Early Big Bores in North America

SPOTTING SCOPE by Dave Scovill

The evolution of big-bore rifles and cartridges in North America in some ways parallels the development of large-bore African cartridges, albeit the megafauna on the Dark Continent fairly dwarf larger game found in the lower 48, Canada and Alaska. This also explains why the largest rifles in the early days of sporting hunting – and poaching – in Africa maxed out with the hoary 2-, 4-, 6-, 8- and 10-bores (gauges), while the largest sporting rifles in the muzzleloading period in North America reached their peak at about .75 caliber, effectively a 10-bore. Either way, the common denominator on both continents in the early black-powder, muzzleloading era was big, heavy lead alloy bullets backed up by heavy charges of black powder that might be best measured by the handful.

In the early days of the black-powder cartridge era, the size of the cartridge was limited by the size of the rifle that could handle the shock produced by large charges of powder required to produce acceptable performance in the caliber of interest. In the United States and Canada, the American bison dictated power requirements that were defined for the most part by Sharps and Remington single shots, and in the early days of what would ultimately become the near eradication of the plains buffalo, the U.S. Springfield .50-70 trapdoor.

By 1873, the .45-70 became the military standard, sufficient to shoot the horse out from under a mounted combatant, but also it was suitable for relatively long range against entrenched troops. Originally known as the .45-2.1 Sharps with a 400- to 500-grain lead alloy slug, the .45-70 set the standard for the medium big bore in North America. By African standards, similar cartridges were relegated to plains game not much larger than the North American elk, or moose, and not quite up to snuff for potentially dangerous game on either continent.

Above, the .475 Turnbull with a 450-grain cast bullet (center) is shown with a 400-grain Barnes Triple-Shock (left) and Barnes banded solid (right). Right, Dr. Jeff Rogers is shown with a Model 1886 .475 Turnbull that was used to take this "management" problem white rhino.

For the largest, most truculent game, the North American standard became the Big .50, either the .50-90 Sharps or Winchester's .50-100-450, which were similar in terms of case capacity but vary somewhat by bullet weight. Owing the limited powder restrictions associated with the toggle-link action of the Model 1876 Winchester, the .50-95-350, circa 1879, was phased out in favor of the more powerful .50 calibers.

The standard bullet weight in the .50-90 Sharps was 473 grains while Winchester's .50 Express featured a 300-grain hollowpoint slug that wasn't much heavier than a round-ball in the same caliber. Winchester added the .50-100-450 to the cartridge lineup for the relatively new Model 1886 lever acton in 1895 with a 450-grain lead alloy flatnose bullet seated over 100 grains of black powder. With a listed velocity of 1,475 fps, it was designed for crushing power at modest ranges, while lighter bullets at higher velocities in the .50 EX and the .50-95 WCF provided somewhat flatter trajectory over extended ranges. (For comparison, an RCBS 450-grain, .514-inch cast bullet seated over 105 grains of Swiss 1½ Fg averages 1,473 fps from a 25-inch barrel.)

With acceptance of the .45-70 Government in 1873, and the established big-bore standard in the .50 calibers, the assortment of .40s and .44s slowly disappeared, albeit a number of buffalo "runners" continued to use them until the bison herds were nearly vanquished.

With the success of the Winchester and Marlin, lever-action repeaters were in large demand. Winchester struck gold with the

The Model 1886 Winchester (circa 1891) is a full-size rifle with a button magazine and half-round, half-octagonal barrel of the style preferred by tiger hunters in India. The Extra Lightweight takedown (right) is much lighter and handier, circa 1902 and later.

Model 1886 that could handle all the most powerful cartridges of the period, including the .45-70,

The .50-90 Sharps (left) is shown with the .50-100-450 WCF (center) and the .50-110-300 WCF, aka .50 EX, (right) with an original 300-grain cast hollowpoint.

The C. Sharps Model 1874 (left) is of the type used by buffalo "runners." The Springfield Officer's Model .45-70 (center) and the Winchester Model 1885 .45-90 WCF (right) came along after the buffalo were nearly gone.

.45-90 and .50s. The significant difference between the single-shot cartridge and its lever-action counterparts was the bullets for the latter were limited in size (diameter), length and weight by the length of the rifle action. So where the Sharps, for example, could chamber and fire the .45-70 Government cartridge with either 405- or 500-grain roundnose bullets, tubular magazines that are common to lever-action rifles required flatnose bullets, and ammunition was headstamped either .45-70 Marlin or .45-70 WCF, albeit both loads were manufactured by Winchester.

Since the original Marlin Model 1895 had a longer action than the present-day Marlin of the same model number, it was also adaptable to most of the 2.4-inch Winchester cartridges, including the .40-82 and .45-90. On the other hand, the barrel thickness over the chamber on the Marlin was insufficient to accommodate the 2.4-inch .50 calibers known variously by .50-100, .50-105 and .50-110, depending on the powder charge and bullet weight. Currently, some custom-gun outfits build lever-action rifles for the .50 Alaskan that is based on the .348 WCF case, which in turn is based on the .50 EX of 1887, in modern Model 95 Marlins. Custom rifles can also chamber the .450 Alaskan that can be made from .348 WCF or .50 EX brass that is necked down and trimmed to proper length. Currently, .50 and .450 AK brass is available from Starline and ammunition is produced by Buffalo Bore.

That .450 AK was the brainchild of an Alaskan gunsmith, Harold Johnson, who bored out Winchester Model 71 .348 WCF barrels to .458 caliber. Johnson's wildcat boosted a 405-grain bullet up to 2,000 fps in a 24-inch barrel, outclassing any big-bore, brown bear cartridge available from domestic factories at the time. In the last 20 years or so, the .348 WCF has been used to form a variety of wildcats, including .375, .416 and .44 calibers.

At least two other "medium" bores, that while they might not quite match up to some folk's definition of African dangerous game standards, qualify for North America's largest game. Both cartridges appeared in the Model 95 Win-

Mark Harris, former Wolfe Publishing president (left), and Dave pursued this big shaggy for several hours across the foothills near the Idaho-Montana border.

Ben Stevenson (Sheep River Hunting Camps, PO Box 87-5149, Wasilla AK 99687) used a Browning Model 71 .375 Alaskan to back up clients on hunts for brown bear, moose and Dall sheep.

chester, circa 1903/4, the .35 WCF and .405 WCF. In typical fashion, as required by iron sights, ammunition was loaded with a single bullet weight, 250 and 300 grains, respectively, both at roughly 2,200 fps from a 26-inch barrel. Theodore Roosevelt made the .405 WCF famous when he took it to Africa in 1909, regarding it as his "lion medicine," but the .35 WCF languished on the vine until it was replaced by the Winchester Model 71 .348 WCF in 1935 that reportedly developed upwards of 2,320 fps and nearly 3,000 ft-lbs of muzzle energy with a 250-grain bullet, although factory loads fell short of that claim.

Nevertheless, the .348 WCF was highly regarded as a fine cartridge for most of North America's largest game, including elk and moose, but recommendations softened when it came to stopping big bears. With modern premium bullets, aka Swift, Barnes and Nosler, the .348, .35 and .405 WCFs are quite capable of taking anything in North America.

While big-bore, lever-action repeaters aren't commonly associated with Africa, a considerable number of Winchester Model 1886 rifles ended up in southern Africa and India prior to the advent of the Model 98 Mauser. Those that were chambered for the .40 to .45 calibers went to the Dark Continent and were largely used by ranchers and farmers to provide meat for the table, but they served equally well against cattle-killing cats. The .50-110-300 Express rifles were favored in India as tiger *Howdah* rifles and were, for the most part, of a common type preferred by British sportsmen at the time, including half-round, half-octagonal barrels and "button" (short) magazines.

The most recent addition to the lever-action, big-bore lineup is the .475 Turnbull that has been proven against the world's largest and potentially most dangerous game in North America and Africa. The .475 is based on the little-known experimental .46 WCF that Winchester fashioned from the .50 EX case, circa 1910, and pushed a 380- to 400-grain bullet upward of 2,400 fps from a Winchester Model 86 carbine with a 22-inch barrel. An apparent attempt to get around the ban on .45-caliber rifles in some British protectorates in the early 1900s, the .46 WCF never progressed beyond a few experimental case designs when it was dropped in 1910. No wonder, since the .46 WCF proof load generated upward of 62,000 CUP!

Back in 2010 when I took a Winchester Model 1886 .50 Black Powder Express to Zimbabwe to hunt with Professional Hunter Martin Pieters, it was apparent that none of the customs officials or authorities in South Africa or Zimbabwe had ever seen such a rifle. Martin was vaguely aware of its connection to colonial Africa but questioned whether it was capable of taking Cape buffalo. We resolved that question, which led Martin to ask if it might be suitable for elephant. Three years later the rifle was outfitted with a new .475 Turnbull takedown barrel, and the elephant question was answered, twice, with a bull hippo tossed in for good measure. So for now at least, after a lapse of some 140 years or so, the big-bore lever action has returned to the Dark Continent.

The most influential factor associated with modern lever actions on this continent and elsewhere is the vast improvement in bullet design. Early on, most lever-action cartridges featured lead bullets seated over black powder. The onset of smokeless powders and higher velocities brought on the need for tougher bullets that could withstand the correspondingly higher impact velocities, especially when used against heavier game. Nowadays, we can almost take it for granted that the newer premium bullets – bonded, lead-core designs and solid copper, bronze or gilding metal – will punch through the meanest, nastiest and/or largest game on the planet.