



THE HUNT FOR BALANCE

Management Techniques and Policy Recommendations
for Dealing with Overabundant Deer in the
Hudson Valley of New York State

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ABSTRACT

This essay considers management techniques to deal with overabundant deer populations in the Hudson Valley region of New York State that now are located in and around suburban communities where hunting access has historically been limited. Although there are important, often passionate current social and political controversies surrounding hunting in today's political discourse, this paper is a purposeful focused effort to compare and contrast various management techniques to control overabundant white tailed deer populations, including: contraception and sterilization, the introduction of large predators, and hunting (with a focus on archery hunting in particular).

Research clearly demonstrates, we conclude, that hunting remains the most effective and efficient method for controlling free-ranging deer populations. Recent policy changes in New York will likely improve the ability of the New York State Department of Environmental Conservation to manage suburban deer populations. However, several additional policy changes are needed to improve efficacy in the years ahead, including: expanding the current archery and crossbow seasons, reducing the crossbow discharge distance to align with vertical bows, and implementing a science-driven public education campaign to incentivize landowners in areas impacted by overabundant deer to allow hunting access on their property. ▲



INTRODUCTION

One vivid memory of growing up in the Hudson Valley in the late 80s and early 90s is the many times I awoke, looked out the window, and saw another of my dad's vehicles with a smashed in fender and hood. This was the end result of his daily commute to work from Accord to Woodstock, in Ulster County. He not-so-affectionately dubbed this route, "Deer Alley."

My father did not accept collisions with deer as inevitable. He explored a wide variety of techniques to ward them off including: honking his horn, installing special headlights, and employing deer-whistles to supposedly alert them of his on-coming car from a greater distance. All of these failed. At last count my dad was up to 13 deer-vehicle collisions, with tens of thousands of dollars in damages to his cars. When I began driving, I quickly followed suit and racked up six deer-vehicle collisions and/or near misses. These could have been disastrous had I not been taught the art of deer-dodging as a necessary driving skill by my parents.

We did not know it at the time in our family, but there was a connection between our collisions and the issue of deer overabundance. For me this realization grew from my study of conservation in college and graduate school in the Hudson Valley, with a focus on White-tailed deer biology and population dynamics. I quickly learned that living in the country does not necessarily chain you to a life of deer-vehicle collisions. In fact, I found that there were many places in New York, even a few towns adjacent to the infamous "Deer Alley," where collisions were extremely rare. Deer overabundance often occurs in isolated pockets, which suggests that where it does occur, it can be managed.

In the general population, particularly in areas significantly impacted by deer, individuals tend to have clear feelings about these animals, and potentially strong feelings in support or rejection of hunting, with limited understanding of the conditions of the human-deer environment. In this paper we seek to clarify deer

overabundance, its impact, and alternative management techniques. Finally, this paper seeks to elucidate the role of hunting in this region to inform both policy and perceptions regarding its use to manage overabundant deer.

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HOW DO WE MEASURE "OVERABUNDANCE"?

"Overabundance" of White-tailed deer has both a biological and a cultural definition. From a strictly biological perspective, an animal is considered to be overabundant when its population numbers exceed the carrying capacity of the habitat in a particular area. This definition does not work for the area surrounding "Deer Alley." It is a mixed-use landscape of residential and agricultural plots with a large amount of edge habitat (a place where one type of habitat meets another, i.e., a field and a tree line). From a *biological* perspective, these conditions can support an abundance of deer. It may be because a large population can be supported that deer collisions are quite common, not because the deer population was out of balance with the ecosystem. Anecdotal evidence certainly points to that being the case – the deer in the area were very healthy, with thick layers of fat to protect them during the cold winter months. Does would often birth twins, and many times triplets. This brings in another component of wildlife management that we must consider – cultural carrying capacity.

The idea of *cultural carrying capacity*, first coined by Mark Ellingwood (Wildlife Division Chief for the New Hampshire Fish and Game Department) considers

Table 1. Cost Estimate from Deer-Human Conflicts in New York State.

SOURCE	APPROXIMATE COST IN NEW YORK STATE
Automobile Collision (approximately 80,000/year with an average cost of \$3.3 thousand/incident) (State Farms, 2015) [estimated 4 deaths/year not counted in cost estimate]	\$265,000,000
Crop Damage (Brown, et al., 2004)	\$59,000,000
Grain	\$13,600,000
Nurseries	\$10,500,000
Tree Fruit	\$9,400,000
Alfalfa	\$7,400,000
Hay	\$7,100,000
Vegetables	\$6,200,000
Grapes	\$1,800,000
Berries	\$1,100,000
Other (Timber, Maple Syrup, Other)	\$1,900,000
Total Estimated Cost for 1 Year	\$324,000,000



the sociological or “human dimensions” of wildlife management. Here there is no consensus. Policy makers must consider disparate voices and interests across such groups as hunters, animal rights activists, land owners, and farmers. Moreover, there is often a diversity of views within each of these groups (for example, some hunters want to see lots of deer; others prefer fewer, but “higher quality” bucks).

IMPACTS OF “OVERABUNDANCE”

There appears to be consensus within the scientific community that an overabundance of deer diminishes the biodiversity of an ecosystem. Numerous studies have documented the effects of overabundant populations on forest composition (DeCalasta, 1997; Levy 2006; VanDeelen, Pregitzer, & Haufler, 1996), on the flora (Holmes, Curran, & Hall, 2008; Potvin, Beaupré, & Laprise, 2003), and on fauna (Allombert, Gaston, & Martin, 2005a; Allombert, Stokton, & Martin, 2005b; Côté, 2005; DeCalesta, 1994).

Deer-human conflicts stemming from potentially overabundant populations have also caused a significant economic impact in recent years. These range from timber, crop, and landscaping damages (Conover, 1997; Brown et al., 2004), to increases in deer-vehicle collisions (State Farm Insurance, 2010 & 2015), and even, in rare cases, deer attacking humans (Hubbard & Nielson, 2009). The net effect: for decades potentially overabundant deer populations have been causing billions of dollars in damages annually, with the toll significantly increasing through time. Table 1 shows a one year estimate for some of these impacts in New York State.

For many, a prominent concern of the deer-human conflict, particularly in the North East, is the incidence of Lyme disease. According to several ecological studies, the White-tailed deer, as a carrier of Lyme disease, may play a role in the occurrence of the tick-borne illness in humans. However, the evidence of a direct relationship is

ALTERNATIVE MANAGEMENT TECHNIQUES FOR WHITE-TAILED DEER

weak, as is the impact of deer control efforts on reducing the incidence of Lyme (Jordan, Schulze, & Jahn, 2007; Kugeler et al., 2015; Deblinger, et al., 1993; Kilpatrick, Labonte, & Stafford, 2014). Although deer are not susceptible to the infection, the research demonstrates a strong correlation between deer abundance and black-legged tick abundance, therefore suggesting a potential relationship between deer population and human cases of Lyme (Kugeler, et al., 2015). Yet, there is also a body of research that suggests that the relationship is not so linear, and there are many more variables involved (Ostfeld, et al., 2006; Levi, et al., 2012).

There are also some positive cultural impacts of the overabundance of deer populations that must be considered. In 2002 the U.S. Fish and Wildlife Service estimated that hundreds of millions of dollars are generated annually through the hunting, viewing and photographing of White-tailed deer (Drake, et al., 2005). Additionally large deer populations aid in seed dispersal, as they travel great distances and digest their food slowly (Myers, et al., 2004); they also increase nutrient cycling as a result of increased nitrogen to the soil (Holmes, et al., 2008). Further, though difficult to measure in dollars and cents, for many people there is intrinsic value in being able to regularly view wildlife in their day-to-day lives. ▲

For many New Yorkers, deer hunting is central to a way of life. For others, including some who reside in urban centers far removed from the hunting culture, it is anathema. However, hunting continues to receive strong public support, with the most recent figures indicating a 78% approval rate and a 16% disapproval rate nationally – an increase from 73% approval and 22% disapproval a decade prior (Responsive Management/ National Shooting Sports Foundation, 2008). The strong feelings that individuals have on the topic, driven by a fundamental values clash, brings added intensity to debates about deer population management. The vocal minority that disapproves of hunting argues that it should be eliminated entirely as a management tool. One proposal is that we control populations, to the degree we must, through sterility measures and contraception. Others argue that we should restore large predators to the landscape to replace hunters. While these viewpoints are understandable from a human-dimensions perspective, research demonstrates that they are not viable management options in most circumstances.

CONTRACEPTION

Several forms of contraceptives for deer have been explored in recent years. Once such agent is GonaCon. To administer the drug it is necessary to capture and sedate the animals, treat them through injections, and then release them once again to the wild. Current estimates suggest that for it to be successful in limiting

positive cultural impacts

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- Large deer populations aid in seed dispersal, as they travel great distances and digest their food slowly; also increase nutrient cycling as a result of increased nitrogen to the soil
- For many people there is intrinsic value in being able to regularly view wildlife in their day-to-day lives

approximately
70–90%
of free-range does
will need to be treated
for contraception

estimates range from
\$500–\$1K
per free-range doe
to use a
contraception method

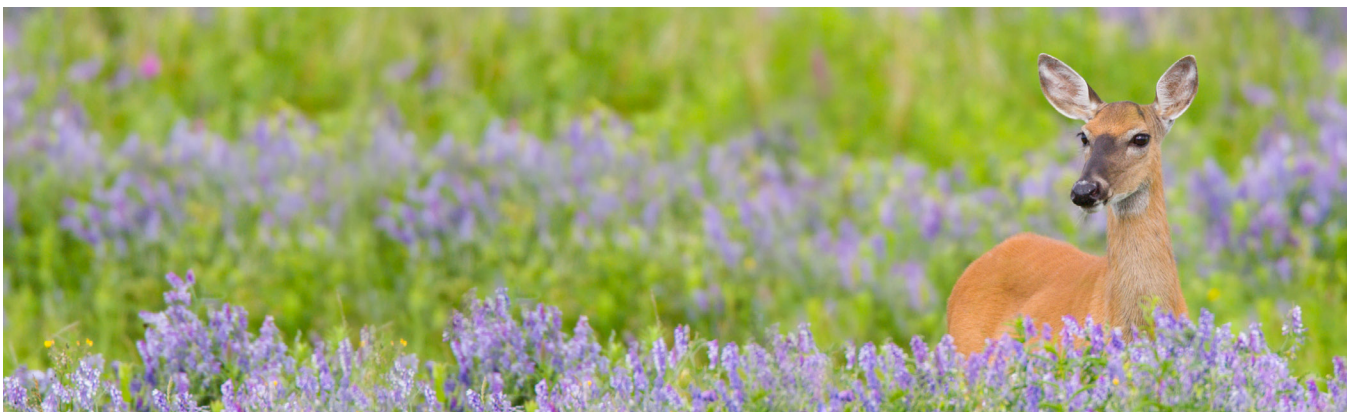
population growth, approximately 70–90% of the does in a free-ranging population will have to be treated. These numbers must be even higher when we consider that approximately 10% of does are not receptive to the drug (Adams, Hamilton & Ross, 2010). Furthermore, as a study by Adams and colleagues (2010) suggest, this method will do nothing to reduce the existing deer population. Immuno-contraceptive efforts still must be partnered with hunting or an alternative “lethal strategy” to bring the populations down to an ecologically sound level. Moreover, the labor intensive character of this method make it costly; estimates range from \$500–\$1,000/deer (Adams, et al., 2010).

STERILIZATION

Deer may also be captured and surgically sterilized. The issues that arise with this method, however, are numerous. Animals may become trap averse, making trapping and sterilizing procedures difficult (Merril, et al., 2006). Current trapping methods capture both males and females; effort is wasted in capturing non-target animals.

Animals that have been previously been operated upon are also trapped, another source of inefficiency (Merril, et al., 2006). Merrill and colleagues (2006) concluded that in a closed population, one without immigration or emigration, sterilization could begin to reduce the population after 2–3 years. To achieve this reduction, managers would need to capture and sterilize 30–45 viable females out of every 100 each year. If, however, a population has high levels of immigration, as is the case throughout nearly the entirety of New York State, sterilization is not likely to be successful in reducing population size (Merril, et al., 2006).

Most prior work in the field of sterilization for population control of deer has focused on females. However, Staten Island, one of New York City’s five boroughs, is now performing vasectomies on the males in its deer population of about 1,000 in an attempt to reduce this number by 10–30% within three years (Sanders, 2016a). Hunting is illegal in the city, and other lethal options have generated strong opposition. The cost would be approximately \$5,000 per deer, far more than other approaches. A total of \$2 million has been appropriated



HUNTING IN NEW YORK

for a contract with White Buffalo, a firm that uses fertility control (among other methods) to assist densely populated areas with deer overpopulation problems (Dick, 2016; White Buffalo, 2016). The program began in earnest Labor Day weekend. In the first 10 nights, White Buffalo successfully performed vasectomies on 70 deer after they were captured through baiting and then shot with tranquilizer darts (Sanders, 2016b). Although the state generally does not advocate the use of fertility control (neither sterilization nor contraception) due to the high costs associated with these management techniques and their current ineffectiveness on free ranging populations (Bishop, et al., 2007; New York State Department of Environmental Conservation, 2011), officials feel that most of the deer population growth on Staten Island is attributed to reproduction rather than immigration so they have authorized its use in this instance with 299 vasectomies completed to date (Sanders, 2016b).

LARGE PREDATORS

An alternative approach is to reintroduce large predators onto the landscape to control deer populations without human aid. Bobcats (Carstensen, et al., 2009), bears (Carstensen, et al., 2009), and coyotes (Bartush, & Lewis, 1981; Weiss, 2002) have been found to impact fawn populations. There is little knowledge, however, on the effects of these predators on adult deer populations. Wolves are also often brought up in conversations about predator reintroduction as a management tool. Some studies have found that the impacts of deer on forests are mitigated in areas where wolves live. However, wolves need areas with low human population densities in order to live and thrive, which is not the case in most of the eastern states where deer overpopulation may be a concern (Levy, 2006). Further, there are concerns about damage to property, public safety, and threats to the well-being of pets. ▀

Hunting is widely regarded as the most efficient and cost-effective method for population management of certain species of wildlife, deer included (Conover, 2001). Where they have been employed, managed/controlled hunts for White-tailed deer in suburban areas have had strong, positive results in lowering population numbers to desired levels (DeNicola, et al., 2000; Stewart, Keller, & Williamson, 2013).

White-tailed deer in geographic areas with an extensive history of hunting are found to be in better nutritional health and exhibit less signs of stress when compared to areas where deer are only hunted a few times in a decade or not at all (Swihart, et al., 1998). Beyond the actual harvest of target animals, hunting pressure influences the behavior of other species in the ecosystem, with the effect of limiting damage to crops (Conover, 2001). Further, hunting fuels the economy (Congressional Sportsmen's Foundation, 2013a), supplies hundreds of thousands of citizens with high-quality protein (Farmers & Hunters Feeding the Hungry, 2016), and provides the vast majority of conservation funding for critical wildlife conservation projects undertaken by state fish and wildlife agencies. According to the United States Fish and Wildlife Service (2014), sportsmen-generated conservation dollars have had a greater impact on fish and wildlife conservation than any other single conservation effort in the United States.

Dating back to colonial times, New York has had a rich and vibrant hunting culture. A 2013 estimate based upon federal data was that 823,400 New Yorkers identified themselves as hunters. Though among the nation's largest totals for a state, this was still only about one in twenty New Yorkers (4.5%).¹ But this small percentage has a big impact on: economics, food for the needy, conservation funding, and active management of game species to keep their numbers in balance with the ecosystem.

¹ Estimate based on data from the U.S. Fish and Wildlife service in their National Survey of Fishing, Hunting, and Wildlife Associated Recreation, by the Congressional Sportsmen's Foundation (2013b).



ECONOMICS OF HUNTING

In the Congressional Sportsmen's Foundation quinquennial study, it is estimated that New York's hunters contributed over \$2.25 billion (\$2,732.57 per hunter) to the State's economy in 2011 which directly supported nearly 24,000 jobs (Congressional Sportsmen's Foundation, 2013b). Hunters purchase trips, tree stands, rifles, bows, arrows, ammunition, fuel for their vehicles, etc. to engage in their pursuits.

SOCIAL BENEFITS OF HUNTING

Many New Yorkers are increasingly interested in living an organic, locavore lifestyle. Hunting provides an opportunity to do that in a low-cost and thoroughly engaged manner. Additionally, those that take to the woods in pursuit of a quarry are provided an escape from the increasingly fast-paced and technology-centered lifestyle that has become our American way of life. This outlet allows people time to re-center themselves while connecting spiritually to nature, getting fresh air and exercise, and enjoying the camaraderie of friends and family while afield.

New York hunters also help provide food for the less fortunate through the donation each year of a large

amount of venison to food pantries and shelters through the Venison Donation Coalition. The Coalition has set up a network of 85 processors, active in 52 counties of the state, to collect and process deer that hunters wish to donate to the less fortunate. Since its inception in 1999 the Coalition has provided over 4 million meals; it now averages a total collection of 39 tons of venison each year (Venison Donation Coalition, 2016). Venison donations provide a low cost and highly nutritious option for feeding the less fortunate. On average, over 50 pounds of venison can be taken off of a deer. If ground and used in spaghetti or chili, meat from one deer can feed as many as 200 people at a cost of \$0.25/serving (Farmers & Hunters Feeding the Hungry, 2016).

CONSERVATION FUNDING FROM HUNTING

Seventy-nine years ago, the hunting community initiated the unique "user-pays, public-benefits" American System of Conservation Funding (ASCF) with the passage of the Federal Aid in Wildlife Restoration Act (Pittman-Robertson Act, 1937). The Pittman-Robertson Act directed excise taxes on firearms and ammunition to a dedicated fund to be used specifically for conservation purposes. Further, revenue from sportsmen's licenses was permanently linked to

conservation through the establishment of this program, laying the foundation for what is now the ASCF. Through time, this System has expanded and now includes the fishing and boating communities – with the passage of the Federal Aid in Sportfish Restoration Act (also known as the Dingell-Johnson Act in 1950, and the subsequent Wallop-Breaux Amendment in 1984) – as well as the archery community.

The funds collected through this program are the lifeblood of state fish and wildlife agencies, the primary managers of our nation’s fish and wildlife resources. These critical conservation dollars fund a variety of efforts including: enhanced fish and wildlife habitat and populations, recreational access to public and private lands, shooting ranges and boat access facilities, wetlands protection and its associated water filtration and flood retention functions, and improved soil and water conservation – all of which benefit the public at large.

Through this System, the New York State Department of Environmental Conservation received over \$80 million in 2015 (\$1.69 billion since the System’s inception) to fund critical conservation efforts. All of these funds stem directly from sportsmen and women, making them the largest contributors to state-level conservation funding. As illustrated, these funds have consistently increased through time and, unlike many public revenue sources, remained reliable during the recent recession. In the last ten years alone, the conservation funds provided by New York’s sportsmen and women have nearly doubled (Figure 1).

Of the \$1.69 billion sportsmen and women have contributed to conservation funding in New York over a 79 year period, more than \$931 million came from hunters. The funding from hunters has likewise proven to increase through time (totaling more than \$47.8 million in 2015), as illustrated by the graph (Figure 2).

Through this System, New York’s sportsmen and women are acting in the tradition of President Theodore

Figure 1. New York Conservation Funding from Sportsmen and Women (Overall)

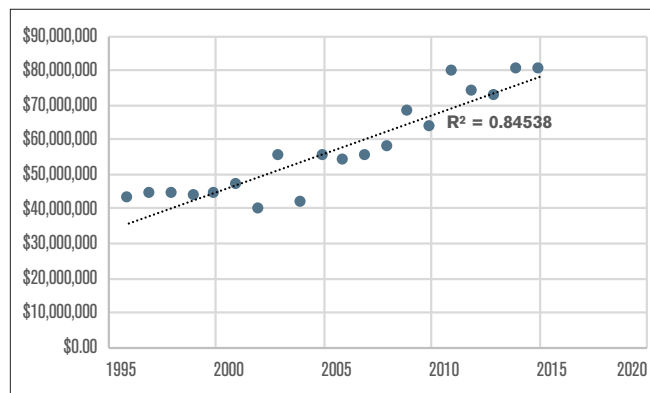
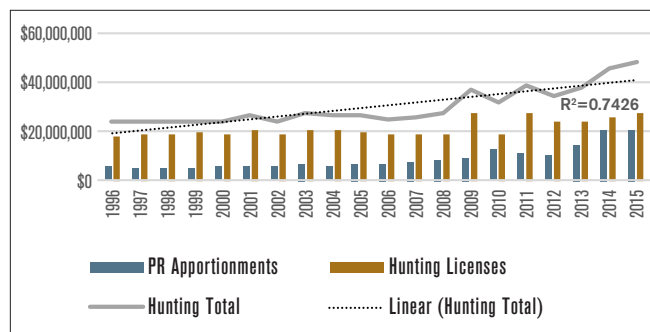


Figure 2. New York Conservation Funding from Hunters



\$1.69 BILLION sportsmen and women have contributed to conservation funding in New York.
\$931 MILLION came from hunters.

Roosevelt, himself a New Yorker, who noted:

In a civilized and cultivated country wild animals only continue to exist at all when preserved by sportsmen. The excellent people who protest against all hunting, and consider sportsmen as enemies of wildlife are ignorant of the fact that in reality the genuine sportsman is by all odds the most important factor in keeping the larger and more valuable animals from total extermination.

ACCESS CONCERNS

The negative effects of people coming into conflict with deer are most strongly felt in suburban (the residential area on the outskirts of a city or large town) or exurban (a settlement that lies outside a city and usually beyond its suburbs) communities. Remember that deer thrive in edge conditions, where one type of land cover meets another, such as where wooded lots join with fields or lawns (Alverson, et al., 1988; Cook & Gray, 2003). Natural predators of deer are not generally found in areas of high human densities (Levy, 2006), and the ecosystem impacts resulting from overpopulation, where it exists, tend to be magnified in these areas as well (New York State Department of Environmental Conservation, 2016). Additionally, with increased development in formerly rural areas, deer become more habituated to humans, resulting in increased deer-human conflicts (Urbanek, Allen, & Nielsen, 2011). But in places of high human-densities, hunters are often barred by law or by the action of private property owners from accessing suitable land to hunt due to safety concerns. As a result, deer populations in these areas are capable of quickly increasing.

Lack of access is also one of the primary reasons that hunters give for giving up hunting. (Responsive Management/National Shooting Sports Foundation, 2008). Thus improving access would not only help state fish and wildlife agencies utilize hunting to regulate pockets of overabundance, but would also likely result in maintaining or increasing the number of hunters purchasing licenses each year (and would thereby increase funding to address the myriad other conservation issues state fish and wildlife agencies are tasked with managing). ▀

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GIVE FOR GIVING UP HUNTING.**

New York's sportsmen and women can hunt on both private property and on the vast majority of the state's over 11.1 million acres of public land. However, since 1957 New York law had required that in order to discharge a firearm or bow the shooter/hunter had to be a minimum of 500 feet from the nearest occupied dwelling, unless he or she received prior consent from the owner. This remains the case for firearms. But in 2014, New York's budget included a little-noticed provision that lowered the discharge distance for bows to 150 feet, bringing the state's archery discharge distance more in line with that of surrounding states (Kalbaugh, 2015).

Kalbaugh (2015) further explains that the origin of the discharge ban was driven primarily by safety concerns and also by objections from resident land owners over deer being shot in close proximity to dwellings. However, at the time the archery discharge restriction was first put in place many of the issues of deer-human conflict that today's managers are grappling with were largely absent, although some impacts on agriculture and forestry are mentioned in the literature (Severinghaus & Brown, 1956). Further, archery hunting in New York has enjoyed a stellar safety record, with only two incidents reported (statewide) in the decade prior to the policy change, both of which were self-inflicted cuts from handling arrows, not from the discharge of a bow (New York State Department of Environmental Conservation (NYSDEC), 2011).

While the reduction in discharge distance may seem relatively inconsequential, the potential impacts on improved access for sportsmen and women (and by extension the DEC's ability to rely on hunting to manage pockets of deer overabundance) are profound. As noted by the NYS DEC (2011) in their 2012–2016 deer management plan:

A circle with a 500-foot radius encompasses a land area approximately 18 acres in size, and in many parts of the State, significant bow hunting opportunities exist on parcels of land this size and smaller. Specific examples include the suburban/rural interface of portions of Erie, Albany, Monroe, Westchester, and Suffolk Counties,

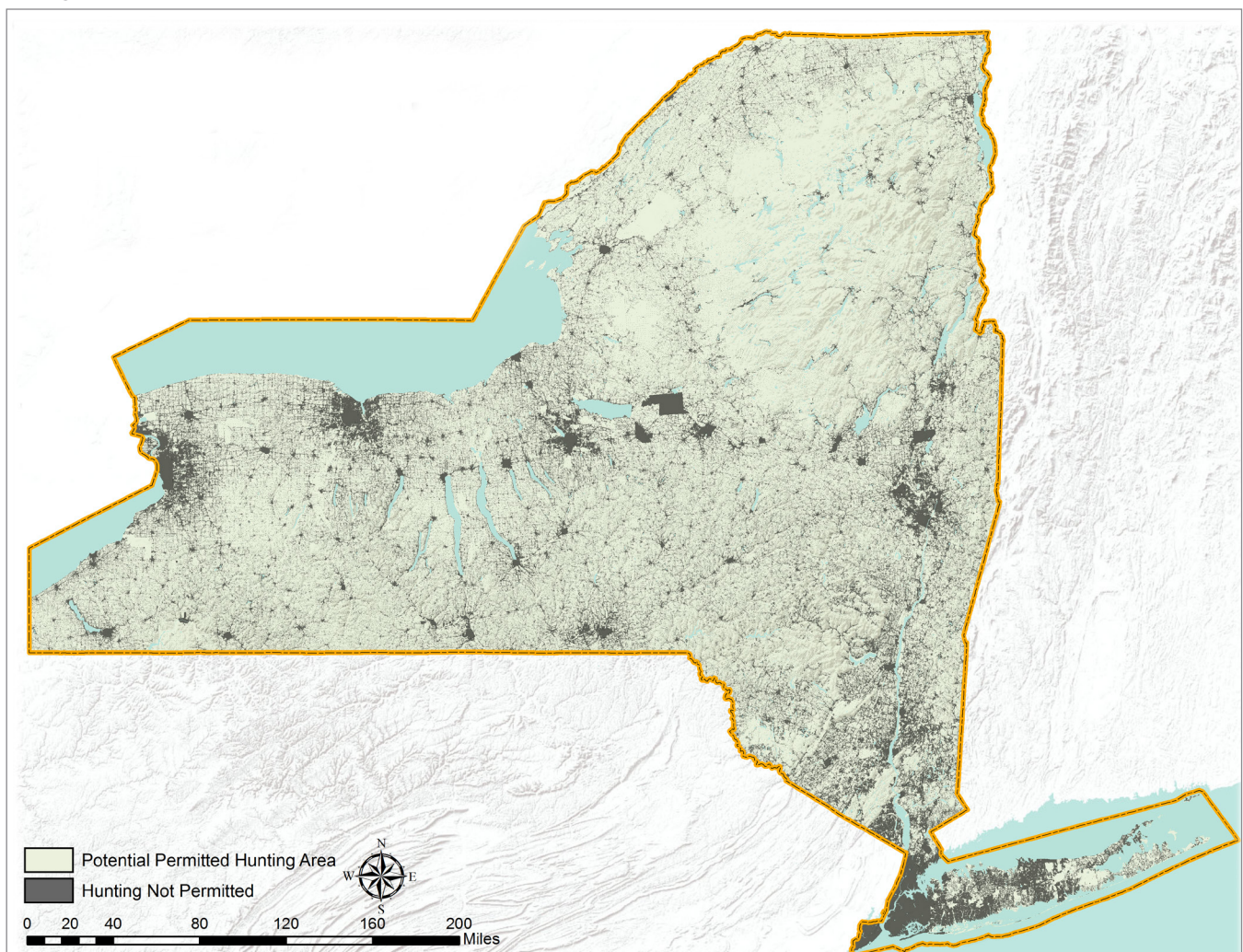
and on a smaller scale, individual communities which have expressed increased interest in the use of archery hunting as a tool for controlling deer numbers.

Conversely, a circle with a 150-foot radius has an area of only 1.6 acres (Kalbaugh, 2015).

The 2014 budget also authorized the use of crossbows in the last two weeks of archery season, though with a 250 feet discharge distance. Both the crossbow allowance, as well as the reduced discharge distance for both crossbows and vertical bows, were measures the DEC recommended

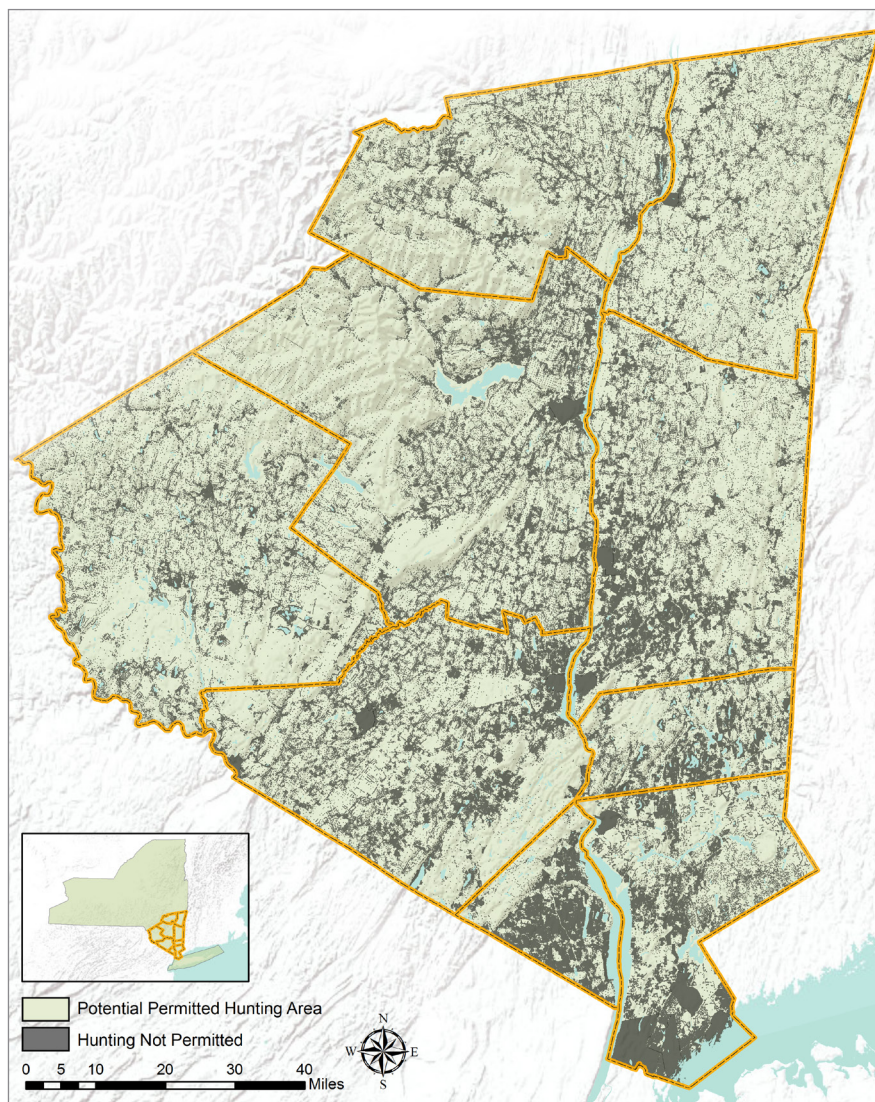
in their 2012–2016 deer management plan drafted in 2011. In the years that followed, stand-alone legislation was pursued in both the Senate and the Assembly without success (NY Assembly Bill 283, 1699). Despite a strong coalition of sportsmen and women advocating for the change, as well as the support of the state agency of jurisdiction, the Assembly Committee on Environmental Conservation failed to consider the bill. The Committee roadblock in the Assembly was bypassed when the DEC's desired bill language was included in the Governor's 2014 Budget.

Hunting in New York



The net effect of both the crossbow allowance as well as the discharge distance reduction was to increase access for archery hunters, and to potentially improve their ability to manage isolated pockets of deer overabundance. With the change being relatively recent we do not yet know whether these changes have had an impact on overabundance. ▲

Hunting in the Hudson Valley



MOVING FORWARD

Although the policy change in the 2014 Budget is a positive step forward in the furtherance of both the New York hunting tradition and the DEC's ability to utilize hunters for deer management near more populated places, additional work will be required for the resulting policy to reach its full potential. Potential areas of focus should include expanding the crossbow season (and the archery season where issues with overabundance have been documented), reducing the crossbow discharge distance to match the new archery distance, and implementing landowner education programs to increase acceptance of archery hunters in non-traditional hunting environments, near suburban neighborhoods.

EXPANDING CROSSBOW AND ARCHERY SEASONS

Recent studies have shown high levels of public support for archery (Urbanek, et al., 2012) and crossbow (Kilpatrick, Labonte, & Barclay, 2007) hunting as a tool for management of suburban deer populations. Kilpatrick, et al. (2007) determined that both homeowners and hunters support a crossbow season for managing suburban deer, if it falls outside of the pre-established archery season. Few homeowners allowed hunting on their property, but most supported the use of lethal strategies on White-tailed populations. Of the lethal strategies, archery, gun, and

cross bow hunting had the most support, as opposed to sharp shooting and trap and kill methods (Kilpatrick, et al., 2007). Merrill, et al. (2006) note that, although stakeholders may be opposed to hunting, consistent lethal control may be the only way to sustainably reduce a local deer herd below current levels.

Additionally, the inclusion of a crossbow season has the potential to increase hunter participation, as it will spur participation from gun-hunters (Kilpatrick, et al., 2007). As documented in other research, and as noted previously, increasing hunter participation is an essential element in using hunting as an effective management tool (Giles & Findlay, 2004).

CONSISTENT LETHAL CONTROL MAY BE THE ONLY WAY TO SUSTAINABLY REDUCE A LOCAL DEER HERD BELOW CURRENT LEVELS.

REDUCING THE CROSSBOW DISCHARGE DISTANCE

By reducing the crossbow discharge distance to 150 feet from an occupied dwelling (from the current 250 feet) additional crossbow hunters will have opportunities to harvest deer in suburban areas. Crossbows are often perceived to have a greater range when fired. The view therefore is that the hunter must be further away from an occupied dwelling for safety reasons. However, with advances in both crossbows and modern vertical bow technology in recent years, the ballistics of the two forms of archery equipment vary only slightly (Humphrey, 2012). Further, Von Benedikt & O'Brien (2014) report that the two forms of archery equipment are very similar when it comes to their safety records, noting that 30 years of accident data shows nearly identical incident rates.

LANDOWNER EDUCATION

New York State policy makers must also implement a science-based public education campaign to incentivize

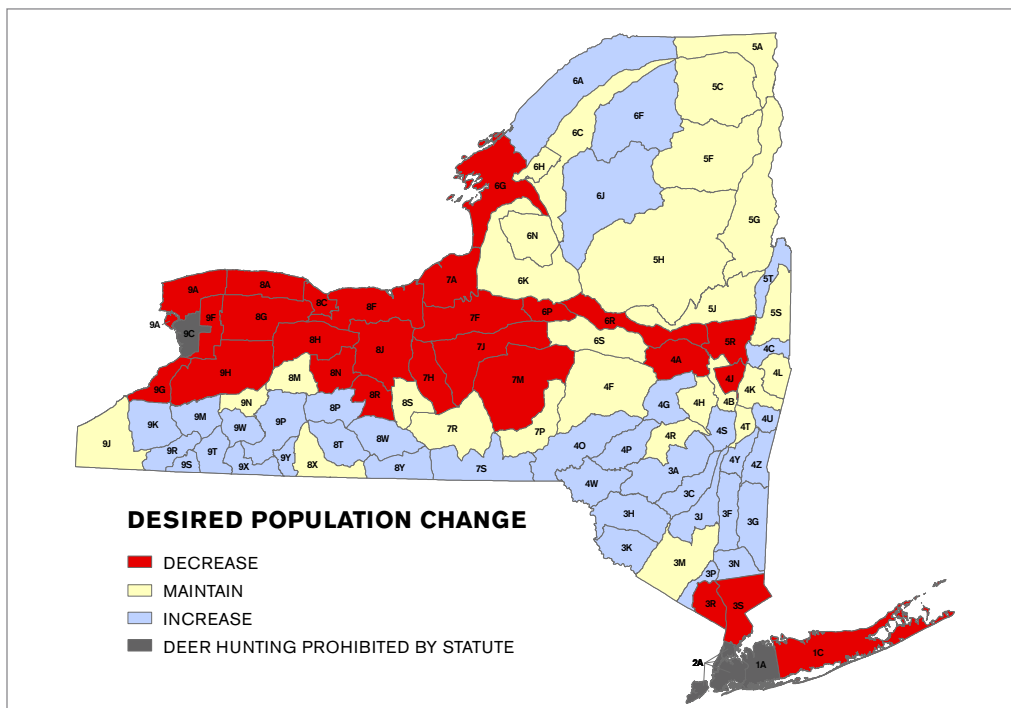


Figure 3. New York State Department of Environmental Conservation 2016 Deer Population Management Goals

hunter access in the areas where the DEC finds the White-tailed deer population to be overabundant. Many homeowners do not presently allow hunting on their properties (Kilpatrick, et al., 2007). This needs to change, if controlling pockets of deer overpopulation in suburban and exurban communities by hunting is to advance.

This education campaign should focus on the positive role hunting plays in providing both conservation funding revenue for their community, the social benefits gained from hunting, and the effectiveness of hunting as a wildlife management tool to reduce human-wildlife conflicts and negative impacts to forest composition and biodiversity of the surrounding ecosystem. Specific to the Hudson Valley (and as demonstrated by Figure 3), the DEC has set a goal to reduce White-tailed deer

numbers in wildlife management units 3R and 3S in the years ahead. These wildlife management units are located (either in whole or in part) in Rockland and Westchester Counties.

A decade ago, both hunters (Kilpatrick, et al., 2007; Bhandari, & Lewis, 2006) and homeowners (Kilpatrick, et al., 2007) were found to receive their information regarding hunting through primary media outlets. However, recent research indicates that the majority of Millennials and Gen-Xers rely on Facebook and other social media platforms for their news (Mitchell, Gottfried, & Matsa, 2015). With this in mind, it is evident that education campaigns need to be designed and delivered in a manner appropriate to the age demographics of the community. ▲

CONCLUSION

Recent policy changes in New York have allowed for a potentially significant expansion of hunter access. This will likely provide the New York State Department of Environmental Conservation additional resources to manage localized pockets of White-tailed deer overabundance where they are found. Additionally, the increased access has the potential to increase hunter participation (and therefore hunting license sales) with potential far-reaching positive impacts on conservation funding for the state fish & wildlife agency.

However, additional steps are required for this policy shift to reach its full potential, including: expanding the current crossbow season, lowering the crossbow discharge distance, and implementing a landowner education program to incentivize hunter access. Legislation (S. 7005, introduced by Senator Patrick Gallivan, and A. 9623, introduced by Assembly Member Aileen Gunther) in the 2015–2016 legislative session would have addressed two of these areas by

reclassifying crossbows as archery equipment (thus expanding their use to the full archery season) and by making the discharge distance consistent with vertical bows at 150 feet. This bill must be re-introduced next year, and a strong effort made to pass it.

New York State policy makers must also implement a science-based public education campaign to incentivize hunter access in the areas where the DEC finds the White-tailed deer population to be overabundant. This education campaign should focus on (among other benefits) the positive role hunting plays in providing conservation funding, the social benefits gained from hunting, and the effectiveness of hunting as a wildlife management tool to reduce human-wildlife conflicts. Specific to the Hudson Valley, policy makers should consider establishing a pilot program in wildlife management units 3R and 3S, where the DEC has set a pre-existing goal of population reduction for deer in the years ahead. ▲

AUTHOR BIO



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Northeastern States Director, Congressional Sportsmen's Foundation

Brent Miller is an avid outdoorsman who grew up in the Hudson Valley Region of New York. For the past six years he has served as the Northeastern States Director for the Congressional Sportsmen's Foundation. During this time he has worked alongside state legislative sportsmen's caucuses and governors to protect and advance the interests of sportsmen and women throughout New England and the Mid-Atlantic.

Brent graduated with honors from both SUNY New Paltz (B.A. Sociology) and Bard College (M.S. Environmental Policy) in upstate New York. His Master's thesis examined the potential for changes in Sunday hunting policy to provide increased funding for state wildlife management agencies throughout the region. Further research included an evaluation of management techniques for localized white-tailed deer overpopulation concerns. Additionally, Brent has received his Professional Development Certificate from The Wildlife Society, and currently serves as a Committee Member on both the National Wildlife Services Advisory Committee, and the Maryland Sportsmen's Marketing Initiative.

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