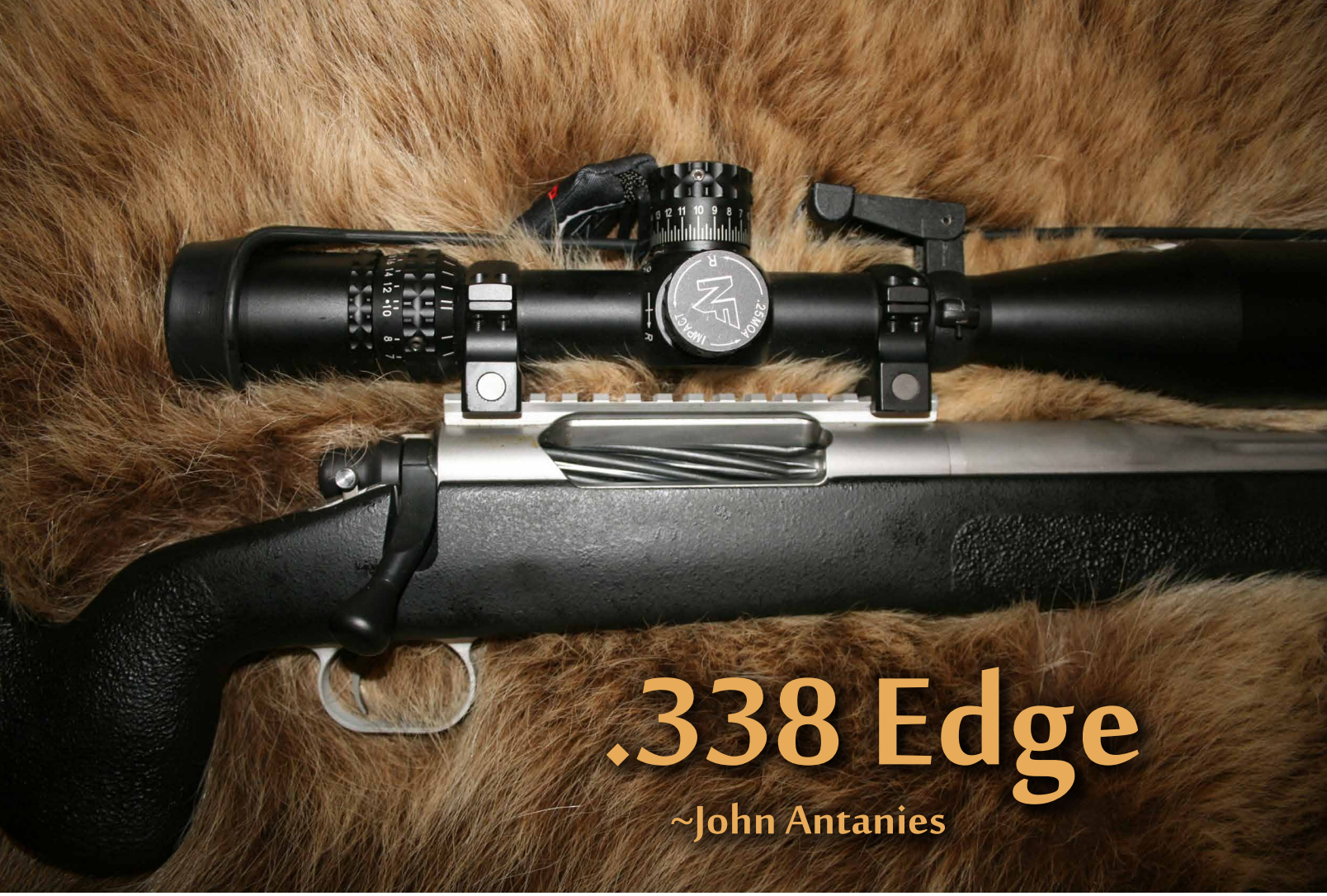


.338 Edge

~John Antanies

For a long time, I have written the key to long-range shooting is learning to dope the wind. Errors in doping wind are just about the only reason I miss long-range shots these days. Although technology is progressing, we still do not have an affordable lightweight instrument that measures the wind speed all the way to the target. Rangefinders obviated the need for flat trajectory but even if we knew the true value of the wind all the way to the target, shooting bullets with a high ballistic coefficient is still vital for long-range hits.

Readers who need to brush up on the importance of ballistic coefficient can visit my newly redesigned website www.envoyoutdoors.com. That website contains many of the stories previously published in The VARMINT HUNTER Magazine®; if you search for "high ballistic coefficient" you will find over a dozen stories that mention it. The best way to cheat the wind is to shoot bullets with high ballistic coefficients, which in my opinion start with G1 BCs over .5. The problem with these bullets is that muzzle velocity normally is much lower than lighter pills; inexperienced shooters, thinking velocity is key to everything, opt for bullets with low BCs but which can be launched like a rocket.

Author's .338 Edge is built on a Stiller action featuring a fluted bolt, Lilja barrel, McMillan stock, and Jewell trigger. Gordy Gritters did the 'smithing.

As I have recounted before, my first lesson in high BCs came when I noticed my .220 Swift dropped a lot more in the winter than a 7mm Rem Mag that I was shooting. The reason? I was using 52-gr. bullets – not only does a low BC require more wind compensation, it also is more adversely impacted by changes in temperature. I sent the rifle to Shilen and had them install a fast twist barrel. Not only did heavy bullets dramatically reduce increased drop at colder temperatures, but the drift, shooting 80-gr. Hornady A-Max bullets, was cut in half.

Soon after the .300 Remington Ultra Mag came out, I tried three different rifles chambered in that caliber. Two remain favorite long-range rifles while the other has been relegated to big game hunting such as plains game in Africa, mule deer, antelope, etc. It makes a great 500-yard gong rifle, but it isn't fit for rockchucks or other long-range varmints.

As great as the .30 caliber is, it has suffered from a lack of bullets with BC proportional to their weight. Brian Litz documents this in his book "Modern Advancements In Long Range Shooting." Consider the 6.5mm 142-gr. Sierra Match King bullet. If you scale that bullet down to .224 caliber, you end up with an 89-gr. bullet – essentially the 90-gr. .224 bullet. If you scale that bullet up to 7mm it would weigh 177-gr. – essentially the same as the Berger 180-gr. VLD, the Sierra 175-gr.. MK, and the JLK 180-gr. VLD. Scale that bullet to .338 caliber and you have a bullet that weighs 299-gr. – and there are lots of bullets at that weight range. Scaling up to .30 caliber and we get a bullet that should weigh 229-gr. How many bullets

are that heavy? Not many and one that is, the 240-gr. Sierra Match King, is a rather short bullet with a BC less than one that befits a bullet of this weight in this caliber. I really thought about 6.5-284 for my next long-range rifle, but I decided to step up above 30 caliber, frankly, because there hasn't been much documented on them in VHM.

Some shooters move up to the .406 Chey-Tac or the .50 Browning machine gun. These cartridges certainly launch bullets with high BCs reasonably fast. And while the recoil is tremendous, it can be tamed using muzzle brakes. What is difficult to avoid is heavy weight. With that in mind, I decided to move to a .338 caliber. The bullets offered in this caliber could be the best there is for long-range shooting.

I love the .338 Winchester Magnum for big game; 225 Barnes Triple Shocks really do wonders. I have always viewed the 250-gr. as pretty heavy in that caliber, and back when I was a kid and Barnes was better known for "heavy for caliber" bullets, the 275-gr. seemed like an artillery shell. But the advent of larger .338 cases such as the Lapua, the Remington Ultra Mag, and the Edge have completely changed the game. Far from being strictly an elk and big bear cartridge, the new big case .338s really shine when it comes to long-range shooting. But the leapfrog in performance comes with a cost – a heavier rifle and more recoil.

Deciding that my new girlfriend would be .338 caliber, the next decision involved the cartridge to use. There are three commercial large case .338s available and one wildcat. I first considered the .338 Remington Ultra Mag. As I said, I have three .300 RUMs and find them all quite accurate. It has the advantage of using a standard magnum bolt face as well as widely available brass. I thought about the .338 Lapua, but since I wanted to also wring out the Savage Model 12 FCP, I thought it best to pass on the Lapua and save it for the Savage story. The other issue with the .338 Lapua is that it has a case head larger than conventional magnums. I briefly considered the .338-378 Weatherby, but I could not find many long-range shooters using it, so in the end I passed on it.

My choice was a wildcat, the .338 Edge, the brainchild of Shawn Carlock. The .338 Edge is an improved necked up .300 RUM. It has developed quite a reputation with many long-range shooters. The fact it uses the same rim size as the RUM magnums meant I would have wide availability when it came to choosing an action as well as brass.

First shot at 800 yards drifted about half the distance for which the author held.

The next step was choosing an action. There are lots of great actions out there, but in the end I chose a Stiller Predator action. The Stiller is a stiff action and yet reasonably light. Barrel choice was Lilja, for the simple fact that I have used a lot of Shilen barrels and I thought it was time to try something else in the interest of good reporting. The stock choice was McMillan, and for a trigger I chose a Jewell.

Selecting a scope was another easy choice. I thought about getting a US Optics, since many F Class shooters

The shot near the circle is a 300-gr. Berger from the Stiller Edge; the one to the left is a .300 RUM. Author held the same for the wind. Circle is about 2.5 inches.

Hornady 285-gr. A-MAX bullets over 89.5-gr. H1000 produced this three-shot group at 500 yards.

at the Phoenix Rod and Gun Club use these, but in the end I decided to use Nightforce NXS 5.5-22x scopes. They had two that had been booth models for trade shows, and I bought two "used" although they certainly seemed brand new to me. One scope has an NR-2 reticle, which has 2 MOA windage lines and 1 MOA elevation line. The other scope has a MOAR reticle, which offers a finer floating crosshair that subtends 1 MOA for both windage and elevation. There is then a 1 MOA "gap" and the reticle becomes solid with 1 MOA hash marks. I chose to use this scope on the Stiller rifle, largely because I have written about the NR-2 reticle in the past.

My gunsmith for this project was Gordy Gritters. Gordy has done a lot of work for me in the past; my .220 Swift and .300 RUM project rifles shot exceptionally well, so I couldn't wait to see what would happen with a custom action.

Incidentally, some of the suppliers I chose offered to give me product free in the interest of publicity, but I insisted on paying so that I had some skin in the game. I did get discounts on some of these items.

While Gordy was busy assembling the rifle, I called Redding to order some dies. Robin Sharpless informed me that while they supply die bodies for the .338 Edge, Shawn Carlock's company, Defensive Edge, machines the dies to their specifications. I also ordered 200 cases of Beltram brass.

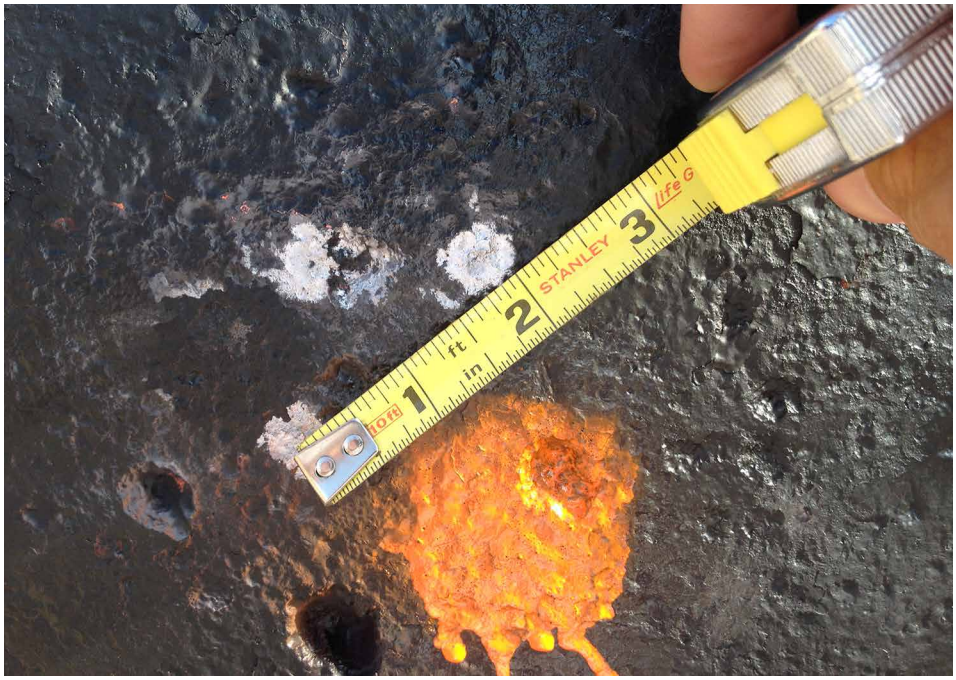
My original intention was to use the Sierra 300-gr. MatchKing, since I have a box of 500 of these bullets dating back over a decade. I also ordered 285-gr. Hornady A-Max bullets, and 250- and 300-gr. Berger bullets.

I started load development using the 300-gr. Sierra bullets over various charges of H1000, which seems to be the gold standard when it comes to .338 Edge loads. I resized the Beltram brass and standardized the flashholes, but did not neck turn the brass because I didn't have a .338 pilot for my Forster case trimmer. I had provided two cases to Gordy for smithing purposes and he sent one back drilled and tapped for a Hornady Lock-N-Load Overall Length gauge (formerly Stoney Point), which is used to determine overall cartridge length so that a given bullet is just touching the lands.

The Hornady tool consists of a metal tube threaded on the outside at one end; you screw this into the base of a cartridge case drilled and tapped specifically for this tool. You then push a metal rod into the other end of the tube until it is about ½ inch below the case neck. After that, place a bullet in the case and carefully insert the tool into the rifle's chamber. Next, you push the rod into the chamber until it will not travel any farther and then lock the rod in place using a set screw on the metal part of the tube. You then retract the device and tap the bullet out with a cleaning rod. You place the bullet back in the case with the OAL gauge still attached and then measure the overall cartridge length. Repeat four times and take the average to establish the length at which the bullet touches the lands.

I cross checked the OAL gauge with another technique: I checked chambering effort with the firing pin removed from the bolt. This proved a bit tricky, since I had a problem with my factory cases chambering hard even after resizing – apparently my chamber was pretty tight. More on that later.

I did exactly this and then loaded up some rounds using loads provided by other .338 Edge shooters. I sub-



This is a 500-yard group shot on a steel gong. Load was 89.0-gr. H1000 with a 300-gr. Berger Elite Hunter.

tracted a few grains from their loads and cross-checked them with data from the .338 RUM. The first shot out of the new Stiller almost required me to have a gunsmith pop the barrel a quarter turn. Subsequent loads with even less powder still proved too hot. I decided to cut way back and seat the bullets much deeper. I also switched to the 285-gr. A-Max bullet.

The A-Max over 89.5-gr. gave me 2.5 inch three-shot groups at 500 yards. Higher charges caused vertical stringing, but I didn't spend a lot of time optimizing OAL – I wanted to try the 300-gr. Berger.

The 300-gr. Berger bullet is a work of art. Long and sleek, it is a Ferrari where all other bullets are Volvos. Shiny as gold, it is almost too much to bear to load them and shoot them. Like beautiful daughters who find their life's mate, letting go is hard but the right thing to do. And so I cracked into the box of 300-gr. Bergers and started down a decadent path.

Like the Hornady A-Max bullets, I was plagued by high pressures and poor accuracy. But as I seated the bullet deeper into the case, accuracy began to improve. I also decided to create my own brass using Nosler .300 RUM factory brass. I began by neck turning the brass and then running it through the sizing die with a special expanding collet designed specifically for this purpose.

I used a Markell Magneto Speed Chrony to measure muzzle velocity. This is a unique tool that uses the physical principal that a conductor spinning generates an electrical field. It consists of a bayonet-like device that attaches to the barrel. A cable connects the bayonet to the microprocessor and electronic display. Long story short: you can easily use this at a public range where setting up a standard chronograph is difficult.

I thought 89.5-gr. of H1000 under a 300-gr. Berger with a Remington 9½ M primer was the magic load but brass life proved too short. I cut the load to 89-gr. Were four-shot groups into ½ MOA at 500 yards the best it could do? I don't know, but I couldn't wait to take that load out into the desert and shoot it at 800 yards. Velocity was 2733, which may not sound impressive to a varmint hunter used to shooting hot .17/.20/.22 centerfires, but the proof is in the pudding.

I recently wrote about the Gunwerks G7 BR2 rangefinder. This rangefinder not only compensates for angles, temperatures, and barometric pressures, but it allows shooters to input muzzle velocity, scope height above the bore, and most important, bullet velocity and BC. I ranged a rock 802 yards away, came up the appropriate number of clicks, and let 'er fly. My first shot at 800 yards nearly hit the 3-inch aiming circle.

I have now shot the .338 Edge at 800 for about three months. I am very impressed with the 300-gr. Berger bullet – it has a G1 BC of .818 and a G7 BC of .419. At 800 yards, wind deflection is only 1.5 MOA in a 5 mph wind and 3 MOA in a 10 mph wind. My .300 RUM, firing 180-gr. Nosler BTs at 3,350, has a 2.4 MOA wind deflection at that range. My first shot hit rate at 800 yards on a 10 by 10 inch target is just above 90% - and that is shooting sitting with a Harris bipod. Granted, I haven't held more than 3 MOA for windage (this time of year is not too windy in AZ), but I will say my light winds are the trickiest – my last miss came when the wind appeared calm, but in fact I hit 2 MOA right with a dead-on hold. Even though the wind was calm at my site, there was a slight mirage left to right. Follow-up shots using a 1 MOA hold into the mirage resulted in hits, so I have to wonder if I misjudged the wind or simply had a flyer to the right.

The .338 Edge is really impressive; I have used various 7mm and 300 mags for quite some time, but they are left in the dust when compared with the .338 Edge. For big game hunting, the .338 Winchester Magnum is a favorite; I think it is more versatile than the .30-06. But it does have its drawbacks, namely recoil. My favorite .338 Win Mag load for big game hunting is a 225 Barnes Triple Shock over 74-gr. H4831. I have shot African lion, leopard, elk, grizzly bear, and moose with this load, my latest being a big six by six bull in Idaho three weeks ago as I pen these lines. Anyone who has used a .338 Win Mag knows the recoil is stout. Well, now imagine launching a 300-gr. bullet as fast as the Win Mag launches a 225-gr. bullet – we are in a whole new class of recoil. Even with the Vais muzzle brake, the recoil is formidable – the scope often smacks my shooting glasses when I use my bipod sitting position. It is quite manageable from the prone or bench, but it is really pushing the recoil envelope – even for those who would rather kill one rockchuck at 800 yards than 200 PDs at 200 yards. When it comes to long-range shooting, I think big .338s are the way to go, but if you hate recoil, I think this cartridge crosses the threshold of sanity.

So where do I go from here? Moving up to the .408 CheyTac seems appealing, but the recoil would prevent me from using my bipod sitting position. Kirby Allen's .338 Allen Magnum, when placed next to a .338 Lapua, looks like a .300 RUM next to a .308 Winchester. It launches a 300-gr. bullet at 3350 fps!

I intend to continue writing about long-range shooting in VHM, and rest assured, I will continue to shoot the .338 Edge along with my other rifles and let you know if my opinion changes. But so far, I love the big .338s – enough to try the Lapua next.

As always you can contact me at antanies@envoydevelopment.com. And be sure to visit my website www.envoyoutdoors.com.