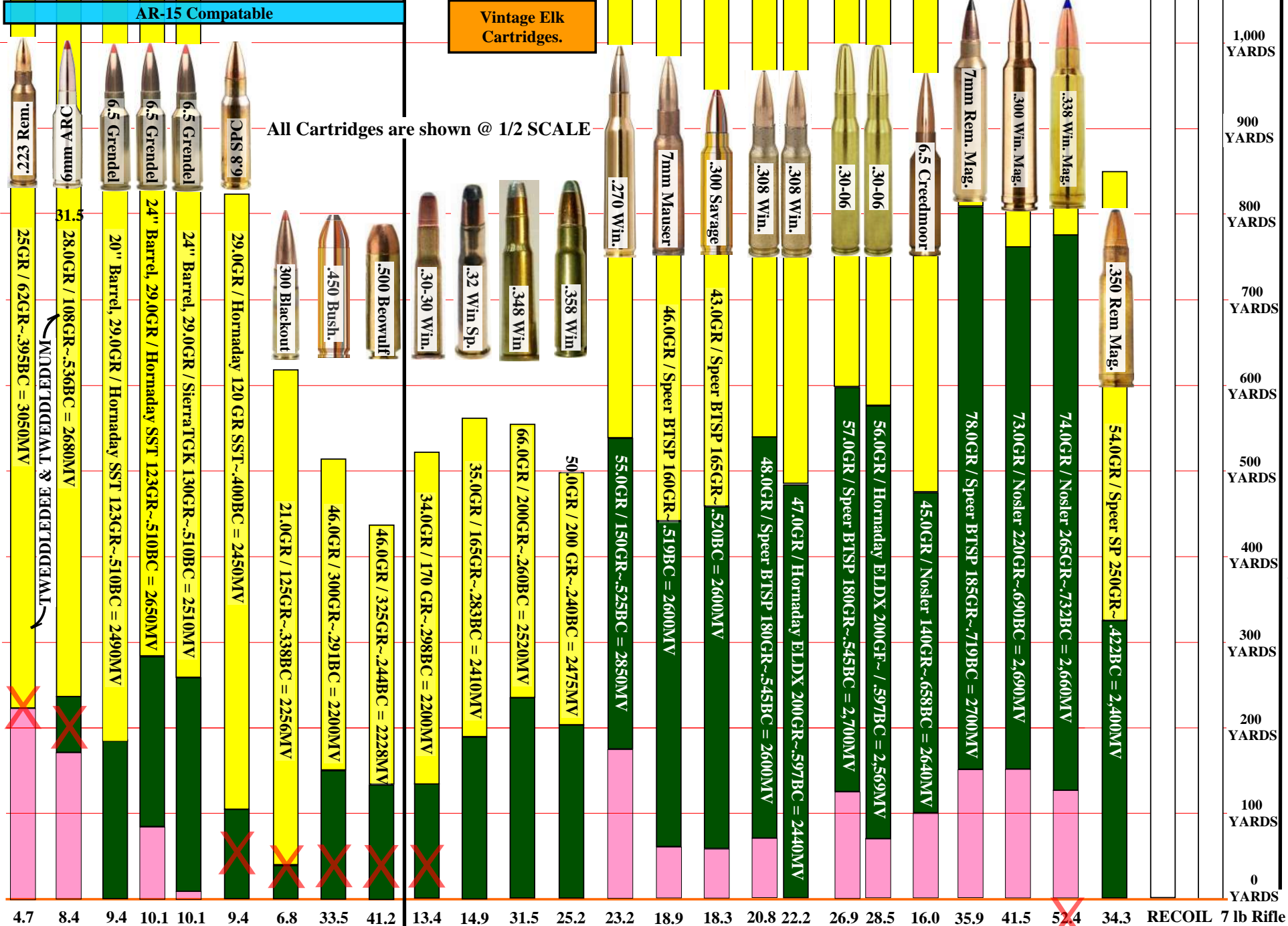


Note: At no time does the .223 have the energy to penetrate big game, but it does have the velocity to cause extensive bruising and maiming. The only AR-15 platform cartridge that exceeds and matches the three shown vintage elk cartridges is the 6.5 Grendel.



BULLET KILL ZONE FOR ELK & NILGAI ANELOPE

LEGEND

- Wounding and maiming zone. Bullet lacks power to penetrate and/or expand. From 1800ft/sec or 1300ft/lb/ (which ever is lest yardage) →1125ft/sec. (sound barrier).
- Clean Kill Zone: 2500 ft/sec → 1800 ft/sec or 1300ft/lb (which ever is lest yardage).
- Above 2500 ft/sec., due to V.P.I., there is extensive destruction of meat This is the Neck Shot Zone.

PARAMETERS

- Vascular Pressure Impulse operates above 2500 ft/sec, causing extensive destruction of meat. Upper red limit/ lower Green limit is 2500 ft/sec.
- Upper Green limit is a function of either 1800 ft/sec or 1300 ft/lb, which ever yields the lower yardage.
- In the yellow bar, the upper yardage of the bruising, maiming, and wounding zone is a function of 1125 ft/sec (the speed of sound). Slower than 1125 ft/sec and the bullet becomes unstable and is not likely to hit the elk.

HOW TO SOLVE FOR PARAMETERS.

- Pick out the cartridge and bullet that you want to use.
- From reloading manuals or manufacturers web sites, find the muzzle velocity, ballistic coefficient and powder charge.
- Open the Calculator at <https://www.hornady.com/team-hornady/ballistic-calculators/#1/>.
- On the Hornaday Ballistic Calculator mark the "interval" as 25 yards, enter the B.C., velocity and bullet weight, and just for ease of comparison, mark the zero range as 200 yards. Leave all of the other settings at their default value. Punch the "Calculate" bar.
- In the 2nd column pick out 2500 fps and note the yards in the 1st column.
 - In the 2nd column pick out 1800 fps and note the yards.
 - In the 3rd col. pick out 1300 ft/lb and note the yards.
 - "a" will be the lowest point of the green zone (it is often zero). Either "b" or "c", whichever has the lowest yardage, will be the top of the green zone.
 - The top of the yellow zone is the yardage at which velocity falls to 1125 ft/sec. (speed of sound).
- From <https://shooterscalculator.com/recoil-calculator.php> open the Recoil Calculator. Enter the muzzle velocity, bullet weight, powder weight and weight of the rifle.

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