



TOM CERETTO EVALUATES THE BENEFITS

PICTURE CREDIT: TIM WOODHOUSE

The 1 $\frac{1}{8}$ ounce maximum shot charge was set over a century ago for the 10 gauge shotgun. In most, but not all shooting sports, we still adhere to this rule even though the 10 gauge was banned from trap (and consequently all shooting sports) in the early part of the 20th Century. The question is: Why do we still adhere to this rule when it isn't necessary to do so, and is potentially detrimental to shooting sports?

A couple of years ago I decided to do a comparison of 1 ounce and 1 $\frac{1}{8}$ ounce loads. I hand loaded both loads with the same case, primer, wad and powder at 1,200 fps and shot several patterns with each load. The results were surprising – even though I suspected that the 1 ounce load would hold up very well in the comparison. What I found was that the 1 ounce load delivered only ten pellets less (on average) in a 30 inch circle at 40 yards than a 1 $\frac{1}{8}$ ounce load. I was not totally surprised by

that – after all, the 1 $\frac{1}{8}$ ounce shot charge starts out with sixty more number 8 pellets than the 1 ounce shot charge.

What really surprised me was how much more efficient the patterns from the 1 ounce load were. Patterns showed much better pellet distribution than the 1 $\frac{1}{8}$ ounce loads in both the inner core 20 inch circle and the 30 inch annular ring. Most of the annular ring pellet holes from the 1 ounce load were close to the 20 inch circle I had drawn on my 45 inch kraft paper. The pattern results from the 1 $\frac{1}{8}$ ounce loads showed holes in both the inner core and the annular ring. The pellet holes in the annular ring were scattered about the 30 inch fringe, rather than the 20 inch inner core perimeter.

After my first foray into my 1 ounce versus 1 $\frac{1}{8}$ ounce load comparison, I decided the following spring (it's too damn cold to pattern

in Wisconsin in the winter) to repeat the exercise with factory loads. Chart #1 (overleaf) shows the results of that exercise.

LESS CAN BE MORE

I then decided to look for some historical reference to back up my assumption that 'less can be better than more' when it comes to competition loads for the shooting sports. The first comparison I made was what transpired in Olympic Trap, Double Trap and Skeet when the shot charge was lowered to 28 gram (1 ounce) and later to 24 gram ($\frac{7}{8}$ ounce). I found that scores actually went up rather than down. My conclusion was that the improvement was the result of more efficient patterns and less shooter fatigue from recoil from the lighter more efficient loads over the span of highly contested competitions.

The next shooting sport to drop

shot charge weight was Parcour de Chase, better known as FITASC – a sport that ranks right up there with 27 yard trap in difficulty. Fifty yard right angle crossing shots are not uncommon in FITASC. The drop in shot charge weight was more dramatic in FITASC than in Olympic Trap and Skeet, from 1 $\frac{1}{4}$ ounces to one ounce, a full $\frac{1}{4}$ ounce reduction. The evidence is that scores have not diminished over the last few years. In fact, they seem to be slightly higher, but I will readily admit that is difficult to quantify because every FITASC course – unlike Trap and Skeet – is different in almost every element from terrain to the target setters skill and/or level of sadism.

Another example was that the National Sporting Clays Championship was won some years ago by a competitor using 24 gram ($\frac{7}{8}$ ounce) International loads on over half of the targets he shot, and 1 ounce loads on the balance of

CHART 1: PATTERN PERCENTAGES AT 40 YARDS
1 OZ. #8 SHOT 1,185 FPS • FULL CHOKE • 0.034"

Pattern	Inner Core	Annular Ring	30" Circle
1.	212/66%	107/34%	319/78%
2.	187/65%	112/37%	299/73%
3.	180/60%	120/40%	300/73%
4.	199/69%	108/35%	307/75%
5.	189/63%	112/37%	301/74%
Total	967/63%	559/37%	1526/75%
Average	193/63%	112/37%	305/75%

PATTERN PERCENTAGES AT 40 YARDS
1 1/8 OZ. # 8 SHOT 1,200 FPS • FULL CHOKE • 0.034"

1.	217/67%	109/33%	326/71%
2.	198/65%	107/35%	305/66%
3.	198/63%	116/37%	314/68%
4.	200/64%	113/36%	313/68%
5.	206/65%	111/35%	317/69%
Total	1019/65%	556/35%	1575/68%
Average	204/65%	111/35%	315/68%

Difference +52/+5% -3/-0.005% +10/+3%

CHART 3: LEAD SHOT VELOCITY & ENERGY AT: 1, 20, 30 & 40 YARDS
SAMMI EXTERIOR BALLISTICS CALCULATOR 4.01 BETA VERSION

	VELOCITY IN FEET • SEC.				ENERGY IN FT • LB			
	1 YARD	20 YARDS	30 YARDS	40 YARDS	1 YARD	20 YARDS	30 YARDS	40 YARDS
#7 1/2 LEAD SHOT								
1300	918	773	658	4.66	2.32	1.65	1.19	
1250	894	754	644	4.31	2.20	1.57	1.14	
1200	868	735	629	3.97	2.08	1.49	1.09	
1150	842	715	612	3.65	1.95	1.41	1.03	
1100	814	694	595	3.34	1.83	1.33	0.98	
#8 LEAD SHOT								
1300	904	756	640	3.96	1.91	1.34	0.96	
1250	880	738	626	3.66	1.82	1.28	0.92	
1200	855	719	611	3.38	1.72	1.21	0.88	
1150	830	700	596	3.10	1.61	1.15	0.83	
1100	803	679	579	2.84	1.51	1.08	0.79	
#9 LEAD SHOT								
1300	871	717	598	2.78	1.25	0.85	0.59	
1250	849	701	586	2.57	1.19	0.81	0.57	
1200	826	684	572	2.37	1.12	0.77	0.54	
1150	802	666	558	2.18	1.06	0.73	0.51	
1100	777	647	543	1.99	0.99	0.69	0.49	

targets. More recently, Dan Carlisle won the Sporting Clays Nationals in 2007 exclusively using 1 ounce Federal loads. Sporting clays may not be quite as difficult as 27 yard Trap, but is certainly quantifiably more difficult than 16 yard Trap.

There are other reasons to consider shooting 1 ounce loads for both 16 yard and Handicap Trap. Lets go over some of them.

RECOIL

Other than pattern efficiency, the biggest reason for improved scores with lighter shot charges is diminished recoil (using the example of an 8 pound shotgun with various shot weights and velocities). I am well aware that ATA rules limit velocity according to shot charge weight, so bear with me if Chart #2 shows some loads that are unacceptable for American Trap. They are there for reference purposes only and for shooters that may shoot shotgun sports other

CHART 2: FREE RECOIL
CHART 8.0 LB SHOTGUN

Velocity fps	Recoil lb/ft
1 1/8 oz. Shot Charge	
1,100	18.12
1,150	19.56
1,200	21.05
1,250	22.59
1,300	24.19
1,350	25.55
1,400	27.55
1 oz. Shot Charge	
1,100	14.97
1,150	16.13
1,200	17.34
1,250	18.59
1,300	19.89
1,350	21.23
1,400	22.61
7/8 oz. Shot Charge	
1,100	12.12
1,150	13.04
1,200	14.00
1,250	14.99
1,300	16.01
1,350	17.07
1,400	18.16
3/4 oz. Shot Charge	
1,100	9.03
1,150	9.70
1,200	10.39
1,250	11.11
1,300	11.84
1,350	12.17
1,400	13.41

than Trap. I also realize that shotgun recoil is directly influenced by shotgun weight and a heavier shotgun will change the dynamics of recoil. But no matter what the shotgun weighs, or whether it is a fixed breech gun or an automatic, recoil will always be less with lighter shot charges, as illustrated.

Note that the recoil for a 1 1/8 ounce 1,150 fps load, which is a very mild Trap load, is about the same as a 1,300 fps 1 ounce load.

Not only is a 1 ounce load superior to a 1 1/8 ounce load in pattern efficiency, it is more lethal because it produces more energy per pellet (see Chart #3) at 40 yards. Velocity converted to pellet energy is what kills, and the higher velocity load, no matter that it delivers eight or nine pellets less than an 1/8 ounce larger shot charge at the point of impact, is more lethal. The fact that a 1 ounce shot charge at 1,300 fps also delivers the recoil of a mild 1,150 fps 1 1/8 ounce load is a big plus too.

There is no question that recoil, or the anticipation of recoil, is the root cause of flinching and is very probably the primary reason competitive shooters (particularly those of us that are more senior in years) stop shooting registered shoots, become casual shooters or quit the sport completely.

The largest untapped pool of potential new shooters is women

and youngsters. Would a 1 ounce rule help raise participation by those two groups of potential shooters by eliminating the perceived need for heavy shot charges in order to be competitive at Trap? It very well may do that.

LOWER COST

If you reload, your expenses will be reduced by loading 1 ounce of shot. You get 355 shells from a 25 pound bag of shot when loading 1 1/8 ounce of shot, but 400 shells when loading 1 ounce, an advantage of two boxes of shells even if you only use them for practice.

Making 1 ounce loads mandatory might not lower the cost of factory loads immediately, but certainly could, down the road, if production diminishes or ceases for 1 1/8 ounce loads. The largest ammunition manufacturer in the

world had only one 1,180 fps 1 ounce load to offer shooters a few years ago. When they developed 1 ounce loads at 1,240, 1,290 and 1,350 fps, their sales of 1 ounce loads grew from next to nothing to 20 percent of their premium target ammunition line in two years – and sales are still growing. Some shooters have already seen the light.

ENVIRONMENT

Even though Gun Clubs have been at the forefront of recycling lead, the less lead we deposit on shooting fields the better, if only to help stop the ranting of the extreme environmentalists and gun banners. The non-shooting public doesn't even know that we recycle most of the lead we shoot. We should inform them. We already know the National Shooting Sports Foundation has proven the impact of static lead

deposits from shooting sports has no effect on the environment, but try and tell that to the anti-gun and environmental extremists. Ask the former members of the Milwaukee Gun Club and the Lincoln Park Traps in Chicago what happened when the anti gun and environmentalists went after them. The clubs no longer exist.

I am sure that many who read this article won't agree with my opinion as to the benefit of 1 ounce loads, but if it starts an intelligent discourse on the subject I won't feel bad about that. Try some light fast loads for practice. I think you will find they are comfortable and fun to shoot and as effective as 1 1/8 ounce loads. They might improve you scores too, even from handicap distances. Do I shoot 1 ounce loads for practice and competition? No I don't. I shoot 7/8 ounce loads and love them. ■

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