenting no shot...

By Wayne van Zwoll

B&C Professional Member

Photos courtesy of author

It's not that a 6.5 can't kill. A century ago, explorer and B&C member Frederick Courtney Selous and the celebrated hunter W.D.M. Bell reportedly used the 6.5x54 Mannlicher-Schoenauer on animals as big as elephants. Its long, solid bullets penetrated pachyderm skulls to destroy the brain. Both men were deadly marksmen, and cool in crises. B&C member Charles Sheldon also liked the 6.5x54. In Alaska he found it adequate for brown bears, sheep, and moose. The flat arc of its slender bullet—and the trim Mannlicher-Schoenauer carbines popular in this chambering—won favor from accomplished riflemen with a lust for the far horizon.




Modern 6.5s, from left to right: .264 Winchester Magnum, 6.5/284, 6.5x55, .260 Remington, 6.5 Creedmoor



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6.5

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There's nothing magical about numbers. But when enthusiasts talk of classic sports-car engines or the diameters of hunting bullets, numbers take on personality. Bullet sizes followed custom as cartridge firearms replaced muzzle-loaders after the Civil War. Diameters shrank and velocities increased with the development of smokeless powder during the 1890s. But the diameters of bullets that armed the world's powers at that time seemed to come from nowhere. Great Britain settled on the .303 British, with a .311 bullet, in 1888. That year, Germany adopted the 7.92mm (8mm) Mauser with a .318 bullet; it switched to the .323 "JS" bullet in 1905. The U.S. fielded the .30-40 Krag in 1892, the .30-03 in 1903, the .30-06 in 1906. All used a .308 bullet. Italy, Sweden and Japan chose 6.5mm, or .264, bullets, in the 6.5x52 Italian (1891), 6.5x55 Swedish (1894) and 6.5 Arisaka (1897). Holland, Greece and Portugal also adopted 6.5s.

What does all this have to do with hunting? Actually, a lot.

First a review. Bullet diameter is not the bore diameter of a rifle. It matches groove diameter. Spiral grooves, cut into the bore to spin bullets for better accuracy, lie between the bore-diameter lands, which grab the bullet. The bullet shank fills the grooves as the lands engrave it. For 30-caliber rifles firing cartridges like the .30-06, bullet diameter is .308. For 270-caliber rounds, bullet diameter is .277. And so on. Cartridge designation does not follow strict rules. Sometimes it's confusing: The .308 Winchester, for example, uses the same-size bullets as the .300 Savage. The .308 is named for groove or bullet diameter, the .300 for bore diameter. In some cases, the cartridge designation matches neither!

In Europe, smokeless cartridges are labeled by bullet diameter and case length in millimeters. So the 7x57 uses a 7mm (.284) bullet in a case 57mm long. Some U.S. cartridges, like the 6mm Remington and the 7mm and 8mm Remington Magnums, specify bullet diameters in the European tradition.

The .30-06, named for bore diameter and year of introduction, had a bullet diameter made popular in the .30-40 Krag and .30 Winchester Centerfire or .30 WCF, later called the .30-30. The first magnum widely chambered in the U.S. was also a .30: the .300 Holland & Holland. The .270 broke from that trend in 1925. Flat-shooting, with power to

Flat arcs (and lightweight rifles) suit the .260 Remington and 6.5 Creedmoor to mountain game. The Creedmoor is civil in recoil and accurate making it a versatile, efficient hunting cartridge.

From prone at long range, Wayne killed this elk with a Magnum Research rifle in 6.5 Creedmoor.

kill elk-size game, the .270 became a hit. Jack O'Connor, and many other gun writers, adored the .270. Not until 1962, when Remington announced its 7mm Magnum, would a hunting cartridge draw such acclaim. Meanwhile, in Europe, the 6.5x68 Schuler appeared. Based on the the 8x68S, it was a hot number for the day, more than matching the .270 for long shots at big game.

Some years ago in Spain, I looked without luck for a big Spanish ibex. The week drew to a close. On the mountain with a camera the final day, I met a Spaniard who, upon hearing my story, insisted I stay to hunt with him one more afternoon. "You can use my rifle." I consented. Late that day, we spied a big ram hundreds of yards off. "Shoot from here," he said, insisting that his 6.5x68 shot so flat I didn't have to hold high. I politely demurred and convinced him to try an approach. We paused on a rock ledge across from the ram, and my amigo again urged me to fire. "Too far," I said, then suggested he stay there while I stalked. He threw up his hands as if I'd suggested standing on my head to empty my pockets. But fortune favored me; minutes later I made a 200-yard shot, prone, dropping the ibex instantly. It was a memorable hunt, the only one I've made with the 6.5x68.

The 8x68 trailed by some years the best-known 6.5 of all, the 6.5x55. Birthed in the 19th century, "The Swede" is hardly as potent as modern 6.5 magnums, but it's still a versatile cartridge. A few years back, poking through Wyoming lodgepoles with a Howa rifle in 6.5x55, I bounced two elk with a finger ridge. They galloped off into the canyon below, one sweeping right, one left. I dashed forward, chose the left-hand route and found a shot alley just as the bull paused. Hit through the lungs, it spun and vanished. I plunged after it, and managed to tag it once more, ending the hunt. My 140-grain soft-points clock about 2,650 fps; traditional 156-grain round-nose bullets loaf through the woods at 2,550 fps. Swedish hunters say that's fast enough. The 6.5x55 has killed more Scandinavian moose than any other round. Intelligent case design means smooth feeding and efficient thrust in short barrels. Recoil is modest. Recently I carried a Swedish 1896 carbine for pronghorns. The 18 1/2-inch barrel and an aperture sight gave this little Mauser a wand-like feel. The effective reach of Norma's 120-grain Ballistic Tip load far exceeded my iron-sight range. A buck that allowed me too close on a rainy morning dropped summarily to one shot.



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As 6.5s proliferated in Europe, American shooters tried other sub-30 cartridges. Charles Newton, trained as a lawyer but immersed in rifles and cartridges, developed the .250 for Savage in 1913. Savage dubbed it the .250-3000 because its 87-grain bullet flew at an astounding 3,000 feet per second. About the same time, Newton also fielded a .25-06. With Fred Adolph, he fashioned other cartridges. In August 1914, he founded the Newton Arms Company, intending to build rifles from DWM Mausers. His timing couldn't have been worse: Germany went to war a day before the first shipment of Mausers was due. Not easily deterred, Newton designed a new rifle from scratch and loaded his own ammunition. He even came up with deep-driving softnose bullets for tough game. But Newton depended on Remington for brass. The initial production run of Newton rifles shipped in January 1917—just as America entered the war and the government seized control of ammunition plants! Making the best of bad luck, Newton tooled up to make cartridges. But in August 1918, banks supporting his venture sent it into receivership. He

Best 6.5?

The 6.5 Creedmoor ranks among Wayne's favorite cartridges. Here's why:

120 A-Max (Hornady)	Muzzle	100 yds.	200 yds.	300 yds.	400 yds.
Velocity, fps	2910	2712	2522	2340	2166
Energy, ft-lbs	2256	1959	1695	1459	1250
Arc, inches	-1.5	1.6	0	-7.1	-20.5

129 SST (Hornady)	Muzzle	100 yds.	200 yds.	300 yds.	400 yds.
Velocity, fps	2950	2756	2570	2392	2221
Energy, ft-lbs	2492	2175	1892	1639	1417
Arc, inches	-1.5	1.5	0	-6.8	-19.7

140 A-Max (Hornady)	Muzzle	100 yds.	200 yds.	300 yds.	400 yds.
Velocity, fps	2710	2557	2409	2266	2128
Energy, ft-lbs	2238	2032	1804	1596	1408
Arc, inches	-1.5	1.9	0	-7.9	-22.6



persevered with the Charles Newton Rifle Corporation in April 1919. A deal with Ed-dystone Arsenal to supply equipment fell through, however. Later he formed the Buffalo Newton Rifle Corporation to build and market rifles of his own design. It failed in 1929, shortly before Newton's death.

The ill fortune that dogged Charles Newton probably had nothing to do with the failure of 6.5mm cartridges to win the hearts of hunters stateside. Still...

The .256 Newton was the first commercial 6.5 sold in the U.S. It debuted in 1913. Unlike the .250 Savage, .25-06 and later .257 Roberts, it did not use a .257 bullet. Its original load was a 129-grain .264 bullet at 2,760 fps. With modern powders, you can easily add 150 fps. The .256 Newton had the .30-06's .473 base; at 2.44 inches, the .256 hull was about .05 shorter. A few years ago, talented rifle-maker Buzz Fletcher loaned me a Mauser he'd barreled to .256 Newton—a lovely rifle with the slim, elegant profile favored in Newton's time. I handloaded for it and found it a joy to shoot. Buzz eventually pried it away.

With .25s on one side and the .270 and 7x57 Mauser on the other, even the most endearing 6.5s had a devilish time wooing American hunters. Following World War II, surplus Swedish Mausers sold at steep discount, with battle-weary .303 SMLEs and 8mm Mausers. But no foreign round threatened the .30-06 or .270 in North American game fields.

Winchester's .264 Magnum, introduced in 1959, gave shooters a high-octane 6.5. Based on the belted .458 introduced three years earlier, the .264 Winchester Magnum is nearly identical to the 7mm Remington Magnum in profile. But instead of promoting its new round as a long-range cartridge for deer and elk—as Remington would later hawk its big 7—Winchester billed the .264 as a deer/varmint round. Rather than point out that the .264 shot flatter than a .30 magnum but kicked less (Remington would do that too!), Winchester came out with full-page ads showing the .264's muzzle end-on, with this caption: "It makes a helluva noise and packs a helluva wallop!" Shooters of that day were not impressed. Claims of rapid throat wear hamstrung the .264. The 7mm Remington Magnum almost killed it. Winchester put a nail in the coffin when it reduced .264 Magnum starting velocities in its ballistics tables from 3,200 fps to 3,030 for the 140-grain Power Point. "You might as well shoot a .270!" exclaimed shooters.

This bull dropped to Wayne's second shot from a 6.5 Creedmoor—marginal, he says, for eland.

An E.R. Shaw rifle in 6.5/284 shot this group for the author. Long actions get most from this round.

Actually, loaded to its potential and fired in a 26-inch barrel, the .264 Magnum can launch 140s faster than even the original factory claims. With slow powders like IMR 7828 and RL-25, I've clocked Sierra spitzers beyond 3,300 fps. No pressure signals. The superior ballistic coefficients of 140- and 150-grain 6.5mm bullets give the .264 Winchester an edge on Remington's 7mm Magnum at long range.

Remington tip-toed into 6.5 territory in 1966, with its 6.5 Remington Magnum. This belted round (with its sibling, the .350 Remington Magnum) appeared in the Models 600 and 660 carbines, built from 1965 to 1971. The 6.5 Remington Magnum has a 2.15-inch hull, compared to the .264 Winchester Magnum's 2.50-inch case (derived, like those of most of our belted magnums, from the 2.85-inch .375 H&H, circa 1912). Ballistically, the 6.5 Remington Magnum matches the .270.

The .260 Remington outperforms the Swede. Essentially the .308 necked to .264, it appeared in 2002. I suspect the .260's modest success at market is partly the fault of the 7mm-08, which preceded it by a decade and earned quite a following. With 120-grain



bullets, the .260 has an edge downrange. And 120s are all you need for deer-size game. On the final day of one Colorado hunt, I spied a group of elk on a far ridge. I sneaked to within 270 yards on an opposite rise, bellying the last yards in deep snow. Sling snug in prone, I triggered the Kimber 84M. A cow lurched, dashed downhill, then somersaulted to a stop in a cloud of snow. The .260 Remington shoots flat, delivers a lethal sting and babies you in recoil.

Inspired by its success in long-range target-shooting, a growing number of hunters are embracing the 6.5/284. VLD (very low drag) bullets have helped raise the profile of this round, which performs best in long rifle actions, where leggy bullets of high ballistic coefficient can be seated out. Norma and

Black Hills catalog ammunition for the 6.5/284. Lapua lists brass. My rack holds two rifles in 6.5/284: a heavy sporter with a Savage action and a fluted stainless barrel by E.R. Shaw, and a synthetic-stocked welter-weight by Ultra-Light Arms. Melvin Forbes at ULA designed his Model 20 action to accept mid-length rounds like the 7x57 and the .284 Winchester. Its magazine accepts 3-inch cartridges. Both these 6.5/284 rifles shoot nickel-size groups with hunting loads.

The most potent short 6.5 is the Lazzeroni 6.71mm Phantom, based on John Lazzeroni's rimless case trimmed to 2.05 inches. Head diameter is .580, keeping case capacity (and ballistic potential) close to that of the .264 Winchester Magnum. The 6.71 Lazzeroni is a factory-loaded round, but it's



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While 6.5s have been designed mainly for bolt rifles, the rising popularity of AR-15s has inspired new, smaller 6.5 rounds. The 6.5 Grendel, circa 2002, derived from the PPC Benchrest. Its 1.52-inch case is shorter than the .223's, but loaded length is the same. It was fashioned by Bill Alexander of Alexander Arms and by Arne Brennan, who'd chambered a prototype in an AR in 1998. (Lou Palmisano had set this stage in 1984 with the first 6.5 PPC round.) Les Baer's .264 LBC AR cartridge is essentially the Grendel under a different label. Chamber dimensions differ slightly. Both deliver fine accuracy. Using a bolt rifle, Arne Brennan fired a 600-meter group with the Grendel that miked less than 1.2 inches! Velocities reach 2,500 fps with 129-grain bullets.

The most recent 6.5 of note is the 6.5 Creedmoor, announced in 2009 and named for the famous New York shooting range on Creed's Farm that once hosted long-range rifle competition. Dave Emary, senior ballisticsian at Hornady and veteran cartridge designer, tapped competitive riflemen for new ideas. An accomplished 1,000-yard marksman himself, Emary necked the .30 T/C hull to .264. The shoulder on this compact case is well to the rear, to help with long bullets in short actions. Powder technology from

Hornady Superformance ammunition gives the Creedmoor speed to match the .270's at distance. Truly versatile, the Creedmoor has more bite than the 6.5x55, is better suited to VLD bullets than the .260.

I learned about the 6.5 Creedmoor by way of a rifle from Todd Seyfert at Magnum Research. The Remington 700 action wears a carbon-fiber barrel with a Kreiger stainless core. GreyBull Precision added a stock and a modified 4.5-14x Leupold scope. Its 1/3-minute elevation dial is calibrated specifically for the 129 SST in the 6.5 Creedmoor. "You shouldn't have to hold over," said GreyBull's Don Ward. "Spin the dial to the correct range setting and aim dead-on." Prone with a sling, I was soon banging steel out to 500 yards. Friend John Burns then called a coyote across a New Mexico mesa. At 250 yards from the sit, I slid a 129-grain SST through its ribs. The coyote dropped without a twitch. Next up: elk.

Some hunters consider .270-class cartridges marginal for elk. And though I had killed them with the 6.5x55 and the .260, bullet placement does become increasingly important as payload shrinks. I gave this 6.5 Creedmoor rifle a good workout at 500-yard gongs, but promised myself close shooting at game. Alas, when Ray Milligan (Milligan Brand Outfitting) spied a bull, there was no approach. "Your call," he whispered. "But the air is dead-still." I snugged the sling, settled

into prone and cranked up the scope's elevation dial. The bull showed me his forward ribs, spot-lit by a sinking red sun. I crushed the trigger. The elk sun-fished and sprinted, then crashed into the sagebrush. The shot was twice as long as any I had attempted at elk in 35 years of hunting. Still, the SST had hit within a hand's breadth of my aiming point.

Ruger 77 and No. 1 rifles in 6.5 Creedmoor, then a South African hunt with a Thompson/Center Icon, have further endeared this cartridge to riflemen. With a T/C I dropped a vaal rhebok at 250 yards. A mountain reedbuck dropped as if struck by a train. I found the Creedmoor's limit with an eland.

The bull had taken my 120-grain GMX in the near lung. The angle was near-perfect, my shot sent to the off-shoulder. Unlike the bedded eland that had denied me a shot, this one had shown me just what I wanted. The great splayed prints led us up into heavier thorn. An hour passed; we kept to the track. Then, a stone's toss ahead, spiral horns moved above the canopy! We raced forward. The bull dashed away into a canyon, then suddenly reappeared, lunging up the far side. "Two hundred," hissed Andrew. Dropping the rifle onto the sticks offhand, I fired. Behind! I flicked the bolt, shot again as the bull vanished.

We found him dying. I stood to the side. My final bullet had driven forward from between the hams, slicing the dorsal aorta near the spine. "A perfect hit," said Andrew. We both knew it was a lucky shot. "Eland take some killing."

There's no magic in bullets .264 in diameter. But for all but the heaviest game, the 6.5mms have proven themselves capable. The 6.5x55, .260 Remington, 6.5 Creedmoor, 6.5/284 and .264 Winchester Magnum, especially, deliver a most useful combination of bullet weight and speed. Civil recoil, even in rifles trim enough for long carries, mark the first three. The remaining two send bullets on flatter arcs than the fabled .270, with enough downrange punch for elk.

The greatest challenge I've yet given a 6.5 was a beef-size steel slab, hung a measured mile from a bald Wyoming ridge. A Remington-based .264 Magnum, built by GreyBull, was stuffed with handloads sporting VLD bullets long as knitting needles. I leaned into the sling, watched my pulse subside, felt the zephyrs shift from two o'clock to twelve, then die. The rifle spat.

I missed. Then I missed some more. When at last a faint wink in our powerful optics showed the brief wiggle of steel, my partner allowed, straight-faced, that his load was finally figuring out the wind. ■



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