

# Strategies in Changing Deer Management Policy in Pennsylvania, 1999-2004

Gary Alt  
Wildlife Consultant  
Retired Pennsylvania Game Commissioner

Retired Supervisor of Deer Management Section, Pennsylvania Game Commission  
2530 Reservoir Road, Madison Township, PA 18444 Email: [garyalt@echoes.net](mailto:garyalt@echoes.net)

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**Abstract:** *The most sweeping policy changes in Pennsylvania deer management history occurred between 1999 and 2004. Pennsylvania's traditional rifle deer seasons consisted of a two-week "buck" (antlered only) season followed by a three-day "doe" (antlerless only) season, which typically produced antlerless harvests inadequate to balance deer populations with their forest habitat, resulting in undesirably low survival of antlered bucks. To rectify the underharvest of antlerless deer, antlerless allocations and sales were increased from about 600,000, to over a million; hunters were allowed to buy up to three antlerless licenses, instead of just one; the two-week "bucks only" season was converted to an either-sex season; an October antlerless season was created and a Deer Management Assistance Program (DMAP) was created. To increase survival of antlered bucks, antler restrictions were changed in 2002 from a spike, three or more inches in length, to requiring three or more points on ones side in much of Pennsylvania, and four or more points on one side in the areas of best habitat. These changes resulted in their intended effect with an increase in average antlerless harvests by about 100,000 and a reduction in the buck harvest by roughly 50,000. Political climate and public attitudes were important in determining when and how much policy could be changed. Selecting of a competent team of scientists and providing them with a stimulating and safe meeting environment to evaluate existing programs, design research, and make policy change recommendations were critical. An intense and large-scale outreach campaign, during the public comment period, was one of the most critical actions to successfully change policy.*

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The agricultural paradigm of "traditional" deer management, attempting to maximize the number of deer for hunter satisfaction, has had major negative impacts on the health and sustainability of our forest ecosystems in Pennsylvania and a number of other eastern states. For decades hunters have successfully applied social and political pressures on wildlife agencies to attempt to raise more deer than the land could sustain, resulting in severe overbrowsing and loss of biodiversity. Ironically, these attempts to maximize the number of deer have often had the exact opposite effect, leading to population declines due to habitat destruction. If we are to successfully balance deer populations with forests, we will need to change our style of deer management from an agricultural paradigm to a more ecosystem-friendly approach. This article describes our experiences implementing this approach in Pennsylvania.

Political climate and public attitudes were important in determining when and how much policy could be changed. It was the complaints of disgruntled sportsmen during the Governor's 1998 re-election campaign that stimulated political support and agency commitment to start an active era of policy changes to improve deer management in Pennsylvania.

Selection of a competent team of scientists who were dedicated to improving deer management was a critical step in setting the stage for changing policy. The "deer team" was made up of wildlife research and management biologists from within the Pennsylvania Game Commission, an academic biologist/statistician from the Pennsylvania State University and an independent wildlife management consultant. Most deer team meetings were held at an offsite retreat location, providing a stimulating and safe environment for members to discuss and debate sensitive and controversial management alternatives. Premature release of this type of

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information to the press, without adequate explanation, could have limited alternatives and the team's effectiveness.

The primary function of the deer team was to evaluate the current deer management program, design and carry out research projects to supply needed information, and to make policy change recommendations. Because it was not politically possible to make all the changes at once, the team prioritized the chronological order of changes that needed to occur.

The team's recommendations for hunting seasons and bag limits were presented to senior staff each December. After consideration by the senior staff and the executive director, then they were placed on a formal written agenda for vote by the Board of Game Commissioners on as proposed seasons and bag limits for that year at their January commission meeting. A 90-day minimum comment period was required before the commission could finalize its proposed seasons and bag limits. This always occurred during their April Commission meeting.

An intense and large-scale outreach campaign during the public comment period was one of the most critical actions to successfully change policy. This was designed to win support for our proposed changes and ensure confirmation at the April Commission Meeting. Each year, during the public comment period, between 50 and 75 public meetings were held throughout the state. Attempts were made to schedule meetings within 20 miles of nearly every Pennsylvanian. High school and university auditoriums and other large public buildings were the most common locations used. Audience size averaged about 550 per location but crowds in excess of 1,000 were not uncommon. At some events, once the auditorium was filled, a video feed would be run to a nearby cafeteria or gymnasium where the overflow of people could watch a display of the lecture and meeting discussions on a large screen. The consumption of alcoholic beverages at these events was prohibited.

Many of the meetings were co-sponsored by local legislators, individual Game Commissioners, or conservation organizations. Meetings would begin with the introduction of the supervisor of the deer management section of the Game Commission who would then present a slide presentation giving an in-depth discussion of the natural history and management of deer and, near the end of the program, provide a detailed description of what policy changes were proposed and why it made sense to take these actions. A question and answer session would follow the presentation until all questions were answered, often lasting for three or more hours. Each night the biologist, at the end of his program, would ask for a show of hands of how many would be willing to give these proposed policy changes a chance to work. Typically 80 percent, or more, would raise their hands, which sent a powerful message to legislators, administrators, and policy-makers and set the stage for new policy adoption. Virtually all proposed policy changes were accepted during the years that intense public outreach programs were in effect.

Most meetings were preceded with a press conference providing local television, radio, and newspaper reporters an opportunity to interview a deer biologist and learn what changes in policy were under consideration and why this was necessary to improve deer management in Pennsylvania. The Pennsylvania Game Commission would typically have a display booth set up at the entrance of the auditorium, at each event, dispensing brochures, press releases and answering questions. Between January and April of 2002, 35,000 copies of a video describing the need and justification of proposed changes were distributed, for free, to nearly everyone who attended these public meetings. These videos appeared to be very effective at winning support for policy changes.

As the ability of the deer team to successfully change policy grew, so did its ability to raise money for studies. Studies were conducted on the causes of fawn mortality (212 radio-collared fawns); over 3,000 fawn conception dates were determined, statewide, yielding information on the timing of the rut and the birthing period; a variety of human dimensions studies were contracted out to learn more about the attitudes of hunters and landowners; movement patterns of hunters were studied by equipping hundreds of them with GPS units that tracked where they went, and over 550 bucks were radio-collared and followed to evaluate the effectiveness of antler restriction policy changes on their survival. The results of these studies provided fantastic material to share with the press and people attending public meetings, increasing the credibility and acceptance necessary for policy changes to improve deer management in Pennsylvania.



Primarily, there were two goals that guided the team's decisions on recommendations for policy change. The primary goal was to balance the deer herd with its habitat, which required increasing the antlerless harvest, because the fecundity of the deer herd is a function of the number of breeding does. The secondary goal, and on a much lower priority, was to establish a more natural breeding ecology by reducing the buck kill, allowing more bucks to live to at least 2 ½ years of age.

Pennsylvania's primary traditional deer seasons consisted of a two-week "buck" (antlered only) rifle season followed by a three-day "doe" (antlerless only) season. Each hunter who bought a general hunting license was entitled to a single antlered deer but only hunters who purchased an additional antlerless license were entitled to take antlerless deer. There were roughly a million deer hunters of which only about 600,000 would buy antlerless licenses. In 1999, when the deer team started its evaluations, a hunter was only allowed to buy a single antlerless license annually.

The problems with these traditional deer seasons were that they almost always resulted in an underharvest of antlerless deer, making it impossible to balance the herd with its forested habitat, and an over-harvest of antlered deer with relatively few bucks surviving the hunting season. In much of Pennsylvania, over 80 percent of the buck harvest consisted of yearlings, while more accessible areas exceeded 90 percent yearlings.

The changes in deer seasons and bag limits that occurred between 2000 and 2004 were the most dramatic in the history of Pennsylvania wildlife management and were designed to increase antlerless harvests and decrease buck harvests in line with the goals of the deer team. To increase antlerless harvests, antlerless license allocations and sales were increased from about 600,000, to over a million; hunters were allowed to buy up to three antlerless licenses, instead of just one; the two-week "bucks only" season was converted to an either-sex season; an October antlerless season was created (rifle for junior and senior hunters, muzzleloader for all hunters with an antlerless license) and a Deer Management Assistance Program (DMAP) was created, allowing landowners to take additional antlerless deer on their property with DMAP permits. To decrease the buck harvest, antler restrictions were changed in 2002 from a spike, three or more inches in length, to requiring three or more points on one side in much of Pennsylvania, and four or more points on one side in the areas of best habitat.

The results of these policy changes were dramatic on deer harvests. The five largest antlerless harvests in the recorded history of Pennsylvania occurred during the past five years. Antlerless harvests increased by nearly 100,000 (48%) for the period 2000-2004 compared to the five previous years (Mean = 308,758 for 2000-04 compared to 209,305 for 1995-99). Antlered harvests dropped by an average of about 56,000 (28%) for the three years after antler restrictions went into effect (2002-04) compared to the three previous years (Mean = 200,280 for 1999-2001 compared to 144,032 for 2002-04). The number of antlerless deer harvested per antlered buck more than doubled (2.23 compared to 1.07) when comparing a three-year period after antler restrictions went into effect (2002-04) to the last three years before policies started to change in 2000 (1997-99). Antlered bucks aged two and older increased in the harvest, and for the first time, made up more than fifty percent of the total antlered buck kill, reflecting greater survival of bucks to maturity.

Though Pennsylvania's deer harvests were dramatically altered in the intended directions by these policy changes, the extent of their actual impacts on deer populations and forest ecosystem health and sustainability in the long term is less clear. Of great concern is that the Game Commission in 2005 reduced statewide antlerless allocations by 160,000, cutting allocations almost in half in some of the wildlife management units with the greatest problems of overbrowsing and forest regeneration. This occurred in response to political pressures, as it has repeatedly over the past 75 years, from hunters who demanded more deer at any cost. If this reversal of policy continues in the long term, preventing a balance from occurring between deer populations and their forest ecosystems, it is likely to have negative consequences for the Pennsylvania Game Commission and the future of sport hunting.

