

DUANE R. DIEFENBACH, PH.D.

USGS PENNSYLVANIA COOPERATIVE
FISH AND WILDLIFE RESEARCH UNIT

ANTLER POINT RESTRICTIONS:

The Social Side of the Story

In the Fall 2017 issue of *Fair Chase*, I explained how Pennsylvania increased the number of older bucks in their white-tail deer (*Odocoileus virginianus*) population by implementing antler point restrictions (APRs). Depending on the management unit, regulations were changed such that bucks legal for harvest had at least 3 or 4 points on one antler, which reduced the harvest rate of all age classes of bucks. The end result was more, older bucks harvested by hunters. But this outcome is not necessarily the definition of management success.

When my colleagues and I were designing the research to evaluate APRs, we recognized there were four possible outcomes to this management experiment depending on whether hunters accepted APRs and whether APRs achieved the predicted biological results. Only one of those four possible outcomes represented management success (Outcome I in Table 1). Although P.T. Barnum might have also considered Outcome II a success, a government agency entrusted with the management of a public resource cannot! In this article, I will explain whether Pennsylvania hunters found APRs and their results acceptable—plus a lot more.

Before reviewing the findings of our research, however, I need to return to an important critique of APRs titled, “Antler Point Regulations: The Good, the Bad, and the Ugly” written by Len Carpenter and Bruce Gill in 1987. In their paper, they argued that before APRs are implemented and considered a management success, 1) hunters should be made aware of the consequences of APRs, 2) monitoring must demonstrate the desired objectives to be achieved with respect to increasing the number of older-aged bucks, and 3) hunters must support APR regulations.

NON-TYPICAL WHITETAIL DEER
Allegheny County, PA

HUNTER: Richard A. Sneddon

SCORE: 196 6/8

DATE: 2016



TYPICAL WHITETAIL DEER
Greene County, PA

HUNTER: Ivan Parry
SCORE: 184 6/8
DATE: 1974

Also of note, by the end of the 20th century, Pennsylvania had deer densities that were almost double the deer density goal. Therefore, deer population reduction had to occur simultaneously with APRs. The idea behind implementing APRs was that reducing deer densities would be unpopular, but perhaps implementing APRs could be a tradeoff that would be acceptable to hunters—fewer deer overall but more older bucks with larger antlers.

To make hunters aware of the consequences of APRs, one of my colleagues, Dr. Gary Alt, spent two years crisscrossing Pennsylvania doing more than 200 public seminars on the key issues related to deer management and the consequences of implementing APRs. In addition, the Pennsylvania Game Commission (PGC) distributed 35,000 free videos, hosted by Dr. Gary Alt, about APRs and the proposed increase in antlerless harvests.

To monitor hunter acceptance and attitudes, my colleagues and I conducted mail surveys of a random sample of Pennsylvania hunters before and after the deer hunting seasons of 2002, 2003, and 2004 when APRs were implemented. From the first pre-season survey, we know that 11 percent of Pennsylvania deer hunters (86,000 hunters) attended a public seminar and 40 percent (318,000 of 794,000 deer hunters) observed Dr. Alt either at a seminar, on a television program, or watched the PGC video.

The public outreach by Dr. Alt addressed the concern of Carpenter and Gill that hunters needed to be informed about the effects of APRs. The response at these seminars was that most attendees supported implementing APRs. But what about hunter support over the next three years after APRs were implemented?

After conducting six surveys during 2002-2004, one before and after each deer season, we found about two-thirds of hunters supported APRs! We know that with APRs we achieved the biological objectives, and hunters supported APRs (TABLE 1),

Before antler point restrictions (APRs) can be considered a management success,

1) hunters should be made aware of the consequences of APRs,

2) monitoring must demonstrate the desired objectives to be achieved with respect to increasing the number of older-aged bucks, and

3) hunters must support APR regulations.

TABLE 1. Four possible management outcomes when APR regulations are implemented.

	APRS ACHIEVE BIOLOGICAL OBJECTIVES	APRS FAIL TO ACHIEVE BIOLOGICAL OBJECTIVES
HUNTERS SUPPORT APRS AND PERCEIVE MANAGEMENT SUCCESS	Management success (Outcome I)	Deer management failure social success (Outcome II)
HUNTERS DO NOT SUPPORT APRS OR PERCEIVE MANAGEMENT FAILURE	Deer management success social failure (Outcome III)	Management failure (Outcome IV)

perceiving them as a management success.

By implementing APRs, and then conducting a carefully designed study, the Pennsylvania Game Commission became the first wildlife agency to demonstrate the success of APRs by thoroughly evaluating APRs from both the biological and social perspective.

But oh if it were so easy! Nothing in life, especially anything related to deer management, is so simple. Read on for the rest of the story.

Before we began this research, we anticipated deer hunters would be concerned about mistakenly harvesting sub-legal deer (antlered deer lacking the requisite antler size). However, after experiencing one or two hunting seasons, we expected this concern to decline. What we discovered was that over the three years, about 30 percent of hunters agreed that APRs reduced their hunting enjoyment and this did not change. For most, concern that they might accidentally shoot an

illegal male reduced their enjoyment.

We also expected that with more experience with APRs, hunters would be less concerned that pre-season poaching or harvest of sub-legal bucks would be a problem. In contrast, that concern showed no consistent trend over time with about 25 percent being concerned about poaching and about 30 percent concerned about accidental kills.

However, before the first season with APRs, 45 percent of hunters were concerned that hunters would shoot antlered deer and then check to see if they were legal. Carpenter and Gill called this the “shoot and sort” effect. From our monitoring of bucks, we know this turned out to be a minor concern, and after that first hunting season in 2002, the concern among hunters declined. Despite this decline, about a third of hunters remained concerned about illegal killing of bucks throughout the study. This lack of change in opinion despite available evidence to the contrary turned out to be a consistent theme from our research.

What we found was that throughout the three years of our research, the majority of hunters supported APRs; but more importantly, their opinions showed relatively little change over time. Our study suggests that many hunters formed an opinion about APRs before they even experienced them. It didn't matter if it was APR effects on male/female ratios, or sub-adult/adult buck ratios, or deer harvests, or legal harvest—we observed relatively little change in opinions over time.

In fact, we asked the same hunters before the 2002 hunting season and after the 2004 hunting season their opinions, and most (48 percent) had not changed their opinion about APRs. In general, if they liked them before they were implemented, they liked them afterwards, and vice versa!

One thing that did change opinions during the course of our research was the reduction in deer density. Although support for APRs remained above 60 percent throughout our study, satisfaction with the PGC's deer management program declined



TYPICAL WHITETAIL DEER
Jefferson County, PA
SCORE: 170 5/8
HUNTER: Thomas P. Pisarchick
DATE: 2009



TYPICAL WHITETAIL DEER
Chester County, PA
SCORE: 168 4/8
HUNTER: Jack A. Horosky
DATE: 2005



TYPICAL WHITETAIL DEER
Cambria County, PA
SCORE: 175 3/8
HUNTER:
Philip E. Sever
DATE: 2010

over time as deer density declined.

After the first hunting season with APRs, 57 percent of deer hunters rated the PGC's deer management program as good or excellent. But after the conclusion of the 2004 hunting season, it had declined to 29 percent. As deer densities declined, so did hunter satisfaction. Before the 2002 hunting season, 34 percent of hunters agreed there were too many antlerless deer where they hunted. But after the 2004 hunting season agreement declined to 13 percent.

By the end of our study, 42 percent of hunters became less supportive of any regulation to increase the antlered/antlerless ratio. However, because we observed relatively little change in the support for APRs we interpreted this result to mean that hunters recognized that much of this change in the sex ratio was achieved through increased antlerless harvests.

However, if you carefully inspect the graph of hunter support for APRs (Figure 1), you will notice that by the conclusion of the 2004 hunting season, support had declined to what it was before APRs were implemented. Moreover, the percentage of hunters who disapproved of APRs was at its highest!

I learned several things from this research. First of all, if you have a deer population that is experiencing high buck harvest rates, APRs can create an older age structure. Second, hunters will support such regulations but probably more from belief than observation or experience.

Third, but most importantly, hunter satisfaction is driven primarily by the number of deer observed while hunting. Many studies of hunter attitudes have noted that hunters appreciate the camaraderie of hunting with friends and family, the opportunity to eat wild game, the challenge of pursuing a wily animal, and the desire to harvest a large-antlered deer. But at the end of the day, the positive reinforcement of seeing deer while hunting seems to be the most critical component to hunter satisfaction. This basic characteristic of human behavior will continue to be the most important challenge for deer management. ■

REFERENCES AND SOURCES:
 CARPENTER, L. H., AND R. B. GILL. 1987. ANTLER POINT REGULATIONS: THE GOOD, THE BAD, AND THE UGLY. TRANSACTIONS OF THE WESTERN ASSOCIATION OF GAME AND FISH COMMISSIONERS 67:94-107.

Read the first part of this article "Antler Point Regulations: Managing for Biological Success," in the fall 2017 issue of *Fair Chase* online in the B&C Associates community.



FIGURE 1. Percentage of hunters who approved or disapproved of APRs in Pennsylvania from before APRs were implemented (pre-2002) until after the conclusion of the 2004 deer hunting seasons.

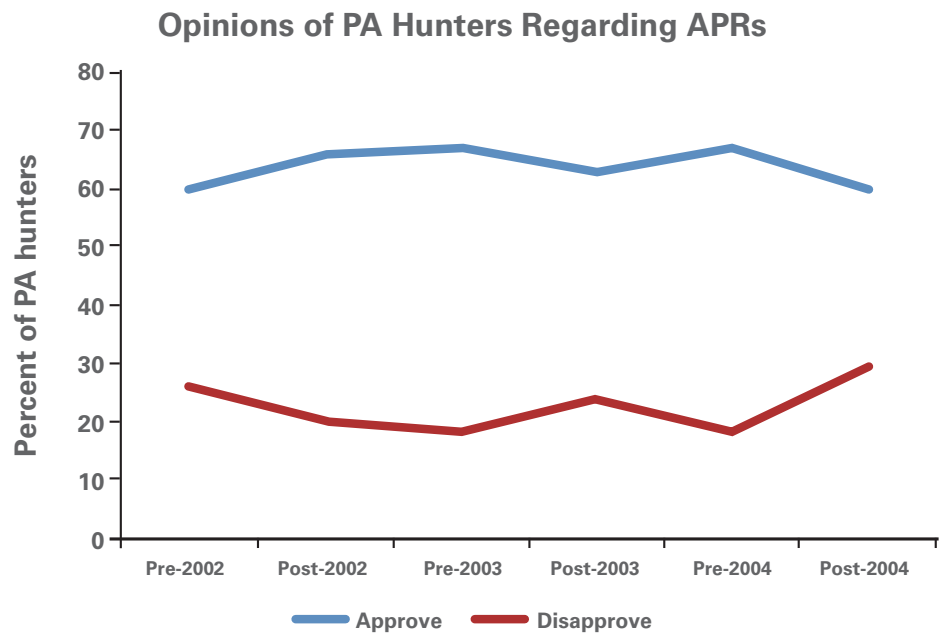


FIGURE 2. Deer population and percentage of Pennsylvania deer hunters who approved of deer management by the PGC, 2002-2004.

