

# William & Mary Environmental Law and Policy Review

---

Volume 40 (2015-2016)  
Issue 2 Symposium Issue: *What's in Your  
Water? A Discussion of Threats to Virginia's  
Water Quality*

---

Article 10

February 2016

## Has Blue Overshadowed Green?: The Ecological Need to Eradicate Hunting Blue Laws

Allie Humphreys

Follow this and additional works at: <https://scholarship.law.wm.edu/wmelpr>



Part of the [Animal Law Commons](#), and the [Environmental Law Commons](#)

---

### Repository Citation

Allie Humphreys, *Has Blue Overshadowed Green?: The Ecological Need to Eradicate Hunting Blue Laws*, 40 Wm. & Mary Envtl. L. & Pol'y Rev. 623 (2016), <https://scholarship.law.wm.edu/wmelpr/vol40/iss2/10>

Copyright c 2016 by the authors. This article is brought to you by the William & Mary Law School Scholarship Repository.  
<https://scholarship.law.wm.edu/wmelpr>

# HAS BLUE OVERSHADOWED GREEN?: THE ECOLOGICAL NEED TO ERADICATE HUNTING BLUE LAWS

ALLIE HUMPHREYS\*

INTRODUCTION .....	623
I. THE GROWING WHITE-TAILED DEER POPULATION .....	626
A. <i>Current State of the Species</i> .....	626
B. <i>Current State of the Law</i> .....	628
II. EFFECTS OF WHITE-TAILED DEER OVERPOPULATION .....	629
A. <i>Direct Ecological Effects</i> .....	629
B. <i>Economic Impact</i> .....	632
C. <i>Ancillary Environmental Benefits</i> .....	635
D. <i>Disease</i> .....	636
III. LEGISLATIVE CHANGES NEEDED TO COMBAT THE EFFECTS OF WHITE-TAILED DEER OVERPOPULATION .....	638
A. <i>Past Legislative Proposals</i> .....	638
B. <i>Failed Litigation</i> .....	639
C. <i>Legislative Proposals</i> .....	640
D. <i>Urban Hunting</i> .....	641
CONCLUSION .....	643

## INTRODUCTION

Sunday trade restrictions, commonly referred to as Blue Laws, draw their justification from the Old Testament, in which God commanded his people to rest on Sundays.<sup>1</sup> Blue Laws first came into effect in America in the early colonial period, and remained largely unchanged until the late nineteenth century.<sup>2</sup> States began to realize that Blue Laws made little economic sense in modern times, and by 1984, the number of states

---

\* J.D. Candidate, William & Mary Law School, 2016; B.A. Communication, College of Charleston, 2012. The author would like to thank Dr. Martha Case, James Gottwald, and the staff of the *William & Mary Environmental Law and Policy Review* for their research and editorial assistance.

<sup>1</sup> John Durham & Assoc., *The Economic Impact of Sunday Hunting*, National Shooting Sports Foundation, NAT'L SHOOTING SPORTS FOUND., [http://sundayhunting.org/PDF/Sunday Hunting\\_EconomicImpact.pdf](http://sundayhunting.org/PDF/Sunday_Hunting_EconomicImpact.pdf) [<http://perma.cc/L6GU-CUQ9>] (last visited Jan. 22, 2016).

<sup>2</sup> *Id.*

retaining their Blue Laws had dropped to thirteen.<sup>3</sup> One of the Blue Laws with the most staying power is the Sunday hunting ban.<sup>4</sup> While pressure from union groups and other litigants caused many states to lift their Sunday trade and labor restrictions in recent years, eleven East Coast states still ban or restrict Sunday hunting.<sup>5</sup>

Because state legislators traditionally saw hunting as a less pressing state issue than other Blue Law restrictions, Sunday hunting bans remain in effect in many areas where the legislation lifted other Blue Laws.<sup>6</sup> Opponents of Sunday hunting laws formed interest groups across the country, hoping to challenge Sunday hunting bans on constitutional grounds, but so far, these arguments have been largely unsuccessful.<sup>7</sup> However, in recent years, many of the East Coast states with lingering Sunday hunting bans faced an issue that may cause state legislators to reconsider their previously passive stance on the status of these restrictions.<sup>8</sup> In the past ten years, white-tailed deer populations have exploded, resulting in surprisingly devastating effects on the environment.<sup>9</sup> Entire forests are disappearing as unchecked deer herds literally eat the forests to the ground.<sup>10</sup> Songbird species are all but disappearing from certain areas as deer destroy their habitats.<sup>11</sup> As a relatively new environmental threat, the growing white-tailed deer issue remained out of the spotlight and beyond the realm of legislative concern. However, the problem recently caught the eye of several large organizations in a major way. In a 2013 article, the Nature Conservancy declared deer a greater threat to eastern

---

<sup>3</sup> *Id.*

<sup>4</sup> See generally *Sunday Hunting Ban*, SPORTSMEN VOTE, <http://www.sportsmenvote.com/issues/sunday-hunting-ban/#ixzz3FIpqlsnS> [<http://perma.cc/FT8K-ZEAL>] (last visited Jan. 22, 2016).

<sup>5</sup> Melissa Daniels, *Hunters Take PA Game Commission to Court Over Sunday Hunting Ban*, PA. INDEP. (July 24, 2013), <http://paindependent.com/2013/07/hunters-take-pa-game-commission-to-court-over-sunday-hunting-ban/> [<http://perma.cc/YM7J-26BW>].

<sup>6</sup> *Id.*

<sup>7</sup> See generally *Hartley Hill Hunt Club v. Ritchie Cnty. Comm'n*, 220 W. Va. 382 (2007); *Hunters United for Sunday Hunting v. Pa. Game Comm'n*, 28 F. Supp. 3d 340 (M.D. Pa., 2014).

<sup>8</sup> See Allen Pursell, *Too Many Deer: A Bigger Threat to Eastern Forests than Climate Change?*, THE NATURE CONSERVANCY (Aug. 22, 2013), <http://blog.nature.org/science/2013/08/22/too-many-deer/> [<http://perma.cc/T35G-EBNH>].

<sup>9</sup> See generally Simon Chollet & Jean-Louis Martin, *Declining Woodland Birds in North America: Should We Blame Bambi?*, 19 DIVERSITY & DISTRIBUTIONS 4, 481 (2012), available at <http://onlinelibrary.wiley.com/doi/10.1111/ddi.12003/full> [<http://perma.cc/96GJ-2AVS>].

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

forests than global climate change.<sup>12</sup> The sobering reality is that unchecked white-tailed deer populations have the capacity to drive numerous plant and animal species to extinction.<sup>13</sup> Without prompt legislative action, the deer overpopulation problem is likely to change the state of eastern forests forever.

With hardy reproductive abilities and few natural predators, the white-tailed deer overpopulation problem shows no signs of slowing on its own.<sup>14</sup> Hunting is one of the only ways to actively control the fast growing deer populations in many eastern states. Yet for most recreational hunters, the workweek leaves only one viable hunting day per week.<sup>15</sup> Combined with the relatively short deer season and the outdated and overly conservative bag limits in most states, deer hunters are left with little time to make any significant dent in deer population.<sup>16</sup> Eliminating Sunday hunting laws would double the amount of viable hunting time for the majority of recreational hunters, providing twice the opportunity for low-cost, active deer population management.

Those who oppose Sunday hunting cite two main claims: harmful effects on game populations and safety concerns. However, neither of these claims has been substantiated.<sup>17</sup> In the 18th and 19th centuries, market and subsistence hunting began to eat away at white-tailed deer populations.<sup>18</sup> States began to enact hunting restrictions, such as licensure, season restrictions, and sex limitations.<sup>19</sup> The states' efforts achieved their intended effects, and because of the continued heavy hunting restrictions, human land manipulation, and lack of natural predators, deer

---

<sup>12</sup> Pursell, *supra* note 8.

<sup>13</sup> See Suzanne Dingwell, *Manage White-Tailed Deer to Protect Our Natural Heritage*, VA. NATIVE PLANT SOC'Y (Mar. 12, 2015), <http://vnps.org/manage-white-tailed-deer-to-protect-our-natural-heritage/> [<http://perma.cc/RZM5-9FYM>].

<sup>14</sup> See generally Mark Weckel & Robert F. Rockwell, *Can Bow Hunts Reduce Overabundant White-Tailed Deer Populations in Suburban Ecosystems?*, 250 *ECOLOGICAL MODELING* 10, 143 (2012), available at <http://research.amnh.org/~rfr/hbp/weckel&rockwell2013.pdf> [<http://perma.cc/QL5K-4LNK>].

<sup>15</sup> Rashard Rose & Mark Holmberg, *Sunday Hunting Ban Could Cost You Some Dents, Maybe Even Your Life*, CBS 6 NEWS (Nov. 15, 2013, 11:42 PM), available at <http://wtvr.com/2013/11/15/holmberg-sunday-hunting-ban-could-cost-you-some-dents-maybe-even-your-life/> [<http://perma.cc/EL9V-QR5Z>].

<sup>16</sup> *Id.*

<sup>17</sup> *Sunday Hunting Ban*, *supra* note 4.

<sup>18</sup> Tania M. Schusler, *Ecological Impacts of High Deer Densities*, 2 *TEACHING ISSUES & EXPERIMENTS IN ECOLOGY* 1, 3 (2014), available at [http://tiee.esa.org/vol/v2/issues/figure\\_sets/deer/overview.html](http://tiee.esa.org/vol/v2/issues/figure_sets/deer/overview.html) [<http://perma.cc/V3KY-J7J4>].

<sup>19</sup> *Id.*

populations spiked in the past twenty years.<sup>20</sup> Because deer have few natural predators, management of the species relies heavily on hunting. Many sources point to increased access to legal hunting as the most practical solution to this problem.<sup>21</sup>

This Note will explain why eliminating Sunday hunting bans in eastern states is necessary to combat the growing ecological threat of white-tailed deer overpopulation. The Note will first discuss the growing white-tailed deer population and the current state of the law, as well as why the current laws are outdated and overly restrictive in the currently oversaturated deer environment.<sup>22</sup> Section three will address the issues posed by white-tailed deer overpopulation.<sup>23</sup> The Note will then address the changes to the law that are needed to combat this problem and the direct and ancillary benefits of these changes.<sup>24</sup>

## I. THE GROWING WHITE-TAILED DEER POPULATION

### A. *Current State of the Species*

The white-tailed deer population in the United States, an estimated 30 million and growing, is now larger than it was when the earliest settlers landed in America.<sup>25</sup> Both natural and artificially created factors contribute to the recent white-tailed deer population explosion.<sup>26</sup> Unless legislative action is taken soon, the white-tailed deer population, as well as the associated detrimental environmental effects, will continue to grow.

Natural factors make deer especially capable of quick population growth. Armed with keen natural defensive mechanisms such as an acute sense of smell and quick flight capabilities, adult white-tailed deer have virtually no natural predators in modern eastern forest environments.<sup>27</sup> In the earlier part of the 19th century, wolves and mountain lions helped

---

<sup>20</sup> Paul D. Curtis & Kristi L. Sullivan, *Wildlife Damage Management Fact Sheet: White-Tailed Deer*, CORNELL COOP. EXTENSION (2001), [http://wildlifecontrol.info/pubs/Documents/Deer/Deer\\_factsheet.pdf](http://wildlifecontrol.info/pubs/Documents/Deer/Deer_factsheet.pdf) [<http://perma.cc/DC3T-G7M7>].

<sup>21</sup> Dingwell, *supra* note 13.

<sup>22</sup> *See infra* Part I.

<sup>23</sup> *See infra* Part II.

<sup>24</sup> *See infra* Part III.

<sup>25</sup> David Von Drehle, *America's Pest Problem: Time to Cull the Herd*, TIME (2013), available at <http://time.com/709/americas-pest-problem-its-time-to-cull-the-herd> [<http://perma.cc/357Z-2TF7>].

<sup>26</sup> Weckel & Rockwell, *supra* note 14.

<sup>27</sup> *Id.*

to quell the white-tailed deer population.<sup>28</sup> However, humans depleted these large carnivore populations through hunting and trapping and these potential predators are now virtually extinct in eastern states.<sup>29</sup> Deer are also able to regenerate at an extremely fast rate.<sup>30</sup> Just two deer can produce a herd of thirty-five in five years.<sup>31</sup> In environments without active culling, deer herds can double in size each year.<sup>32</sup>

Human-created factors contribute significantly to the deer overpopulation problem, both consciously and unconsciously.<sup>33</sup> In the early 19th century, state legislatures made conscious decisions to implement hunting restrictions in order to protect the then heavily hunted white-tailed deer population.<sup>34</sup> While these man-made restrictions were appropriate and necessary in a time when Americans relied heavily on hunting as a main source of food, these laws are unnecessary and damaging in modern times.<sup>35</sup> In the past century, urbanization and modernization lead to a decreased reliance on hunted food. As Americans began to rely increasingly on commercially farmed meat, the pressure on white-tailed deer populations eased significantly.<sup>36</sup> Population control of white-tailed deer is now largely left on the shoulders of sportsmen, whose effectiveness remains limited by antiquated Blue Laws.<sup>37</sup>

Human development also contributes to the growing population of white-tailed deer.<sup>38</sup> Deer thrive in “edge habitat”—environment that is split between open, field land and forested land.<sup>39</sup> Edge habitat affords

---

<sup>28</sup> See Chollet & Martin, *supra* note 9.

<sup>29</sup> *Id.*

<sup>30</sup> ANTHONY J. DENICOLA ET AL., MANAGING WHITE-TAILED DEER IN SUBURBAN ENVIRONMENTS: A TECHNICAL GUIDE 7 (2000), available at [http://wildlifecontrol.info/pubs/Documents/Deer/Deer\\_management\\_mechs.pdf](http://wildlifecontrol.info/pubs/Documents/Deer/Deer_management_mechs.pdf) [<http://perma.cc/VUK3-Q7TJ>].

<sup>31</sup> *Deer Facts*, SUBURBAN WHITETAIL MGMT. OF N. VA., <https://www.deerdamage.org/page/deer-facts> [<https://perma.cc/4AMK-2M9K>] (last visited Jan. 22, 2016).

<sup>32</sup> *Id.*

<sup>33</sup> Von Drehle, *supra* note 25.

<sup>34</sup> DAN BERGERON, WHITE-TAILED DEER ASSESSMENT 22–23 (2014) (describing the New Hampshire hunting restrictions from the late 1800s), available at <http://www.wildlife.state.nh.us/hunting/documents/nh-deer-assessment-2015.pdf> [<http://perma.cc/2PZ7-ACDQ>].

<sup>35</sup> *Sunday Hunting Ban*, *supra* note 4 (outlining the reasons against Sunday hunting ban laws that are still in effect in some states).

<sup>36</sup> See Von Drehle, *supra* note 25; see generally KERT VERCAUTEREN, THE DEER BOOM: DISCUSSIONS ON POPULATION GROWTH AND RANGE EXPANSION OF THE WHITE TAILED DEER (2003), available at [http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1276&context=icwdm\\_usdanwrc](http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1276&context=icwdm_usdanwrc) [<http://perma.cc/R5YU-Q5EF>].

<sup>37</sup> *Id.*

<sup>38</sup> See generally VERCAUTEREN, *supra* note 36.

<sup>39</sup> ROBERT A. PIERCE II, ENHANCING WHITE-TAILED DEER HABITATS ON YOUR PROPERTY:

deer the grassy lands they prefer for feeding and mating, as well as quick access to the cover and protection of forested land.<sup>40</sup> Human development, such as land clearing for housing or farming, creates a larger proportion of edge habitat than is needed to support a balanced deer population. Artificially increased proportions of edge habitat create an environment that encourages white-tailed deer populations to surge beyond healthy ecological carrying capacity.<sup>41</sup>

Human development also affects deer populations through increased access to food.<sup>42</sup> Because fences and pesticides do little to deter white-tailed deer from fields, industrial crop farming operations provide deer with nearly unrestricted access to food.<sup>43</sup> Like other suburban dwelling wildlife, deer are becoming increasingly bold when it comes to food.<sup>44</sup> Trash cans, pet food, and landscaped plants provide deer with easily accessed and plentiful food.<sup>45</sup> While limited food quantities normally keep wild animal populations under control, deer proved to be adaptable scavengers. Unlike bear and other trash can-diving wild species, deer are often not seen as cause for concern when wandering suburban areas, and are afforded easy access to backyard plants and food. Access to artificial sources of food allows larger-than-normal deer populations to survive without the natural check and balance provided by limited food quantities.<sup>46</sup>

### B. *Current State of the Law*

Currently, the deer hunting laws in the eastern states that retain Sunday hunting bans are set by county or region.<sup>47</sup> Each county or region sets a specified season, usually in the late fall and early winter months,

---

WOODLANDS AND FORESTS, available at <http://extension.missouri.edu/p/G9495> [<http://perma.cc/SRC7-MW69>].

<sup>40</sup> See VERCAUTEREN, *supra* note 36 (discussing deer feeding in edge habitats); see also DENICOLA ET AL., *supra* note 30 (discussing deer mating in edge habitats).

<sup>41</sup> VERCAUTEREN, *supra* note 36.

<sup>42</sup> Von Drehle, *supra* note 25.

<sup>43</sup> DENICOLA ET AL., *supra* note 30.

<sup>44</sup> See Von Drehle, *supra* note 25 (discussing how deer are becoming increasingly bold, specifically discussing a story of a woman finding two deer in the hallway of her house).

<sup>45</sup> *Id.*

<sup>46</sup> See *id.* (discussing the rise in deer population as humans provide more food sources for them, like crop gardens, garbage in trash cans, and bird seed).

<sup>47</sup> *Deer Bag Limits*, VA. DEP'T OF GAME & INLAND FISHERIES, <http://www.dgif.virginia.gov/hunting/regulations/deer.asp> [<http://perma.cc/8B63-53ZY>] (last visited Jan. 22, 2016) (outlining the Virginia state regulations for bag limits and hunting, which are based on region).

and maximum bag limits for both antlered and antlerless deer.<sup>48</sup> Generally the limit in a given area is based on the assessed deer population.<sup>49</sup> In high-density areas, the bag limit is often not reached because of lack of viable hunting days.<sup>50</sup> State game departments reassess these bag limits every year, but the amount of consideration that affects the yearly assessments is limited by the states' hunting department budgets.<sup>51</sup> In the past, the imposed bag limits were an important measure to protect the deer species.<sup>52</sup> However, with deer populations in certain areas growing at unprecedented rates, the current bag limits in many areas no longer reflect the actual deer populations, leading to overly restrictive bag limitations.<sup>53</sup>

## II. EFFECTS OF WHITE-TAILED DEER OVERPOPULATION

### A. *Direct Ecological Effects*

As white-tailed deer populations rise, their negative ecological effects become more pronounced. Areas in the northeastern United States are currently experiencing a phenomenon known as “ghost forests.”<sup>54</sup> A white-tailed deer's diet consists of forest “understory”—plants that grow from the ground level to six feet.<sup>55</sup> While forests can typically regenerate this “understory” growth fast enough to sustain normal deer densities, most eastern forests cannot regenerate fast enough for the current oversaturated deer densities. The resulting “ghost forests”—those that have been stripped bare of ground coverings—provide inadequate habitat for many species of birds and other woodland creatures.<sup>56</sup> Without the thick

---

<sup>48</sup> *Id.*

<sup>49</sup> DENICOLA ET AL., *supra* note 30.

<sup>50</sup> 2015 *Deer Season Information*, MINN. DEP'T OF NAT. RES., <http://files.dnr.state.mn.us/recreation/hunting/deer/2015-season-faq.pdf> [<http://perma.cc/UJ2V-366C>] (last visited Jan. 22, 2016).

<sup>51</sup> *See Deer Bag Limits*, *supra* note 47 (noting the length of time that the regulations set out in this cite are valid—from July to July for Virginia regulations).

<sup>52</sup> BERGERON, *supra* note 34.

<sup>53</sup> DENICOLA ET AL., *supra* note 30.

<sup>54</sup> THOMAS J. RAWINSKI, IMPACTS OF WHITE-TAILED DEER OVERABUNDANCE IN FOREST ECOSYSTEMS: AN OVERVIEW 3–4 (2008), *available at* [http://www.na.fs.fed.us/fhp/special\\_interests/white\\_tailed\\_deer.pdf](http://www.na.fs.fed.us/fhp/special_interests/white_tailed_deer.pdf) [<http://perma.cc/55A5-6LMH>]. *See also* Bill Luther, *Some things that you need to know about white tailed deer*, R.I. CANOE & KAYAK ASSOC., <http://www.ricka.org/Conservation/whitetaildeer.htm> [<http://perma.cc/2W8Q-S77K>] (last visited Jan. 22, 2016).

<sup>55</sup> Luther, *supra* note 54.

<sup>56</sup> RAWINSKI, *supra* note 54.

understory they require, these animals are forced to relocate or die. The increased deer density also has a negative ecological effect on carbon sequestration.<sup>57</sup> With many plant species killed off by over-feeding, areas of high deer populations are experiencing poorer air qualities.<sup>58</sup>

High deer populations also affect the forest's ability to regenerate. High foot traffic caused by large deer populations "negatively affect seedling recruitment, which is a critical component of forest regeneration and community structure."<sup>59</sup> The inability of the forest plants to regenerate causes a deadly domino effect for other forest-dwelling species.<sup>60</sup> As their habitat disappears, many species are left without the proper environment necessary for feeding or reproduction.<sup>61</sup>

By bringing deer herd populations back to manageable numbers, previously damaged forest ecosystems will be able to return to a healthy state.<sup>62</sup> As previously damaged forest ecosystems return to healthy states, other species affected by the forest ecosystem decline would also be given the chance to return to their natural state of health.<sup>63</sup>

Many species of woodland birds are suffering from the white-tailed deer overpopulation problem, with some species facing possible extinction.<sup>64</sup> Over the past forty years, when deer populations showed the most growth, songbird populations steadily declined in eastern states.<sup>65</sup> A recent study examining the relationship between white-tailed deer and songbird species showed a direct correlation between white-tailed deer overpopulation and songbird species decline.<sup>66</sup> In seven different eastern localities, the deer overpopulation "affected 37 songbird species, of which 33 (89%) could be identified a priori as potentially deer-sensitive (i.e., they depend on the

---

<sup>57</sup> James W. Bressette & Harald Beck, *The Effects of High Deer Density on Forest Regeneration and Carbon Sequestration*, 7 ENVTL. RES. J. 1 (2013), available at [http://www.academia.edu/2013247/The\\_effects\\_of\\_high\\_deer\\_density\\_on\\_forest\\_regeneration\\_and\\_carbon\\_sequestration](http://www.academia.edu/2013247/The_effects_of_high_deer_density_on_forest_regeneration_and_carbon_sequestration) [<http://perma.cc/ZB2R-56RF>].

<sup>58</sup> *Id.* at 10.

<sup>59</sup> *Id.* at 1.

<sup>60</sup> Interview with Dr. Martha Case, Professor of Biology, College of William & Mary, in Williamsburg, Va. (Dec. 1, 2014).

<sup>61</sup> *Id.*

<sup>62</sup> Bressette & Beck, *supra* note 57, at 5, 9.

<sup>63</sup> Robin Gill, *The Impact of Deer on Woodland Biodiversity*, Forestry Commission, FORESTRY COMM'N (Aug. 2000), [http://www.forestry.gov.uk/pdf/fcin36.pdf/\\$FILE/fcin36.pdf](http://www.forestry.gov.uk/pdf/fcin36.pdf/$FILE/fcin36.pdf) [<http://perma.cc/38PB-8VYG>]. See Chollet & Martin, *supra* note 9.

<sup>64</sup> Chollet & Martin, *supra* note 9, at 482.

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

understory for feeding and nesting).<sup>67</sup> Experts believe the “ghost forest” effect is causing the decline in bird populations as the birds’ natural habitat is stripped away.<sup>68</sup>

Dr. Martha Case, a professor of biology at the College of William and Mary, says that the white-tailed deer overpopulation problem in eastern states is especially concerning because much of the resulting damage is irreversible.<sup>69</sup> Dr. Case first began studying the ecological effects of the deer overpopulation problem about ten years ago after the numbers of wild orchids in her forest research population began to rapidly decline.<sup>70</sup> Many eastern forests are temperate forests, which is characterized by a shrub layer of herbaceous vegetation lining the forest floor.<sup>71</sup> In temperate forests, there are many “tight associations” between plants and animals, which creates a symbiotic ecological relationship.<sup>72</sup> Species are interdependent and rely on a delicate ecological balance to sustain existence. Deer are part of this balance when in average population sizes, but when the deer population becomes far too large, as it is currently, this balance begins to collapse. For example, as perennial and annual plant species are destroyed by deer, certain species of moths and butterflies that lay their eggs on the leaves of these plants lose their reproductive environment.<sup>73</sup> As there ceases to be moth and butterfly larvae, the birds that rely on this food source begin to decline.<sup>74</sup> The plants whose seeds are spread by these birds fail to regenerate.<sup>75</sup> In order to restore the balance of eastern forests and prevent further ecological decline, the deer overpopulation problem—the source of this domino effect—must be addressed.<sup>76</sup> Dr. Case believes that the deer overpopulation problem must be addressed as soon as possible to avoid losing more forest ecology forever.<sup>77</sup> Dr. Case is a strong supporter of hunting as a method of deer population control and believes lifting Sunday hunting bans is a practical and logical step in combating the ecological decline caused by deer.<sup>78</sup>

---

<sup>67</sup> *Id.* at 481–82.

<sup>68</sup> Case, *supra* note 60.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

<sup>74</sup> Case, *supra* note 60.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

*B. Economic Impact*

In addition to combating ecological damage, removing Sunday hunting bans could have many positive effects on the economy. Deer overpopulations are currently wreaking havoc on small and medium size crop farming operations.<sup>79</sup> Normal adult deer will eat anywhere between six and ten pounds of food per day during the late spring, summer, and fall.<sup>80</sup> Contrary to popular belief, deer are not “grazing” animals, and prefer to consume broad-leafed plants and other higher growing vegetation.<sup>81</sup> White-tailed deer’s preference for this type of plant puts agricultural crops at particular risk for destruction.<sup>82</sup> A 2002 study estimated white-tailed deer caused approximately \$58.8 million of damage to crops in New York alone.<sup>83</sup> These farmers rely on crop insurance claims to recover their harvest losses.<sup>84</sup> As farmers submit more claims, insurance prices increase. To account for the increased insurance costs, farmers charge more for their crops, and food price points increase. Addressing deer overpopulation issues in areas with crop farming will also address some of the issues stemming from this negative insurance cycle that is driving up food prices.

Some states implemented state-funded programs to help offset the crop damage caused by growing white-tailed deer populations.<sup>85</sup> These programs issue additional deer tags for agricultural protection purposes, as well as exempt farmers from firearm limitations when harvesting antlerless deer on agricultural land.<sup>86</sup> While effective in theory, these programs present problems of their own. The state is responsible for fronting

---

<sup>79</sup> David Drake et al., *Assessment of Negative Economic Impacts From Deer in the Northeastern United States*, 43 J. EXTENSION (Feb. 2005), <http://www.joe.org/joe/2005February/rb5.php> [<http://perma.cc/6AVN-HB3R>].

<sup>80</sup> *White-tailed Deer and the Landscape: Preventing Deer Damage*, UNIV. MASS. AMHERST, available at <https://ag.umass.edu/fact-sheets/preventing-deer-damage> [<https://perma.cc/2YPY-DQDW>] (last visited Jan. 22, 2016).

<sup>81</sup> *Id.*

<sup>82</sup> *See id.*

<sup>83</sup> TOMMY L. BROWN ET AL., FARMERS’ ESTIMATES OF ECONOMIC DAMAGE FROM WHITE-TAILED DEER IN NEW YORK STATE iv (Cornell U. 2004), <http://www2.dnr.cornell.edu/hdru/pubs/HDRUReport04-3.pdf> [<http://perma.cc/86X2-5KSG>].

<sup>84</sup> *See Overview of crop insurance policies*, USDA, <http://www.rma.usda.gov/policies/> [<http://perma.cc/5RG5-LEDN>] (last visited Jan. 22, 2016).

<sup>85</sup> *See e.g., Deer Damage Assistance for Farmers*, DEL. DIV. OF FISH & WILDLIFE, <http://www.dnrec.delaware.gov/fw/Hunting/Pages/DeerDamageAssistance.aspx> [<http://perma.cc/ZKN7-8DYK>] (last visited Jan. 22, 2016).

<sup>86</sup> *Id.*

the costs associated with such programs, including program staff and administrative costs.<sup>87</sup> Additionally, even farmers registered with deer damage assistance programs are subject to Blue Law restrictions and cannot exercise their deer control privileges on Sundays.<sup>88</sup> Lifting Sunday hunting bans would be a simpler and more cost-effective solution to agricultural deer damage.

Interestingly, farmers are some of the most vocal anti-Sunday hunting advocates.<sup>89</sup> Because many modern farmers grow their crops on leased land, they often have little or no control over whether the land is also used for hunting.<sup>90</sup> Land lessors often allow hunters to hunt their leased fields, regardless of the potential interference with farming operations.<sup>91</sup> Sunday hunting bans allow farmers to work their fields without interference from hunters on Sundays.<sup>92</sup> While the Farm Bureau is a strong legislative influence, the ecological threat currently posed by deer overpopulation is more of a pressing consideration for policy makers.

White-tailed deer overpopulations also cause economic harm on a more micro level through damage to vehicles and real estate.<sup>93</sup> As both deer and human populations rise, deer compete with humans for space. Deer increasingly occupy suburban areas and cause issues for the homeowners and residents.<sup>94</sup> A report detailing the effects of unwanted deer-human interactions estimated “an annual economic impact from deer-vehicle collisions and deer depredation to select high-value agricultural, grain, and nursery crops, and residential and commercial landscaping for 13 northeastern United States [sic] at nearly \$640 million.”<sup>95</sup>

Car accidents involving deer kill an estimated 200 people a year and cost \$4 billion annually.<sup>96</sup> As the deer population grows and food

---

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> Daniels, *supra* note 5; *Farm Organization Wants Sunday Hunting Ban Upheld*, FARM BUREAU VA., available at [http://vafarmbureau.org/NewsVideo/NewsHeadlines/tabid/347/articleType/ArticleView/articleId/630/Farm\\_organization\\_wants\\_Sunday\\_hunting\\_ban\\_upheld.aspx](http://vafarmbureau.org/NewsVideo/NewsHeadlines/tabid/347/articleType/ArticleView/articleId/630/Farm_organization_wants_Sunday_hunting_ban_upheld.aspx) [<http://perma.cc/LMP3-42KG>].

<sup>90</sup> *Farm Organization*, *supra* note 89.

<sup>91</sup> PENN. STATE EXTENSION, *Owning and Leasing Agricultural Real Estate*, AGRICULTURAL ALTERNATIVES (2014), [http://extension.psu.edu/business/ag-alternatives/farm-management/owning-and-leasing-agricultural-real-estate/extension\\_publication\\_file](http://extension.psu.edu/business/ag-alternatives/farm-management/owning-and-leasing-agricultural-real-estate/extension_publication_file) [<https://perma.cc/Z4WN-YUMJ>].

<sup>92</sup> Daniels, *supra* note 5; *Farm Organization*, *supra* note 89.

<sup>93</sup> Von Drehle, *supra* note 25.

<sup>94</sup> *Id.*

<sup>95</sup> Drake et al., *supra* note 79.

<sup>96</sup> *Car and Deer Collisions Cause 200 Deaths, Cost \$4 Billion a Year*, INS. J., <http://www>

supplies become more limited, deer begin to migrate into suburban areas in search of food.<sup>97</sup> As the number of deer in suburban areas rises, so do the number of deer-vehicle collisions. State Farm's annual data shows that deer-vehicle collisions rose 21% in the past five years, despite miles driven only increasing by 2%.<sup>98</sup>

Crop farming is another major economic area negatively impacted by white-tailed deer.<sup>99</sup> Deer-related loss of high-value agricultural crops from thirteen eastern states is estimated at nearly \$95 million annually.<sup>100</sup> High-value agricultural crops affected by deer damage included fresh market and processed vegetables and fruits such as beans, sweet corn, tomatoes, apples, and peaches.<sup>101</sup> Grain and nursery plant losses contribute another \$100 million annually to deer-related agricultural loss.<sup>102</sup>

While deer overpopulation itself is damaging on an economic level, limitations on deer hunting is also stifling economic growth.<sup>103</sup> Deer hunting is a booming industry, pumping money into the economy on both a local and national level.<sup>104</sup> A recent study found that if Sunday hunting restrictions were loosened in the six states that have the most severe restrictions (Connecticut, Delaware, Maine, Massachusetts, Pennsylvania, Virginia) an additional 117,500 hunters would likely be recruited or retained by 2016.<sup>105</sup> Because licensure money goes to state fish and wildlife agencies, the increase in licensed hunters would result in substantial increases in funding for the game agencies within these states.<sup>106</sup> This increase in state wildlife agency funding would allow the agencies to better assess deer populations on a regular basis to set better informed bag limits and prevent another over (or under) population crisis.

---

.insurancejournal.com/news/national/2012/10/24/267786.htm [http://perma.cc/YBK7-YDN3] (last visited Jan. 22, 2016).

<sup>97</sup> Von Drehle, *supra* note 25.

<sup>98</sup> Allan Sloan, *Deer Overpopulation Taking Economic Toll*, WASH. POST (Nov. 1, 2010, 10:26 PM), [http://www.washingtonpost.com/wp-dyn/content/article/2010/11/01/AR2010110107194\\_pf.html](http://www.washingtonpost.com/wp-dyn/content/article/2010/11/01/AR2010110107194_pf.html) [http://perma.cc/C2CP-A9D3].

<sup>99</sup> Drake et al., *supra* note 79.

<sup>100</sup> *Id.* at 3.

<sup>101</sup> *Id.* at 3–4.

<sup>102</sup> *Id.* at 9.

<sup>103</sup> John Durham & Assoc., *supra* note 1.

<sup>104</sup> Alan Clemons, *Hunters Spend Billions Annually, Numbers Rising*, DEER & DEER HUNTING (Feb. 18, 2013), <http://www.deeranddeerhunting.com/articles/hunters-spend-billions-annually-numbers-rising> [http://perma.cc/MF8X-4FDH]; John Durham and Assoc., *supra* note 1.

<sup>105</sup> *Sunday Hunting Ban*, *supra* note 4. The study's analysis is based on restrictions as of 2013. Virginia has since loosened its restrictions. *Id.*

<sup>106</sup> *Id.*

Hunters spend an estimated \$3 billion on hunting annually, and this number would only increase if Sunday hunting were allowed.<sup>107</sup> Direct impacts include licenses, tags, lodging, transportation, ammunition, and other supplies.<sup>108</sup> Experts estimate that lifting Sunday hunting bans would inject an additional \$1 billion into the economy each season.<sup>109</sup> In particular, small businesses in rural areas, which have been some of the first to suffer in the recession, would benefit substantially from hunting activities.<sup>110</sup> While real estate markets are down in nearly every other area, recreational hunting property investments are increasing.<sup>111</sup> More workable weekend hunting time would only further the incentive for sportsmen to continue their support of the real estate market.<sup>112</sup> Lifting Sunday hunting bans would benefit state economies, perhaps even correcting the previous economic problems caused by deer themselves.

### C. *Ancillary Environmental Benefits*

In addition to the previously discussed environmental and economic benefits, lifting Sunday hunting bans would also have ancillary environmental benefits. Livestock farming is one of the two or three most significant contributors to environmental problems such as climate change, air and water pollution, and land degradation.<sup>113</sup> The Food and Agriculture Organization estimated that livestock raised for commercial food purposes are responsible for over 18% of human-caused greenhouse gases<sup>114</sup> and recent studies have suggested that the commercial meat industry “may have a bigger impact on the planet than anything else” on Earth.<sup>115</sup>

---

<sup>107</sup> Clemons, *supra* note 104.

<sup>108</sup> *Id.*

<sup>109</sup> *Sunday Hunting Ban*, *supra* note 4.

<sup>110</sup> Clemons, *supra* note 104.

<sup>111</sup> *Hunting and Fishing: Bright Stars of the American Economy*, CONG. SPORTSMEN'S FOUND., available at <http://www.nssf.org/PDF/research/bright%20stars%20of%20the%20economy.pdf> [<http://perma.cc/643T-DUZZ>].

<sup>112</sup> *Id.*

<sup>113</sup> Henning Steinfeld et al., *Livestock's Long Shadow: Environmental Issues and Options*, FOOD & AGRICULTURE ORG. OF THE UN (2006), <http://ftp.fao.org/docrep/fao/010/a0701e/a0701e00.pdf> [<http://perma.cc/4RTJ-BYRF>].

<sup>114</sup> Robert Goodland & Jeff Anhang, *Livestock and Climate Change*, WORLD WATCH (2009), <https://www.worldwatch.org/files/pdf/Livestock%20and%20Climate%20Change.pdf> [<https://perma.cc/7RUB-W54W>].

<sup>115</sup> Bryan Walsh, *The Triple Whopper Environmental Impact of Global Meat Production*, TIME (Dec. 16, 2013), <http://science.time.com/2013/12/16/the-triple-whopper-environmental-impact-of-global-meat-production/> [<http://perma.cc/NTS3-LTHJ>]; Goodand & Anhang, *supra* note 114.

Environmental analysts suggest that because commercial meat farming is a man-made convention, every molecule of CO<sub>2</sub> exhaled by a commercial livestock animal is just as unnatural and environmentally harmful as a molecule of CO<sub>2</sub> from a car's exhaust pipe.<sup>116</sup> Meat from natural sources, such as wild game, provides an environmentally sound solution to the meat versus environment debate. The negative environmental effects of commercially farmed meat have long been an issue legislators have grappled with and deer hunting,<sup>117</sup> a time-tested and proven meat production method, seems an obvious solution to this problem. If hunters were allowed an extra weekend day of hunting, their chances of securing naturally sourced meat would increase, thus decreasing reliance on commercial meat farmers.<sup>118</sup>

#### D. Disease

Disease among white-tailed deer is another major issue that has grown along with eastern herd populations.<sup>119</sup> Deer overpopulation has led to the spread of disease and related problems in white-tailed deer.<sup>120</sup> Scientists believe that the spread of diseases such as Chronic Wasting Disease and Lyme Disease are a result of overpopulation.<sup>121</sup> Many of these scientists cite the management of white-tailed deer populations as key to the control of these diseases.<sup>122</sup>

Chronic Wasting Disease is a neurological disease that affects deer and elk and causes deterioration of the brain, resulting in loss of cognitive abilities, motor control, and, ultimately, death.<sup>123</sup> Chronic Wasting Disease is especially troubling to wildlife experts as it closely resembles bovine spongiform encephalopathy, also known as "mad cow disease."<sup>124</sup> While Chronic Wasting Disease does not affect humans, the effects on livestock

---

<sup>116</sup> Goodland & Anhang, *supra* note 114.

<sup>117</sup> Von Drehle, *supra* note 25.

<sup>118</sup> See Steinfeld et al., *supra* note 113.

<sup>119</sup> *Deer Overpopulation Helps Spread Lyme Disease*, NEWS TIMES (Nov. 24, 2008, 1:00 AM), <http://www.newstimes.com/news/article/Deer-overpopulation-helps-spread-Lyme-93226.php> [<http://perma.cc/LM5P-7W63>].

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

<sup>122</sup> *Id.*

<sup>123</sup> *What is Chronic Wasting Disease?*, CWD INFO (Feb. 2, 2015), <http://www.cwd-info.org/index.php/fuseaction/about.overview> [<http://perma.cc/7PDG-772G>].

<sup>124</sup> *Id.*

are inconclusive so far and are currently under investigation.<sup>125</sup> Chronic Wasting Disease is transmissible both laterally (from animal to animal) and maternally (mother to offspring).<sup>126</sup> The infectious agent that causes Chronic Wasting Disease is most commonly spread laterally through feces, urine, and saliva, making overpopulated herds especially susceptible.<sup>127</sup>

Lyme disease is a major concern associated with the white-tailed deer overpopulation.<sup>128</sup> Overpopulation in a given area coupled with the presence of a disease can give rise to the possibility of an epidemic.<sup>129</sup> Because deer can cover large amounts of ground and are herd-bound animals, the potential for rapid spread of disease is even more pronounced.<sup>130</sup> The spread of Lyme disease is particularly concerning, as this illness affects the human population as well.<sup>131</sup> Lyme disease is an infection caused by *Borrelia burgdorferi*, a type of bacterium carried by deer ticks.<sup>132</sup> Lyme disease can cause serious health problems in humans, such as paralysis, arthritis, cardiac abnormalities, and damage to the central nervous system, sometimes leading to mental impairment.<sup>133</sup> The disease is transmitted from deer to deer and from deer to human through infected deer ticks (*Ixodes scapularis*, also known as black legged ticks).<sup>134</sup> Deer are used as “reproductive hosts” for parasitic arthropods, such as ticks, which require a “blood meal” in order to reproduce.<sup>135</sup> Because of this reproductive relationship, higher density deer populations often lead to higher tick populations and, in turn, greater prevalence and faster spread of Lyme disease.<sup>136</sup> Lifting Sunday hunting bans in order to control white-tailed deer populations would address the rapid spread of Chronic Wasting Disease and Lyme disease associated with overpopulation, as well as providing that future generations of deer are healthy.

---

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

<sup>127</sup> *Id.*

<sup>128</sup> *Id.*

<sup>129</sup> *Deer Overpopulation*, *supra* note 119.

<sup>130</sup> *Id.*

<sup>131</sup> *Id.*

<sup>132</sup> *What is Lyme Disease?*, AM. LYME DISEASE FOUND. (Feb. 2, 2015), <http://www.aldf.com> [<http://perma.cc/9WYU-C92V>].

<sup>133</sup> *Lyme Disease Symptoms*, AM. LYME DISEASE FOUND. (Feb. 2, 2015), <http://aldf.com/lyme-disease/> [<http://perma.cc/CGY2-PS9J>].

<sup>134</sup> *What is Lyme Disease?*, *supra* note 132.

<sup>135</sup> *Deer and Rodents*, TICK COUNTER, *available at* [http://www.tickcounter.org/faq/deer\\_and\\_rodents](http://www.tickcounter.org/faq/deer_and_rodents) [<http://perma.cc/42P6-GD73>].

<sup>136</sup> DENICOLA ET AL., *supra* note 30; *Deer Overpopulation*, *supra* note 119.

### III. LEGISLATIVE CHANGES NEEDED TO COMBAT THE EFFECTS OF WHITE-TAILED DEER OVERPOPULATION

#### A. *Past Legislative Proposals*

In recent years, groups formed in opposition of Sunday hunting bans brought several lawsuits challenging these remaining Blue Laws.<sup>137</sup> However, this litigation has largely failed to bring about change in the states with enduring Blue Laws.<sup>138</sup> Some of the recent cases brought against state game commissions failed on constitutional infringement grounds, while others failed to cite the compelling state interests necessary to make legislators take notice.<sup>139</sup>

Anti-Blue Law groups also failed to spark partisan legislative interest in their previous lobbying attempts. While pro-hunting issues are typically supported by the Republican agenda, the conflicting interests of farmers and hunting advocates caused many Republican politicians to avoid this issue in the past.<sup>140</sup> However, this lack of partisan interest and participation was also influenced by the absence of compelling state interests.<sup>141</sup> The recent surge of information concerning the detrimental environmental effects of white-tailed deer overpopulation creates a state interest significant enough to interest politicians on both the right and the left.

While previous lawsuits, based primarily on private interests and thinly veiled by weak constitutional arguments, failed to spark changes in Blue Law states, it is not to say this effort is futile.<sup>142</sup> Compelling state interests and public policy issues are enough to cause legislators to take notice—and to take action. Sunday hunting could be the answer to the ecological problems caused by the massive deer overpopulation in eastern states.<sup>143</sup> The majority of hunters work or are in school Monday–Friday.<sup>144</sup>

---

<sup>137</sup> See *Hartley Hill Hunt Club*, 220 W. Va at 380.

<sup>138</sup> See *Hartley Hill Hunt Club*, 220 W. Va at 380.

<sup>139</sup> See *Hartley Hill Hunt Club*, 220 W. Va at 380.

<sup>140</sup> John Taranto, *Holy War: Why Sunday Hunting Bans Still Exist*, OUTDOOR LIFE (Apr. 26, 2013), available at <http://www.outdoorlife.com/blogs/hunting/2012/11/holy-war-struggles-and-opposition-facing-pennsylvanias-sunday-hunting-ban> [<http://perma.cc/994T-NJUG>].

<sup>141</sup> *Id.*

<sup>142</sup> *General Rules for Organizing for Legislative Advocacy*, CMTY. TOOL BOX, <http://ctb.ku.edu/en/table-of-contents/advocacy/direct-action/legislative-advocacy/main> [<http://perma.cc/J82R-89VR>].

<sup>143</sup> *Id.*

<sup>144</sup> Bob Humphrey, *Best Times to Deer Hunt: When You Need to be in Your Stand This Fall*, OUTDOOR LIFE (Oct. 2, 2012), available at <http://www.outdoorlife.com/blogs/hunting/2012>

For most hunters, weekends are their only time to hunt.<sup>145</sup> In areas that still ban Sunday hunting, this means Saturday is the only viable hunting day for most of the hunting population. One day of the week is not nearly enough to substantially affect white-tailed deer populations.<sup>146</sup> Allowing Sunday hunting doubles the amount of viable hunting time for most hunters in Blue Law states. This means the potential for twice the amount of current deer control.

### B. Failed Litigation

Several anti-Blue Law interest groups formed in recent years and attempted to eliminate Sunday hunting restrictions through lawsuits against state governments and hunting departments.<sup>147</sup> Many of these groups' complaints focused on constitutional violations associated with Sunday hunting bans.<sup>148</sup> In *Hartley Hill Hunt Club v. Ritchie County Comm'n*, the plaintiffs argued that Sunday hunting bans violated Equal Protection rights and were an unreasonable exercise of police power.<sup>149</sup> In *Hunters United for Sunday Hunting v. PA Game Comm'n*, the plaintiff interest group challenged Pennsylvania's Sunday hunting ban on constitutional grounds, claiming the ban was a violation of the Second Amendment.<sup>150</sup> All of these plaintiffs' arguments were quickly dismissed in court.<sup>151</sup>

Because Sunday hunting ban issues do not "proceed along suspect lines" or "infringe on a fundamental right,"<sup>152</sup> they are only subjected to rational basis review, and therefore litigation based on constitutional arguments is unlikely to bring about change.<sup>153</sup> Given the quick dismissal of previous lawsuits, it seems unlikely that further Sunday hunting ban litigation will succeed in the courtroom.<sup>154</sup>

---

/10/best-time-hunt-your-treestand [http://perma.cc/3E37-UNFE]; 2004 Vermont White-Tailed Deer Harvest Report, VT. FISH & WILDLIFE DEP'T (2004), available at <http://www.vtfishandwildlife.com/common/pages/DisplayFile.aspx?itemId=111836> [http://perma.cc/JZ5H-4VE2].

<sup>145</sup> *Id.*

<sup>146</sup> See generally 2004 Vermont White-Tailed Deer, *supra* note 144.

<sup>147</sup> See *Hartley Hill Hunt Club*, 220 W. Va at 382.

<sup>148</sup> *Id.*

<sup>149</sup> *Id.*

<sup>150</sup> *Hunters United for Sunday Hunting*, 28 F. Supp. at 345.

<sup>151</sup> *Hunters United for Sunday Hunting*, 28 F. Supp. at 346; *Hartley Hill Hunt Club*, 647 S.E.2d at 825, 828.

<sup>152</sup> *Hunters United for Sunday Hunting*, 28 F. Supp. at 347–48.

<sup>153</sup> *Hunters United for Sunday Hunting*, 28 F. Supp. at 348.

<sup>154</sup> *General Rules for Organizing*, *supra* note 142.

C. *Legislative Proposals*

While weak constitutional arguments have failed to spark changes in the courtroom, compelling state interests such as large scale ecological and economic damage are often enough to cause legislators to take action. In order to successfully bring about change, the proposition of lifting Sunday hunting bans must be presented as a state and public interest in need of legislative relief, based on ecological and economic concerns, rather than as a privatized group interest.

Besides the simple solution of lifting Sunday hunting bans, legislators can take additional specific steps to remedy the problems caused by white-tailed deer overpopulation. One of these solutions that has proved successful in other areas is an extended doe-only season.<sup>155</sup> Many hunters only shoot antlered “trophy” deer, and do not kill any does. Antlerless deer, most often does, are a significant contributor to the overpopulation problem because of their reproductive capabilities. A doe-only season would give hunters an opportunity to hunt while taking the emphasis off of trophy bucks. Another possibility is the implementation of “add-tag” incentives. “Add-tag” incentives (a.k.a. “Earn a Buck”) are county-specific laws that allow hunters to “win” an additional buck tag in exchange for shooting a certain number of does first.<sup>156</sup> Add-tag incentives encourage thinning of the deer herds in overpopulated areas. Add-tag incentives could be implemented on a county-by-county basis based on yearly deer population evaluations. The “Hunters for the Hungry” program is another area of existing law that state governments could utilize to help combat the white-tailed deer overpopulation problem. The “Hunters for the Hungry” program allows hunters to donate unwanted deer meat from tagged, legal kills for use in soup kitchens and similar meal programs.<sup>157</sup> While the program is a great way to address the issue of getting food for hungry citizens, there are currently few benefits associated with donating deer meat.<sup>158</sup> If states offered further incentives, such as additional tag allowances in exchange for donated meat, hunters would have further incentive to shoot and donate antlerless deer.

---

<sup>155</sup> See, e.g., *New Antlerless Deer Muzzleloader Season a Success for Hunters*, OHIO DEP'T OF NAT. RES., <http://ohiodnr.gov/news/post/new-antlerless-deer-muzzleloader-season-a-success-for-hunters> [<http://perma.cc/L7EA-KXEQ>] (last visited Jan. 22, 2016).

<sup>156</sup> See *Deer Bag Limits*, *supra* note 47.

<sup>157</sup> See *id.*

<sup>158</sup> See *id.*

D. *Urban Hunting*

Urban deer overpopulation is a problem in itself.<sup>159</sup> Deer often become comfortable in urban areas where there are plentiful plants and no predators.<sup>160</sup> However, many of the problems caused by deer overpopulation are magnified in urban settings.<sup>161</sup> Currently, urban deer control is very costly. Some towns with high deer populations hire sharpshooters to control the deer population, at a cost of about \$600 per deer.<sup>162</sup> This is economically and practically inefficient, especially compared to a normal hunting system in which hunters pay the government for the right to harvest deer.<sup>163</sup> Creating a bow-only urban hunting season would create a cost-effective solution to urban deer overpopulations. An urban bow hunting season would create a mutually beneficial plan for the government and for hunters who reside in urban and suburban areas.

Studies on the effects of urban bow hunting show promising results.<sup>164</sup> Results from a study conducted in suburban areas outside New York City showed that controlled bow hunts served as a highly effective method of thinning overpopulated deer herds in a safe and cost-effective manner in most common suburban deer populations.<sup>165</sup> The study showed that even when the hunts were confined to small, relatively restricted areas, the desired population reduction benefits were still achieved.<sup>166</sup> However, this effect was only achieved in areas where the deer population had average doe carrying capacity.<sup>167</sup> In order for the same effect to occur in areas with above-average doe carrying capacity, sporadic urban hunting is not enough.<sup>168</sup>

Allowing hunters to hunt in areas that are closer to home would create a larger population of hunters to combat the urban deer population,

---

<sup>159</sup> DENICOLA ET AL., *supra* note 30, at 3.

<sup>160</sup> *Id.*

<sup>161</sup> *Id.*

<sup>162</sup> See Chris Mazzolini, *Deer Culling Cost City More than \$600 Per Deer*, SOLON PATCH (Aug. 27, 2012), <http://patch.com/ohio/solon/deer-culling-cost-city-more-than-600-per-deer> [<http://perma.cc/88TB-URYS>].

<sup>163</sup> Dan Koboldt, *City Limits: Bowhunting in Urban Zones*, IN SEARCH OF WHITETAILS, <http://isowhitetails.com/bowhunting-urban-zones/> [<http://perma.cc/6FVM-HSBH>] (last visited Jan. 22, 2016).

<sup>164</sup> Weckel & Rockwell, *supra* note 14, at 143.

<sup>165</sup> *Id.* at 153.

<sup>166</sup> *Id.* at 143.

<sup>167</sup> *Id.*

<sup>168</sup> *Id.*

as well as bring in additional licensure and supply revenue.<sup>169</sup> Many of the people who would benefit from naturally sourced meat are urban dwellers. An urban hunting season would increase their access to the meat they need.

Requiring a small additional fee for an urban hunting season add-on to regular hunting licenses would help regulate urban hunting (separately from regular season), monitor progress in urban herd control, and produce increased revenue for the state. As with all hunting, the state would be able to place limits on the areas in which urban hunting can occur. Predevelopment sites have been successful areas for urban hunting.<sup>170</sup> These tracts of land often sit for years before construction begins.<sup>171</sup> They are often ideal areas for urban hunting due to low human traffic and ideal deer environment.<sup>172</sup>

Opponents of urban hunting cite safety concerns and noise disturbances as two major arguments against this measure.<sup>173</sup> Creating a bow hunting-only stipulation to urban hunting season offers solutions to both of these concerns. While the sound of a gunshot in an urban setting is undoubtedly both disruptive and unsettling, a bow discharge is virtually silent.<sup>174</sup> Bow hunting in urban settings is also much safer than most people realize. Bow hunting occurs “at much shorter ranges than firearms hunting (around twenty-five yards or less), meaning that the existence of unwanted objects (or persons) in the field of fire is extremely rare.”<sup>175</sup> While it is true that bow hunting is not 100% foolproof, legislators must weigh this against the increasing danger posed by vehicle collisions in deer-dense urban areas. A petition to allow urban hunting in one North Carolina municipality compared the relative dangers of urban hunting to deer-vehicle collisions in the state.<sup>176</sup> The report cited zero hunting accidents

---

<sup>169</sup> See *Bright Stars of the American Economy*, NAT'L SHOOTING SPORTS FOUND., <http://www.nssf.org/PDF/research/bright%20stars%20of%20the%20economy.pdf> [<http://perma.cc/3WXL-C5WB>] (last visited Jan. 22, 2016).

<sup>170</sup> Koboldt, *supra* note 163.

<sup>171</sup> *Id.*

<sup>172</sup> *Id.*

<sup>173</sup> David Figura, *Could New DEC Bowhunting Regs Help Solve Urban Deer Problems?*, SYRACUSE (May 12, 2014), [http://www.syracuse.com/outdoors/index.ssf/2014/05/could\\_new\\_dec\\_bowhunting\\_regs\\_help\\_solve\\_urban\\_deer\\_problems.html](http://www.syracuse.com/outdoors/index.ssf/2014/05/could_new_dec_bowhunting_regs_help_solve_urban_deer_problems.html) [<https://perma.cc/CKJ6-XYZF>].

<sup>174</sup> *Id.*

<sup>175</sup> *Id.*

<sup>176</sup> Letter from Urban Archery Deer Program to Durham Town Council and Planning Department, *available at* <https://www.change.org/p/urban-archery-deer-program> [<https://perma.cc/U26E-PNVW>] (last visited Jan. 22, 2016).

by bow and arrow to innocent bystanders in a forty-year period compared to seventeen deaths and 3,000 injuries from deer-car collisions in just a two-year period.<sup>177</sup> In addition to publicizing these comparison statistics, local municipalities could also require a safety course specific to urban bow hunting. Currently many of the areas that allow urban hunting impose no additional qualification requirements (beyond normal hunting licensure) on their urban hunters.<sup>178</sup> Requiring a one-time safety class specific to hunting urban areas might help calm citizens' safety concerns.

#### CONCLUSION

Past attempts to strike down Sunday hunting bans were largely centered around issues that were not significant enough to spark legislative change. However, the issues posed by current white-tailed deer populations are pressing and only getting worse. A move to strike down Sunday hunting bans on the platform of pressing environmental concerns is more likely to be persuasive to legislators. An inclusive plan that is beneficial to federal and state governments, as well as private parties, will further encourage legislators to make the necessary changes to the law. The deer overpopulation problem will only increase with further urbanization and development, and the issue must be addressed sooner rather than later. The elimination of Sunday hunting bans is a practical and economically sensible answer to the massive ecological problem posed by white-tailed deer overpopulation.

---

<sup>177</sup> *Id.*

<sup>178</sup> See *Deer Hunting Questions & Answers*, IND. DEP'T OF NAT. RES., <http://www.in.gov/dnr/fishwild/7389.htm> [<http://perma.cc/D2A7-F624>] (last visited Jan. 22, 2016).

