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## WILDLIFE CATEGORIZED as “VERMIN”: Analysis of the Wildlife Management Practices in the USA and Its Ecological Implications on Natural Ecosystems

Sahana Ramdas

### ABSTRACT

This article emphasizes that contrary to widespread belief, indiscriminate hunting is neither a preventative nor a remedial method in reducing man–animal conflict situations. It highlights that hunting wildlife is not a sustainable or even a sound solution to man–animal conflict situations; mainly the article analyses the misaligned role played by the US regulatory bodies who seem to have lost touch with their respective statutory enactments’ principles and ideological goals. Like addressing the need for mitigating man–animal conflict situations without compromising on wildlife conservation and nature preservation.

### Synopsis

This First part of the article will review the false labels humans have imposed on wildlife species and analyze the historical and underlying reasons behind wildlife hunting. The Second part of the article will explore the adverse impact of anthropocentric activities on wildlife population by pointing out examples on how interest groups seek to control wild animal populations and manipulate the natural ecosystems (this is by precluding wildlife’s capacity to self-regulate one another’s population.) This part will further point out how interference with natural ecosystems through exterminating certain species precipitates an abnormal increase in associated and dependent species who are consequently put on the radar and killed. The third part will analyze the perverse and short-sighted regulatory actions that largely ignores ecological science and overlooks wildlife conservation. The Fourth part will highlight ecological phenomena like the Trophic Cascade’s positive impacts as well as the cascading effect of Trophic Downgrades. The Final part concludes that hunting wildlife is not a sustainable or sound solution to man–animal conflict situations; that humans need to learn to either co-exist, or adopt science based – humane methods in micromanaging wildlife population in their vicinity.

Throughout this article, the writer urges readers to ponder upon the issues deliberated herein and infer whether

- Is classifying wildlife species as “Vermin” justified? Or, are wildlife species simply a victim of hunting community’s propaganda?
- Second, is hunting a solution or the germinator of man–animal conflict situations, & a creator of “problem animals”?
- Third, is the loss caused by “Vermin” that significant that interest groups need to jeopardize natural eco-balance in ecosystems by razing away valuable biodiversity as per their convenience?
- Lastly, how effective wildlife management should have been and/or what could wildlife management in the coming times comprise of?

### **Introduction to the onslaughts toward wildlife**

Over the past few centuries, spurred by economic interests, sanctioned hunting not just prevailed but has in fact expanded. The agricultural and hunting fraternity’s interests have taken precedence over conserving and protecting highly vulnerable wildlife species. Where there has been the room for certain species to adversely affect the economic interests of special interest groups, such wild animals have been branded as “vermin” and eliminated. Adding to it, the natural tendency of certain key stone predators to temporarily reduce the herbivore population runs contrary to the economic interests of the above-mentioned interest groups. In response, wildlife is nearly hunted to extinction through state-sponsored wildlife-control programs. Consequentially, when the population of the predatory species falls precipitously low, it causes an imbalance in the ecosystem. As these practices are highly profitable to the interest groups, the ecological detriment is of little concern to them. This chain of events creates a vicious cycle of wildlife extermination where endangered biodiversity is further targeted. The approach to the wildlife policies in the USA stems from humans encroaching upon forest lands and razing wildlife habitats for farming and livestock rearing purposes. This provides foraging wild animals with easy access to cultivated lands and livestock. Also, humans’ recreational and wildlife management activities such as trophy hunting and game farming, allow predatory and scavenger wildlife to thrive and breed in hunting grounds. Thus, despite the hunting community’s proclaimed efforts of “wildlife management,” the population density of “problem animals” soars. So, it becomes “imperative” for interest groups and their supportive governments to get rid of these “problem species” regularly. Followingly, the inhumane and unscientific practices of traditional “wildlife management” continue to expand in the backdrop of the outdated land management policies. By doing these, wildlife hunting contributes to the overpopulation of “problem animals” as killing wild animals may stabilize

the excess population on a temporary basis, however, it cannot control or regulate the problem causing population on a longer run.

### ***Wild animals are hunted under the pretext of “wildlife management-cum-wildlife conservation”***

Overexploitation of natural resources and the impact of human population’s growth on natural ecosystems have been deleterious,<sup>1</sup> (if not been worrisome). At one time, wild animals’ rights to their habitats were not contested; Up until the nineteenth century, most of the forest areas were the unchartered territories of wildlife and their habitats were untrodden by humans.<sup>2</sup> Wildlife species did not have to struggle on a daily basis to survive or save their natural habitats from human encroachments.<sup>3</sup> Presently, they are increasingly threatened by Anthropogenic activities like that of poaching, industrial agriculture that causes degradation and loss of wildlife habitats to livestock rearing etc.<sup>4</sup>

Predatory species engaging in their natural behavior like preying on herbivores, including accessible livestock and “game animals” threatens the economic interests of recreational hunters and farmers.<sup>5</sup> Ever since public hunting was legalized in the United States of America (USA),<sup>6</sup> *these vested*

<sup>1</sup> Worldwide, population of humans and livestock is exploding. It is increasingly becoming clear that global food production and meat consumption are causing massive destruction of wildlife habitats, jeopardising the balance in the eco system by eliminating the predatory species and becoming breeding grounds for excessive herbivores species.

Ian Johnston, Industrial farming is driving the sixth mass extinction of life on Earth, says leading academic. In the Independent, on August 26th, 2017. <https://www.independent.co.uk/environment/mass-extinction-life-on-earth-farming-industrial-agriculture-professor-raj-patel-a7914616.html> <https://www.theguardian.com/environment/2016/aug/10/agriculture-and-overuse-greater-threats-to-wildlife-than-climate-change-study>

<sup>2</sup> David M. Lavigne, Gaining Ground, In pursuit of Ecological Sustainability, Preface, Wildlife Conservation and the Pursuit of Ecological Sustainability: A Brief Introduction.

<sup>3</sup> By Arianna Pittman, How Habitat Loss is Causing Human Wildlife Conflict Around the World, One Green Planet, 3 years ago. <https://www.onegreenplanet.org/environment/habitat-loss-is-causing-human-wildlife-conflict/>

<sup>4</sup> Candelaria Estavillo, Renata Pardini, Pedro Luís Bernardo da Rocha, Forest Loss and the Biodiversity Threshold: An Evaluation Considering Species Habitat Requirements and the Use of Matrix Habitats. On December 4th, 2013, <https://doi.org/10.1371/journal.pone.0082369> <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0082369>

Ian Johnston, Industrial farming is driving the sixth mass extinction of life on Earth, says leading academic, Independent, August 26th, 2017, <https://www.independent.co.uk/environment/mass-extinction-life-on-earth-farming-industrial-agriculture-professor-raj-patel-a7914616.html>

Also see Roger B. Manning, Hunters and Poachers, A social and cultural history of unlawful hunting in England, 1485–1640, Clarendon Press, Oxford, 1993.

<sup>5</sup> – Roger B. Manning, David S. Favre, Gretchen Olsen, Surplus Population: A Fallacious basis for sport hunting, Clarks Summit, Society for Animal Rights, Inc, 1982.

– James A. Estes, John Terborgh, Justin S. Brashares, Mary E. Power, Joel Berger, William J. Bond, Stephen R. Carpenter, Timothy E. Essington, Robert D. Holt, Jeremy B. C. Jackson, Robert J. Marquis, Lauri Oksanen, Tarja Oksanen, Robert T. Paine, Ellen K. Pickett, William J. Ripple, Stuart A. Sandin, Marten Scheffer, Thomas W. Schoener, Jonathan B. Shurin, Anthony R. E. Sinclair, Michael E. Soulé, Risto Virtanen, David A. Wardle, *Trophic Downgrading of Planet Earth*, *Science* 15 Jul 2011: Vol. 333, Issue 6040, pp. 301–306. DOI: 10.1126/science.1205106.

– For a broader perspective, also can read: Roger B. Manning, Hunters and Poachers, A social and cultural history of unlawful hunting in England, 1485–1640, Clarendon Press, Oxford, 1993

<sup>6</sup> Frederic H. Wagner, Ronald Foresta, R. Bruce Gill, Dale. R. McCullough, Michael R. Pelton, William F. Porter, Hal Salwasser, Wildlife Policies in the U.S. National Parks.

In Porter, William F., et al. Wildlife Policies in the U.S. National Parks. United States, Island Press, 1995.

*interest groups* have justified their lust for killing wildlife by proclaiming hunting as a “cost effective wildlife management tool.”<sup>7</sup> These groups claim that wildlife population is kept in abeyance as their excess population lend themselves to be harvested.<sup>8</sup> In the backdrop of hunting clothed in pseudo “wildlife management” euphemisms, public have bought the branding of wildlife as “Vermin” as well.<sup>9</sup> As a result, over the last few centuries, this approach has eradicated millions of wildlife species from unwelcome territories.<sup>10</sup>

### **History of “wildlife management” in the United States**

By the beginning of the twentieth Century, before regulated hunting laws were passed, several wildlife species like the Bison, wolves, and migratory bird species were nearly driven toward extinction in the USA.<sup>11</sup> Respective state laws combined with the Federal Lacey Act of 1900 provisions,<sup>12</sup> led to the end for market hunters who had engaged in large scale killing of wild animals to sell their meat and body particles to people outside the state and country.<sup>13</sup> The lurking extinction of wildlife species stipulated authorities to introduce state wildlife laws and public land laws for protecting “game animals and birds” in the twentieth century.<sup>14</sup> These laws did not necessarily stop wildlife hunting, but instead regulated hunting by issuing

<sup>7</sup> Lawrence P. Gooley, *Redefining Vermin: A Short History of Wildlife Eradication*, Adirondack Almanack, April 7th, 2014. <https://www.adirondackalmanack.com/2014/04/redefining-vermin-a-short-history-of-wildlife-eradication.html>

– Roger B. Manning, David S. Favre, Gretchen Olsen, *Surplus Population: A Fallacious basis for sport hunting*, Clarks Summit, Society for Animal Rights, Inc, 1982.

For Ex: Frank Minitzer, *Feds to Use Hunters to Cut Arizona Bison Numbers*, NRA Hunters, September 15th, 2017. <https://www.nrahlf.org/articles/2017/9/15/feds-to-use-hunters-to-cut-arizona-bison-numbers/>

<sup>8</sup> Jessica Wapner, *Humans and Nature: Hunting Serves the Environment By Controlling Overpopulation*, Study Shows, Newsweek, 2nd June, 2017. <https://www.newsweek.com/hunting-game-animals-wildlife-management-wild-boars-spanish-619229>

<sup>9</sup> *Supra 7* History of Hunting in USA today. <https://captainhunter.com/history-of-hunting-in-usa-and-where-it-stands-today/#tab-con-1>

A 2007 survey by Responsive Management Inc., a social research firm specializing in natural resource issues, found that 78 percent of Americans support hunting today versus 73 percent in 1995.

Sourced from “Does Hunting Help or Hurt the Environment?” in *Scientific American*, November 10th, 2009, <https://www.scientificamerican.com/article/earth-talks-hunting/>

<sup>10</sup> National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR), in The United States Census Bureau, FHWAR National and State reports <https://www.census.gov/programs-surveys/fhwar.html>

– In *Hunting for a reason, why hunting isn't a sport page – A Brief History of Hunter Conservation in America*, on 24th February 2014 by Michael Lambusta <https://blogs.longwood.edu/lambusta400/2014/02/24/new/>

<sup>11</sup> *Supra 7* & *Hunters as Conservationists*, Hunting, US Fish & Wildlife Service, <https://www.fws.gov/refuges/hunting/hunters-as-conservationists/>

Everything you need to know about hunting on public lands, in the U.S Department of the Interior page, <https://www.doi.gov/blog/everything-you-need-know-about-hunting-public-lands>

<sup>12</sup> Lacey Act, U.S Fish & Wildlife Service International Affairs, *Supra 6* and *7*, <https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/lacey-act.html>

<sup>13</sup> Lisa Wade, “A Short History of Trophy Hunting in America, Since the mid-1800s, hunting trophies – taxidermied remains of wild animals – have served as symbolic proof of one’s “manliness.” In *Pacific Standard*, Updated on August 11th, 2015, <https://psmag.com/social-justice/a-short-history-of-trophy-hunting-in-america>

<sup>14</sup> *Supra 5*, 7, 11 and Walt Lesser and Jack Cromer, *History of Wildlife Management in West Virginia*, <https://www.wvdnr.gov/wildlife/magazine/Archive/08fall/Vol8No2historyWildlifeManagement.pdf>

compulsory hunting licenses and imposing kill limits, etc.<sup>15</sup> For the benefit of these interest groups, wildlife management started with regulated hunting in refuge establishments and subsequent restocking of wildlife in game farms.<sup>16</sup>

As the state wildlife departments were preoccupied in enforcing wildlife laws, prosecuting wildlife criminals, imposing taxes and performing a host of other duties, their obligation toward wildlife management was delegated to the interest groups and affected parties by issuing them hunting permits and licenses.<sup>17</sup> Thereby, hunters in public lands were allowed to cull wildlife as need be, with limited restrictions imposed on them.<sup>18</sup> Thereafter, state officials and endorsers of hunting began blanketing the hunting of wildlife species with well calculated sensitivity.<sup>19</sup> This created a competition amongst the “conservation officers”, game protectors and licensed hunters to kill the greatest number of (noneconomic) “Vermin” impulsively.<sup>20</sup> The rest of the wild animals were killed to either promote open season for game hunting or harvest problem animals for their body parts, fur and meat.<sup>21</sup>

Award winning author, Lawrence P. Gooley, in an article, “Redefining Vermin: A Short History of Wildlife Eradication” in Adirondack Almanack, summarizes that the value of an animal’s fur and meat determines whether it’s a nuisance animal meant to be immediately killed or if it is worthy of harvesting.<sup>22</sup> This approach resulted in wild animals being unnaturally bred and insincerely conserved through “controlled public hunting” of “Vermin” where certain game species were abundantly maintained for recreational sports hunting purposes.<sup>23</sup> For instance, “Vermin” like skunk, mink, and raccoon caused damage but the monetary value of that damage was more than offset by the market value of their fur, meat and other body parts which kept them off the Blacklist<sup>24</sup> (temporarily). Thus, wild animals were preserved for harvest by hunters, fishers, and trappers who killed them eventually, during open seasons in accepted target practise sessions with “appropriate” recreational sporting licenses and permits.<sup>25</sup>

*To reiterate*, on one side the state officials encouraged hunting amongst the public by branding wildlife as “Vermin” and on the other side, they

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<sup>15</sup> Supra 5, 7,11 and 14

<sup>16</sup> Supra 5, 7 and 14

<sup>17</sup> Supra 14

<sup>18</sup> Supra 5,7 and 14

<sup>19</sup> Lawrence P. Gooley, Redefining Vermin: A Short History of Wildlife Eradication, Adirondack Almanack, April 7th, 2014. <https://www.adirondackalmanack.com/2014/04/redefining-vermin-a-short-history-of-wildlife-eradication.html>

<sup>20</sup> Supra 7 and 14.

<sup>21</sup> Supra 7.

<sup>22</sup> Supra 7 – Lawrence P. Gooley, Redefining Vermin: A Short History of Wildlife Eradication, Adirondack Almanack, April 7th, 2014.

<sup>23</sup> Reference from Supra 7.

<sup>24</sup> Supra 7.

<sup>25</sup> Supra 5, 7 and 14.

created safe havens for preserving economically viable “Vermin” in ranches and game preserves (to be hunted during open seasons.)<sup>26</sup> These so-called protected areas were nothing but recreational grounds to practise hunting on target animals and commercially exploit the game population’s skin and body particles.<sup>27</sup> To smoothly maintain such game reserves, predators were categorized as “vermin” and stealthily killed by game wardens, wildlife managers of these refuges.<sup>28</sup> To illustrate, the Conservation Commission (forerunner of the Division of Natural Resources) employed a “Vermin” exterminator in early 1920s, who was assigned to trap and hunt “Vermin” full time.<sup>29</sup> In the 1930s, “Vermin” killing contests were conducted in many counties and resulted in the elimination of thousands of wild animals.<sup>30</sup> During the 1934–1935 fiscal year alone, forty counties sponsored and conducted such contests, believed at that time to be “beneficial.”<sup>31</sup> During this time, state officials and endorsers of hunting began blanketing the branding of wildlife species with newfound sensitivity.<sup>32</sup> Rather than flooding the media and public with the total number of wild animals killed under the pretext of “wildlife management”, the state proclaimed that nuisance caused by wildlife was abdicated by *protectors who are instructed to humanely destroy such animals when found afield.*<sup>33</sup>

## **The impact of legal policies and regulatory actions on wildlife species**

### ***The trophic downgrading’s cascading effects***

When predatory species are removed from an ecosystem by local extirpation or extinction it leads to an unnatural increase in their prey base. The excess population end up being targeted as “Vermin” and culled religiously.

On one end, growing human population is causing extinction and massive decline of keystone & foundational species in the world.<sup>34</sup> On the other end, herbivorous species are flourishing in many parts of the globe.<sup>35</sup> These herbivorous mammals have benefited from anthropogenic alterations to the environment such as disruptive human alterations to natural

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<sup>26</sup> Supra 5, 7 and 14.

<sup>27</sup> Supra 5, 7 and 14.

<sup>28</sup> Supra 14 – Walt Lesser and Jack Cromer, History of Wildlife Management in West Virginia.

<sup>29</sup> Supra 14 & 7.

<sup>30</sup> Supra 14 & 7.

<sup>31</sup> Supra 14.

<sup>32</sup> Supra 7.

<sup>33</sup> Supra 7.

<sup>34</sup> Supra 5. Adele Peters, since 1970, The World Has Lost More Than Half Its Wildlife

Over the last 40 years, while the human population more than doubled, the global population of wildlife dropped by an average of nearly 60%. In Fast Company, November 1st, 2016. <https://www.fastcompany.com/3065083/since-1970-the-world-has-lost-more-than-half-its-wildlife>

<sup>35</sup> The New York State Department of Environmental Conservation, White-Tailed Deer Population Management, [https://www.dec.ny.gov/docs/wildlife\\_pdf/ndmgfin.pdf](https://www.dec.ny.gov/docs/wildlife_pdf/ndmgfin.pdf), Supra 5



landscapes and extirpation of predators.<sup>36</sup> This in turn has created favorable conditions for generalist herbivore animals to breed, increased their access to food which have combined to increase the carrying capacity of “Vermin” and lowered prey population’s mortality rate.<sup>37</sup>

*The Endangered Species Act (ESA)* is a federal act enacted in 1973 to protect endangered and threatened wild animals and plants in the United States and beyond.<sup>38</sup> The ESA requires federal agencies to list wildlife species that need protection and parallelly undertake appropriate measures to protect such individual species, wildlife populations and their critical habitats.<sup>39</sup> *The US Fish and Wildlife Service (USFWS)* is the chief regulatory body mandated to enforce the ESA provisions for the protection of terrestrial wildlife and freshwater species and it is the chief administrative authority to enforce criminal and civil penalties against wildlife offenders.<sup>40</sup>

*The White-tailed deer*<sup>41</sup> is an example of dramatic prey population growth in the United States<sup>42</sup> where predators like wolves, cougars, grizzlies’ populations, and habitats have shrunk.<sup>43</sup> Till mid-twentieth Century, unregulated hunting and clearing of deer habitats for livestock farming had nearly eliminated the deer population.<sup>44</sup> But in 1978, with only a small population of Columbian White-tailed deer remaining in the states of the Washington and the Oregon,<sup>45</sup> the species were listed in the first group of animals to receive federal protection under the 1973 ESA enactment.<sup>46</sup> The ensuing rebound of White-tailed deer populations in millions should have been viewed as one of the country’s greatest conservation success stories for reestablishing their endangered population. Instead, with the species

<sup>36</sup> Alison N. P. Stevens (Mount Ida College) Dynamics of Predation 2010 Nature Education, Stevens, A.N.P. 2012 Dynamics of predation. *Nature Education Knowledge* 3(10):46. <https://www.nature.com/scitable/knowledge/library/dynamics-of-predation-13229468/>

<sup>37</sup> Ian A. Hatton, Kevin S. Mccann, John M. Fryxell, T. Jonathan Davies, Matteo Smerlak, Anthony R. E. Sinclair, Michel Loreau, The predator-prey power law: Biomass scaling across terrestrial and aquatic biomes, *SCIENCE* 04th September 2015. <https://science.sciencemag.org/content/349/6252/aac6284>

<sup>38</sup> The Endangered Species Act, 1973, U.S Conservation Laws section on U.S. Fish & Wildlife Services site. <https://www.fws.gov/international/laws-treaties-agreements/us-conservation-laws/endangered-species-act.html>

<sup>39</sup> Supra 37 and also see: US Dept. of Justice on the ESA, <https://www.justice.gov/enrd/endangered-species-act>

<sup>40</sup> Supra 37 & About the U.S. Fish and Wildlife Service, USFWS site [https://www.fws.gov/help/about\\_us.html](https://www.fws.gov/help/about_us.html)

<sup>41</sup> Reg: Columbian White-Tailed Deer <https://www.iucnredlist.org/species/42394/22162580>, <https://www.fws.gov/oregonfwo/articles.cfm?id=149489413>

<sup>42</sup> Deer Overabundance, Department of Environmental Conservation, New York State site, <https://www.dec.ny.gov/animals/104911.html>

White-Tailed Deer Overpopulation in the United States by Koryos In November 12, 2014, <http://www.koryoswrites.com/nonfiction/white-tailed-deer-overpopulation-in-the-united-states/>

White-tailed Deer Population Estimate, <https://www.deerbusters.com/white-tailed-deer-population-estimate/>

<sup>43</sup> Supra 42, 34, 35, 36.

<sup>44</sup> Supra 41.

<sup>45</sup> Columbian White-Tailed Deer, Oregon Fish & Wildlife Services, <https://www.fws.gov/oregonfwo/articles.cfm?id=149489413>

<sup>46</sup> ECOS Environmental Conservation Online System, USFWS, Listed Animals, <https://ecos.fws.gov/ecp0/reports/ad-hoc-speciesreport?kingdom=V&kingdom=I&status=E&status=T&status=EmE&status=EmT&status=EXPE&status=EXPN&status=SAE&status=SAT&mapstatus=3&fcrithab=on&fstatus=on&fsperule=on&finvpop=on&fgroup=on&header>Listed+Animals>  
[https://www.fws.gov/endangered/map/ESA\\_success\\_stories/OR/OR\\_story5/index.html](https://www.fws.gov/endangered/map/ESA_success_stories/OR/OR_story5/index.html)



exponential population growth in few areas, deer became the poster child of causing crop damage in farming lands,<sup>47</sup> for the destruction of selected plant species<sup>48</sup> and as carriers of diseases.<sup>49</sup> This motivated hunters killing millions of them,<sup>50</sup> despite the federal protection lent in the background.<sup>51</sup> What followed was history repeating itself, on October 13th, 2016, the USFWS down listed the Columbian White-tailed deer from being considered as endangered to as threatened under the ESA.<sup>52</sup> Such reclassification, declassification of once protected species promotes and incentivises hunting of categorized “game species” like the White-tailed deer aggressively.<sup>53</sup> Earlier to such human interventions, their population density was naturally regulated by free-roaming chief deer predators such as the wolves, bears, and mountain lions.<sup>54</sup> Moreover, researchers and ecologists have pointed out that the foraging activities of nonexcess deer populations promote the health of the forest reserves and plant biodiversity.<sup>55</sup> Whereas legalized hunting has mainly provided an additional meat source to Americans as seen in states like the Texas and Vermont where the annual deer harvest

<sup>47</sup> Deer Overabundance, on Department of Environmental Conservation, New York, <https://www.dec.ny.gov/animals/104911.html> & Supra 48,49,50.

<sup>48</sup> In the United States, the deer population so greatly exceeds the land’s natural carrying capacity that it is now difficult to regenerate several valuable forest tree species, including northern red oak (*Quercus rubra*) and sugar maple (*Acer saccharum*).

Deer also consume suburban landscape plants and damage \$60 million worth of agricultural crops each year. See Horsley, S. B., – Stout, S. L., & DeCalesta, D. S. 2003. White-tailed deer impact on the vegetation dynamics of a northern hardwood forest. *Ecological Applications*, 13(1), 98–118.

<sup>49</sup> These 10 Diseases Are Plaguig Whitetail Herds Nationwide <https://www.wideopenspaces.com/whitetail-deer-diseases/>

<sup>50</sup> 2017 White-tailed Deer Report, Vermont Fish & Wildlife Department <https://vtfishandwildlife.com/sites/fishandwildlife/files/documents/Learn%20More/Library/REPORTS%20AND%20DOCUMENTS/HUNTING/HARVEST%20REPORTS/deer/2017%20white-tailed%20deer%20harvest%20report.pdf>. The whitetail buck harvest was 28,505 and up 14 percent from 2014.”- said Nebraska Game and Parks Commission Biologist Kit Hams - <https://www.realtree.com/brow-tines-and-backstrap/these-states-increased-deer-harvest-totals-during-the-2015-16-season>.

Hunters killed 5.5 million whitetails during the 2014–15 season. Of those, 2.6 million were bucks and 2.9 million of those were antlerless deer - <https://www.realtree.com/brow-tines-and-backstrap/qdma-s-2016-state-of-the-whitetail>

<sup>51</sup> Endangered and Threatened Wildlife and Plants; Reclassifying the Columbia River Distinct Population Segment of the Columbian White-Tailed Deer as Threatened with a Rule Under Section 4(d) of the Act, Federal Register Journal, Rule by USFWS, October 17th, 2016. <https://www.federalregister.gov/documents/2016/10/17/2016-24790/endangered-and-threatened-wildlife-and-plants-reclassifying-the-columbia-river-distinct-population>

<sup>52</sup> Supra 43, 44.

<sup>53</sup> Big Game Hunting, Columbian White-tailed Deer, Oregon Department of Fish & Wildlife Service, <https://myodfw.com/big-game-hunting/species/columbian-white-tailed-deer>. Maryland Hunters Harvest 34,000 Deer during Firearm Season, Maryland Department of Natural Resources, December 14th, 2017, <https://news.maryland.gov/dnr/2017/12/14/maryland-hunters-harvest-34000-deer-during-firearm-season/>.

Edward A. Freeman, History of Deer Hunting, a chapter from How to Hunt Deer <https://myodfw.com/big-game-hunting/species/columbian-white-tailed-deer>

Protection of Long Island White-Tailed Deer, Animal Welfare Institute <https://awionline.org/cases/protection-long-island-white-tailed-deer>

<sup>54</sup> Supra 5. Also see: Sih, Andrew & Crowley, Philip & McPeck, Mark & Petranka, James & Strohmeier, Kevin. 2003. Predation, competition, and prey communities: a review of field experiments. *Annual Review of Ecology and Systematics*. 16. 269–311. 10.1146/annurev.es.16.110185.001413.

<sup>55</sup> Susan C. Cook-Patton, Marina La Forgia and John D. Parker, Positive interactions between herbivores and plant diversity shape forest regeneration, May 22nd, 2014, <https://doi.org/10.1098/rspb.2014.0261>

Brandom Kiem, Ravenous Deer Might Not Destroy Biodiversity After All, In the WIRED, April 9th, 2014 <https://www.wired.com/2014/04/deer-biodiversity/>

averages over 450,000 animals, delivering up to fourteen million pounds of boneless venison.<sup>56</sup> Similarly, populations of Canada geese (*Branta canadensis*)<sup>57</sup> in the USA have been growing in millions, parallel to agricultural expansion and human activities.<sup>58</sup> Their excessive population's adverse impact in areas inhabited by humans has overshadowed their contribution to the ecological biodiversity too.<sup>59</sup>

### ***Behind euphemisms and linguistic sanitizing, lies immense and barbaric cruelty***

As being illustrated, in a country like the United States of America, hunting is endorsed as a wildlife management tool<sup>60</sup> and as an outdoor tradition of recreational sports.<sup>61</sup>

*The Wildlife Services (WS) is a part of the US Department of Agriculture, APHIS segment that is meant to mitigate the economic impact of wildlife-human conflicts (while in compliance with federal, state and local laws.)*<sup>62</sup> The bureaucracy is required to work with state agencies and local governments in managing wildlife damage *by using best available science.*<sup>63</sup> Although the USDA's APHIS Wildlife Services (WS) exist to effectively manage wildlife populations and facilitate coexistence between people and wildlife,<sup>64</sup> at best their actions are misaligned in nature and form.<sup>65</sup> Their "wildlife management" work mainly involves killing millions of wild

<sup>56</sup> Supra 50 and 53.

<sup>57</sup> *Branta canadensis*, Canada goose, Animal Diversity Web [https://animaldiversity.org/accounts/Branta\\_canadensis/](https://animaldiversity.org/accounts/Branta_canadensis/)

<sup>58</sup> Lisa French, Managing Wildlife Damage: Canada Goose (*Branta canadensis*), Virginia Cooperative Extension. <https://pubs.ext.vt.edu/420/420-203/420-203.html>

Jes Burns, As Canada Goose Populations Recover, Northwest Farmers Pay the Price, OPB, December 28th, 2014. <https://www.opb.org/news/article/as-canada-goose-populations-recover-northwest-farm/>

<sup>59</sup> Buij, R., et al. 2017. Balancing ecosystem function, services and disservices resulting from expanding goose populations. *Ambio* 46(Suppl 2): 301–318. doi:10.1007/s13280-017-0902-1, Supra 55 & 58.

<sup>60</sup> - Everything you need to know about hunting on public lands, U.S Department of the Interior, <https://www.doi.gov/blog/everything-you-need-know-about-hunting-public-lands>

U.S. Fish & Wildlife Service, Hunting, <https://www.fws.gov/hunting/>

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- Remove or "Take" Nuisance Animals Legally, in the section - Nuisance & Invasive Species, Nuisance Wildlife Species. On The New York, Department of Environmental Conservation, <https://www.dec.ny.gov/animals/81531.html>

<sup>61</sup> Supra 60 and John Haughey and Jeff Haughston, The 6 Biggest Myths About Hunting, Killing, and Eating Big Boars, Outdoor Life, October 24th, 2019, <https://www.outdoorlife.com/blogs/game-changers/hog-hunting-6-biggest-myths-about-hunting-killing-and-eating-big-boars>

Hunting, USFWS site: <https://www.fws.gov/refuges/hunting/hunters-as-conservationists/>

<sup>62</sup> The Wildlife Services, USDA APHIS: [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA\\_Program\\_Overview](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA_Program_Overview)

<sup>63</sup> Supra 62.

<sup>64</sup> Program Overview of Wildlife Service, USDA APHIS site: [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA\\_Program\\_Overview](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/SA_Program_Overview)

- Overview of USDA APHIS mission, Wildlife damage control program [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa\\_program\\_overview/ct\\_about\\_mission](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/sa_program_overview/ct_about_mission)

<sup>65</sup> Jimmy Tobias, Should government kill wild animals, The Week, Pacific Standard, August 10th, 2019, <https://theweek.com/articles/852116/should-government-kill-wild-animals>

animals on a yearly basis.<sup>66</sup> This form of “wildlife management” in the past few years alone, included killing 2.3 million animals in 2017,<sup>67</sup> 2.7 million animals in 2016,<sup>68</sup> 3.2 million animals in 2015.<sup>69</sup> As an “expert” in conflict mitigation, the inability of the WS to discern a targeted animal from a similar looking wildlife species reflects in their crossfire kills, including domestic pets, nontarget native and endangered wildlife.<sup>70</sup> Most recently, taxpayers money has been used to fund the WS killing over 1.9 million wildlife in 2019 alone.<sup>71</sup> Hence, despite it being an entity imposed with the responsibility of reducing man–animal conflicts,<sup>72</sup> the WS has gone ahead to establish where its priorities lie, i.e. protecting the interests of livestock owners, ranchers, and other “property owners.”<sup>73</sup> To stop this, Environmentalists are suing the WS that has been using outdated data, science, and archaic ideas to justify the killing of wildlife on private and public lands, and even national parks.<sup>74</sup> As advocates point out, by failing to conduct the Environmental Impact statement or even a supplemental analysis of the program’s impact on native ecosystems, the WS has contravened key environmental regulations set up by the NEPA, Council on Environmental Quality and Administrative law.<sup>75</sup> Thus, the WS itself is a euphemism;<sup>76</sup> a regulatory body inclined toward exterminating wildlife

<sup>66</sup> Killing as a Government Service, The USDA’s Wildlife Services program slaughters millions of wild animals every year — including endangered species. It doesn’t have to. <https://therevelator.org/killing-wildlife-services/>

<sup>67</sup> USDA APHIS, WS Program Data Reports – 2017, Animals Killed or Euthanized / Removed or Destroyed, [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G\\_Report&p=2017:INDEX:](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G_Report&p=2017:INDEX:)

<sup>68</sup> USDA APHIS, WS Program Data Reports – 2016, Animals Killed or Euthanized / Removed or Destroyed, [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G\\_Report&p=2016:INDEX:](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G_Report&p=2016:INDEX:)

<sup>69</sup> USDA APHIS, WS Program Data Reports – 2015, Animals Killed or Euthanized / Removed or Destroyed, [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G\\_Report&p=2015:INDEX:](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G_Report&p=2015:INDEX:)

<sup>70</sup> Keith Ridler, Groups, US reach settlement on predator-killing poisons, AP News, March 2, 2018, <https://apnews.com/d600b780c5444e2dbd45f9750a6447f>

Elisabeth Suggs, Cyanide Bomb’ that killed dog, poisoned owner placed illegally by Wildlife Services, Fox News, March 21st, 2017, <https://fox13now.com/2017/03/21/cyanide-bomb-that-killed-dog-owner-placed-illegally-by-wildlife-services/>

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– Green Groups Sue Trump Administration Over Pet-Killing Cyanide Bombs, <https://whotv.com/news/green-groups-sue-trump-administration-over-pet-killing-cyanide-bombs-tmwsp/>

<sup>71</sup> In Common Dreams, by Andrea Germanos, Trump’s USDA Sued Over Program Allowing ‘Horrific’ Mass Slaughter of Native Wildlife. Published on Common Dreams, on October 8th, 2020. <https://www.commondreams.org/news/2020/10/08/trumps-usda-sued-over-program-allowing-horrific-mass-slaughter-native-wildlifeideas>

<sup>72</sup> Sarah V. Schweig, The U.S. Government Just Secretly Killed an Extremely Endangered Wolf, the Dodo, September 15th, 2017. <https://www.thedodo.com/in-the-wild/government-kills-mexican-gray-wolf-arizona>

<sup>73</sup> Rebecca Moss, Feds kill wolf that was preying on livestock, The New Mexican, September 15th, 2017. [https://www.santafenewmexican.com/news/local\\_news/feds-kill-wolf-that-was-preying-on-livestock/article\\_177a9245-7ded-52fc-93ae-377d30f794d0.html](https://www.santafenewmexican.com/news/local_news/feds-kill-wolf-that-was-preying-on-livestock/article_177a9245-7ded-52fc-93ae-377d30f794d0.html)

<sup>74</sup> Wildlife Guardians v. USDA, APHIS – [http://pdf.wildearthguardians.org/support\\_docs/NM-WS-Complaint.pdf](http://pdf.wildearthguardians.org/support_docs/NM-WS-Complaint.pdf)

By Collette Adkins, Contributor -Senior Attorney, Center for Biological Diversity, Scientists Agree: It’s Time To End The War On Wildlife. In Huffington Post, On 02/17/2017 06:02 pm ET Updated Feb 20, 2017. [https://www.huffpost.com/entry/scientists-agree-its-time-to-end-the-war-on-wildlife\\_b\\_58a77e73e4b026a89a7a2b08?fbclid=IwAR0-5uhQiaN-okEBT74Z1YQOOCIM-c03YUWYCYm\\_ffwYnF7GIYnzPQE8sl](https://www.huffpost.com/entry/scientists-agree-its-time-to-end-the-war-on-wildlife_b_58a77e73e4b026a89a7a2b08?fbclid=IwAR0-5uhQiaN-okEBT74Z1YQOOCIM-c03YUWYCYm_ffwYnF7GIYnzPQE8sl)

<sup>75</sup> Supra 74 – [http://pdf.wildearthguardians.org/support\\_docs/NM-WS-Complaint.pdf](http://pdf.wildearthguardians.org/support_docs/NM-WS-Complaint.pdf)

<sup>76</sup> Sarah V. Schweig, State Just Decided to Kill Endangered Wolves – While They’re Still Raising Their Babies, the Dodo, July 21st, 2017. <https://www.thedodo.com/in-the-wild/washington-kill-smackout-pack-wolves>

species in order to appease the special interest groups.<sup>77</sup> This is at the cost of aggrandizing climate change, ecological catastrophes and mass extinction of biodiversity.<sup>78</sup> Despite the mounting evidence of the atrocious practices undertaken by this department and its ineffectiveness,<sup>79</sup> the WS continues using guns, all forms of inhumane leg traps, jaw traps, lethal poisons, and barbaric weapons in “managing wildlife.”<sup>80</sup>

### ***The wear and tear of granting and withholding protection to wolves and its predatory siblings***

Perceived as a threat to humans, livestock and livelihood<sup>81</sup> by 1933, Bounty hunters had decimated most of the American wolves in the country.<sup>82</sup> Till date, wolves and their predatory siblings have been the most commonly persecuted wildlife species in the United States.<sup>83</sup> Wolves are mostly a direct target<sup>84</sup> and sometimes are a collateral damage<sup>85</sup> to the closely related species, the Coyotes.<sup>86</sup> Especially in the US, the highly threatened wolves have frequently been listed, delisted and relisted as a highly endangered

<sup>77</sup> Supra 65,66,70,71,72,73, <http://myfwc.com/about/overview/economics/>, & Supra 67,68,69, [https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G\\_Report&p=2016:INDEX](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G_Report&p=2016:INDEX):

[https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G\\_Report&p=2017:INDEX](https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/pdr/?file=PDR-G_Report&p=2017:INDEX):

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<sup>78</sup> By Bill Chappell & Nathan Rott, 1 Million Animal And Plant Species Are At Risk Of Extinction, U.N. Report Says, in NPR, on May 6th, 2019. (attached – PBES Global Assessment: Summary for Policymakers). <https://www.npr.org/2019/05/06/720654249/1-million-animal-and-plant-species-face-extinction-risk-u-n-report-says>

– By Amanda Mills, Environmentalists sue Trump’s USDA for killing more than 1.2 million native wild animals last year, in Nation of Change, October 13, 2020. <https://www.nationofchange.org/2020/10/13/environmentalists-sue-trumps-usda-for-killing-more-than-1-2-million-native-wild-animals-last-year/?fbclid=IwAR03q9BnB6aUqZZprXDHWV7RnXrG3785AL4vZdBhhXXyRsoWkMn2-DEC-A0>

<sup>79</sup> Protected Species May Be Killed by Proposed Prairie Dog Control, Environmental Groups Charge, American Bird Conservancy, October 16th, 2012, <https://abcbirds.org/article/protected-species-may-be-killed-by-proposed-prairie-dog-controlenvironmental-groups-charge/>

The USDA’s War on Wildlife, Predator Defense, <https://www.predatordefense.org/USDA.htm>

<sup>80</sup> Supra 71, 77. <https://www.nationofchange.org/2020/10/13/environmentalists-sue-trumps-usda-for-killing-more-than-1-2-million-native-wild-animals-last-year/?fbclid=IwAR03q9BnB6aUqZZprXDHWV7RnXrG3785AL4vZdBhhXXyRsoWkMn2-DEC-A0>

<sup>81</sup> The Wolf That Changed America, Wolf Wars: America’s Campaign to Eradicate the Wolf, September 14, 2008. <http://www.pbs.org/wnet/nature/the-wolf-that-changed-america-wolf-wars-americas-campaign-to-eradicate-the-wolf/4312/>

– Sarah V. Schweig, State Announces Plan to Kill Entire Pack of Wolves, the Dodo, August 25th, 2018. <https://www.thedodo.com/washington-state-profanity-peak-wolf-pack-kill-plan-1986336455.html>

– Sarah V. Schweig, The U.S. Government Killed 2.7 Million Wild Animals Last Year, Dodo, March 14th, 2017. <https://www.thedodo.com/wildlife-services-animals-killed-2016-2314386141.html>, Supra 71.

<sup>82</sup> Timeline on Gray Wolves: The Fight For Northern Rocky Gray Wolves, on the Earthjustice site: <https://earthjustice.org/features/campaigns/wolves-in-danger-timeline-milestones>

<sup>83</sup> Supra 82, Also read: By Michael Robinson, Predatory Bureaucracy: The Extermination of Wolves and the Transformation of the West, ISBN-13: 978-0870818196. By Rick McIntyre, War Against the Wolf: America’s Campaign to Exterminate the Wolf, ISBN-13 : 978-0896582644.

<sup>84</sup> Supra 81–83.

<sup>85</sup> Emma Bryce, Mistaken Identity Proves Deadly When Hunters Confuse Wolves with Coyotes, Audubon, February 15th, 2013. <https://www.audubon.org/news/mistaken-identity-proves-deadly-when-hunters-confuse-wolves-coyotes>

<sup>86</sup> World’s Only Wild Red Wolves in Jeopardy, Southern Environmental Law Centre: <https://www.southernenvironment.org/cases-and-projects/nc-coyote-rule-risks-endangered-red-wolves>

species.<sup>87</sup> The constant wear and tear of such selective protection renders them highly susceptible to extirpation as well as extinction.<sup>88</sup>

When wolves were reintroduced into the Yellowstone National Park in 1995 and 1996, it helped bring down the elk numbers and provided food for scavenger wildlife.<sup>89</sup> The reintroduced wolves were necessary in addressing the cascading effect of removing apex predators from the National Park lands where adverse effects on wildlife ecosystems was seen in their absence.<sup>90</sup> Once reintroduced, wolves improved the overall hydrological and ecological health of the ecosystem.<sup>91</sup> Despite the striking changes brought by wolves in the Yellowstone area and the growing amount of scientific data that highlights apex predators' role in the environment,<sup>92</sup> the cascading effects from their extermination has been overlooked by the USFWS and the USDA's Wildlife Services.<sup>93</sup>

The Endangered Species Act mandates a species to be listed when they are threatened or endangered in "all or significant portion of their range."<sup>94</sup> On November 3rd, 2020, the USFWS removed the lower 48's entire Gray wolf population from the Endangered Species list.<sup>95</sup> Till date, the Gray wolves have been extirpated from over eighty percent of their native habi-

<sup>87</sup> Budget bill cuts federal wolf protection. Environmentalists howling. <https://www.csmonitor.com/USA/Politics/2011/0416/Budget-bill-cuts-federal-wolf-protection.-Environmentalists-howling>. Supra 82.

<sup>88</sup> Supra 81–87.

<sup>89</sup> Wolf Restoration, Yellowstone National Park. <https://www.nps.gov/yell/learn/nature/wolf-restoration.htm>. –Brodie Farquhar, Wolf Reintroduction Changes Ecosystem in Yellowstone, Wolves are causing a trophic cascade of ecological change, including helping to increase beaver populations and bring back aspen, and vegetation. Yellowstone National Park site, July 3rd, 2019, <https://www.yellowstonepark.com/things-to-do/wolf-reintroduction-changes-ecosystem>

<sup>90</sup> W. J. Ripple et al., *Science* 343, 1241484 (2014). DOI: 10.1126/science.1241484. 25 years after returning to Yellowstone, wolves have helped stabilize the ecosystem by Christine Peterson, July 10th, 2020. <https://www.nationalgeographic.com/animals/2020/07/yellowstone-wolves-reintroduction-helped-stabilize-ecosystem/>

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*Biological Conservation*, Volume 142, Issue 11, November 2009, Pages 2401–2414

<sup>91</sup> Peter Dockrill, It Started with Just 14 Wolves. Then, Yellowstone Changed in Ways We Never Predicted, *Science Alert*, October 19th, 2018, <https://www.sciencealert.com/how-31-wolves-transformed-yellowstone-in-ways-nobody-could-ever-have-predicted-national-park-wolf-reintroduction-trophic-cascade>

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– William J. Ripple, James A. Estes, Robert L. Beschta, Christopher C. Wilmers, Euan G. Ritchie, Mark Hebblewhite, Joel Berger, Bodil Elmhagen, Mike Letnic, Michael P. Nelson, Oswald J. Schmitz, Douglas W. Smith, Arian D. Wallach, and Aaron J. Wirsing. 2014. Status and ecological effects of the World's largest carnivores. *Science* : 343 (6167): 1241484, DOI: 10.1126/science.1241484

<sup>92</sup> Bradley J. Bergstrom. 2017. Carnivore conservation: shifting the paradigm from control to coexistence. *Journal of Mammalogy* 98 (1): 1–6, <https://doi.org/10.1093/jmammal/gyw185>

<sup>93</sup> Supra 82, 83, 90, 91. America's Gray Wolves, Centre for Biological Diversity, [https://www.biologicaldiversity.org/campaigns/gray\\_wolves/index.html](https://www.biologicaldiversity.org/campaigns/gray_wolves/index.html)

<sup>94</sup> Supra 38 & By Christine Peterson, Gray wolves taken off U.S. endangered species list in controversial move, in *National Geographic*, on October 29th, 2020. [https://www.nationalgeographic.com/animals/2020/10/gray-wolves-taken-off-endangered-species-list-in-controversial-move/?fbclid=IwAR1hMB-V1vCSi8O6CQH5LQN6VLHdcm8i1G2rpQD\\_mbVEBBULyShtkKfJEC](https://www.nationalgeographic.com/animals/2020/10/gray-wolves-taken-off-endangered-species-list-in-controversial-move/?fbclid=IwAR1hMB-V1vCSi8O6CQH5LQN6VLHdcm8i1G2rpQD_mbVEBBULyShtkKfJEC)

<sup>95</sup> Trump Administration Strips Federal Protection From Wolves Across the Country, Earthjustice, On October 29th 2020. [https://earthjustice.org/brief/2020/wolves-federal-protections-stripped-trump-administration?fbclid=IwAR3QoJmyawJI3VAcgefR4qRUorhzwXnYvq62tFQock0j6\\_mgVbhVYbE2go](https://earthjustice.org/brief/2020/wolves-federal-protections-stripped-trump-administration?fbclid=IwAR3QoJmyawJI3VAcgefR4qRUorhzwXnYvq62tFQock0j6_mgVbhVYbE2go)



tats and public lands.<sup>96</sup> The Federal Recovery Plan aids reclamation of the listed species in their former habitats.<sup>97</sup> The protection extended through the ESA is critical for the Gray wolves who presently occupy only twenty percent of their historic range.<sup>98</sup> Despite the meager and dissatisfactory revival of Gray Wolf population across the US lands, the Secretary of Interior states that “Gray wolves have exceeded the conservation goals of recovery.”<sup>99</sup> So, when wolves are delisted in this manner, legalized and liberalized hunting is further promoted and permitted in states,<sup>100</sup> this in turn stimulates illegal poaching and unlawful killing as well.<sup>101</sup> For instance, on August 13th, 2020 the Washington Department of Fish and Wildlife killed the last two known Wedge wolf pack’s members that were remaining in the state. This was the state department’s response to cattle depredation on public and private lands.<sup>102</sup> In the month of February 2020 alone, the Idaho Department of Fish and Game has killed Seventeen wolves.<sup>103</sup> The Game department openly admits that mountain lions, black bears and wolves are killed regularly in order to reserve Elk population for human

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<sup>96</sup> Legal Step Challenges Trump Administration’s Removal of Gray Wolf Protection, A coalition of environmental organisations have issued a Notice to Sue through Earthjustice, sourced from Centre for Biological Diversity site, November 5th, 2020, [https://www.biologicaldiversity.org/campaigns/gray\\_wolves/pdfs/Gray-Wolf-60-Day-Notice.pdf](https://www.biologicaldiversity.org/campaigns/gray_wolves/pdfs/Gray-Wolf-60-Day-Notice.pdf)

– Supra 94 – By Christine Peterson, Gray wolves taken off U.S. endangered species list in controversial move. In National Geographic, on October 29th, 2020. [https://www.nationalgeographic.com/animals/2020/10/gray-wolves-taken-off-endangered-species-list-in-controversial-move/?fbclid=IwAR1hMB-V1vCSi8O6CQH5LQN6VLHdcm8i1G2rpQD\\_mbVEBBULYsHtkKIFJc](https://www.nationalgeographic.com/animals/2020/10/gray-wolves-taken-off-endangered-species-list-in-controversial-move/?fbclid=IwAR1hMB-V1vCSi8O6CQH5LQN6VLHdcm8i1G2rpQD_mbVEBBULYsHtkKIFJc)

<sup>97</sup> Supra 94, 38.

<sup>98</sup> Supra 94, 96.

<sup>99</sup> Supra 94.

<sup>100</sup> 44 Wolves Taken in First Wolf Hunt in Wyoming Since 2013, US News, January 26th, 2018, <https://www.usnews.com/news/best-states/wyoming/articles/2018-01-26/44-wolves-taken-in-first-wolf-hunt-in-wyoming-since-2013>

– Amanda Moyer, Wolf hunting now legal but still controversial, CNN News, <https://www.cnn.com/2009/US/09/03/wolf.hunt/index.html>

– Zack Strong, Wolves Without the ESA: A Post-Delisting Landscape, in NRDC, on August 18th, 2020, <https://www.nrdc.org/experts/zack-strong/wolves-without-post-delisting-landscape>

<sup>101</sup> Supra 94, 96.

Also read: Adrian Treves, T Jeremy Bruskotter. 2014. Tolerance for predatory wildlife. *Science* 4:344(6183): 476–477, DOI: 10.1126/science.1252690

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– Rebecca Moss, Feds kill wolf that was preying on livestock, The New Mexican, Sep 15, 2017, [http://www.santafenewmexican.com/news/local\\_news/feds-kill-wolf-that-was-preying-on-livestock/article\\_177a9245-7ded-52fc-93ae-377d30f794d0.html](http://www.santafenewmexican.com/news/local_news/feds-kill-wolf-that-was-preying-on-livestock/article_177a9245-7ded-52fc-93ae-377d30f794d0.html)

– By Brandon Champion, Michigan poacher who killed 18 wolves, bald eagles loses hunting license for life. In Michigan, Updated Oct 14, 2020; Posted Oct 14, 2020, <https://www.mlive.com/news/2020/10/michigan-poacher-who-killed-18-wolves-bald-eagles-loses-hunting-license-for-life.html?fbclid=IwAR25HJzw0EURjCrrMvm3YfJyuaUEj8lVQ27t-y5r5iSGartzZVJL8CTnHo>

<sup>102</sup> Washington Wildlife Officials Gun Down Endangered Wolf To Protect Cows, Wolf Conservation Centre page, July 27, 2020, [https://nywolf.org/2020/08/washington-wildlife-officials-gun-down-last-survivors-of-wedge-wolf-pack-to-protect-cows/?fbclid=IwAR0VbaM45lJDRFcx9IO0k9pjeA2otMD6MnhRMkPii\\_9WF0Jge58NUjxjWaw](https://nywolf.org/2020/08/washington-wildlife-officials-gun-down-last-survivors-of-wedge-wolf-pack-to-protect-cows/?fbclid=IwAR0VbaM45lJDRFcx9IO0k9pjeA2otMD6MnhRMkPii_9WF0Jge58NUjxjWaw)

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Revision date June 1, 2017, [https://wdfw.wa.gov/sites/default/files/2019-02/final\\_protocol\\_for\\_wolf-livestock\\_interactions\\_jun012017.pdf](https://wdfw.wa.gov/sites/default/files/2019-02/final_protocol_for_wolf-livestock_interactions_jun012017.pdf)

<sup>103</sup> By Gasan, Idaho Kills 17 Wolves On Public Lands To Benefit Elk Hunters, March 25, 2020, [https://gasanature.org/idaho-kills-17-wolves-benefit-hunters/?fbclid=IwAR2\\_OPWUTZ-BobwStzs3rGIVa4FCz\\_IFcB0B-4qX9Rd4TC194fNdWQJqnDM](https://gasanature.org/idaho-kills-17-wolves-benefit-hunters/?fbclid=IwAR2_OPWUTZ-BobwStzs3rGIVa4FCz_IFcB0B-4qX9Rd4TC194fNdWQJqnDM)

hunters.<sup>104</sup> In 2016 alone, Fourteen Mexican Gray Wolves were killed;<sup>105</sup> It has been suspected that these highly endangered species were killed due to the mismanagement of the Wildlife Services.<sup>106</sup> In 2013, a Mexican Gray wolf was trapped and killed by the USFWS “by mistake.”<sup>107</sup>

States across the United States would do well by replicating the Oregon County’s 2012 “no-kill wolf” policy which has pushed farmers and ranchers to adopt nonlethal measures such as fences, alarms, and other deterrents.<sup>108</sup> Such methods have proven to be effective in reducing man–animal conflict situations.<sup>109</sup> Moreover, the state of Washington is one among the only seven states that has outlawed Wildlife Killing Contests.<sup>110</sup> It is legal in the rest of the forty-five states across the USA to kill wildlife in abominable hunting contests.<sup>111</sup> However, despite the protection given to wolves under the Federal Endangered Species Act (ESA) and Oregon state’s game laws, wolves can still be killed if they show signs of livestock predation.<sup>112</sup> This is independent of the compensation farmers and ranchers are entitled to.<sup>113</sup>

*Apart from critical predators like mountain lions, wolves, foxes etc., the Coyotes are gruesomely killed by guns and cyanide bombs<sup>114</sup> and hunted in wildlife*

<sup>104</sup> Supra 103.

<sup>105</sup> Susan Montoya Bryan, Feds: 14 endangered Mexican wolves found dead in 2016, AZ Central, January 4th, 2017. <https://www.azcentral.com/story/news/local/arizona-science/2017/01/04/feds-14-endangered-mexican-wolves-found-dead-2016/96161412/>

<sup>106</sup> Supra 105.

<sup>107</sup> Ken Cole, The Tragic Story of the Death of Mexican Wolf 1288 at the Hands of USDA Wildlife Services, The Wildlife News, December 9th, 2013. <http://www.thewildlifeneews.com/2013/12/09/the-tragic-story-of-the-death-of-mexican-wolf-1288-at-the-hands-of-usda-wildlife-services/>

– Case law to this case – WildEarth Guardians v. U.S. Dep’t of Justice, 283 F. Supp. 3d 783 (D. Ariz. 2017)

<sup>108</sup> Jeff Barnard, No-kill wolf ban spurs nonlethal options, Christian Science Monitor, March 2nd, 2013. <https://www.csmonitor.com/USA/Latest-News-Wires/2013/0302/No-kill-wolf-ban-spurs-nonlethal-options>

<sup>109</sup> Suzanne A. Stone, Stewart W. Breck, Jesse Timberlake, Peter M. Haswell, Fernando Najera, Brian S. Bean, and Daniel J. Thornhill. 2017. Adaptive use of nonlethal strategies for minimizing wolf–sheep conflict in Idaho. *Journal of Mammalogy* 98(1): 33–44, <https://doi.org/10.1093/jmammal/gyw188>

And Supra 108. Also see: Arian D. Wallach, Daniel Ramp, and Adam J. O’Neill. 2017. Cattle mortality on a predator-friendly station in central Australia. *Journal of Mammalogy* 98(1): 45–52, <https://doi.org/10.1093/jmammal/gyw156>

<sup>110</sup> By Brittany Hambleton, Washington becomes seventh U.S. state to outlaw wildlife killing contests. In the Hearty Soul, Last updated: October 14, 2020 at 5:59 pm. <https://theheartysoul.com/washington-outlaws-wildlife-killing-contests/?fbclid=IwAR362c5uCPJ03WC2RPvPer8zqc4kdhOtp0A8-drtk-NoITQbpdixSBptbNU>

<sup>111</sup> Supra 110.

<sup>112</sup> Killing a Mexican wolf without cause is a violation of the Endangered Species Act, a crime punishable by up to \$50,000 and a year in jail.

– Oregon rancher approved to kill 2 wolves; advocates alarmed, *Seattle Times*, April 12th, 2018, <https://www.seattletimes.com/seattle-news/oregon-rancher-approved-to-kill-2-wolves-advocates-alarmed/>

– Elsie Herron, Oregon Fish and Wildlife Issues Kill Permits for Eastern Oregon Wolf Pack, Willamette Week, April 11th, 2018, <https://www.wweek.com/news/2018/04/11/oregon-fish-and-wildlife-issues-kill-permits-for-eastern-oregon-wolf-pack/>

– A Troubling Trend for Wolves in Oregon, Defenders of Wildlife, January 8th, 2018, <https://medium.com/wild-without-end/a-troubling-trend-for-wolves-in-oregon-8a567aa84753>

<sup>113</sup> Oregon Department of Agriculture Wolf Depredation Compensation & Financial Assistance <https://www.oregon.gov/ODA/shared/Documents/Publications/InternalServices/WolfDepredationHandout.pdf>

– Wolf Depredation Grant, Oregon Department of Agriculture / Programs / Internal Services and Consumer Protection, <https://www.oregon.gov/oda/programs/iscp/pages/wolfdepredation.aspx>

<sup>114</sup> Trevor Hughes, Cyanide ‘bombs’ used to kill coyotes, foxes under review by federal officials, *USA TODAY*, April 29th, 2018, <https://www.usatoday.com/story/news/2018/04/28/cyanide-bombs-used-kill-coyotes-foxes-under-review-feds/556096002/>



hunting contests all throughout the USA.<sup>115</sup> When Coyotes population is regulated by wolves, bears, and mountain lions, they play an important role in keeping the wildlife gene pool and natural ecosystems healthy, by keeping at bay the rodent population and restoring the food chain.<sup>116</sup> Additionally, research has established that White-tailed deer population decreases when coyote population increases.<sup>117</sup> The Coyotes also bring down the population of Canada Geese and Wild Boars.<sup>118</sup> Moreover, culling wolves and coyotes mostly backfires<sup>119</sup> and it is ineffective in curbing livestock losses,<sup>120</sup> as when these native predatory species are exterminated, their complex packs fragment and disperse outbound,<sup>121</sup> causing increased predation.<sup>122</sup> Thereby stray wolves and alienated coyotes take over, causing twice the loss to farmlands and livestock.<sup>123</sup>

*In the recent times, the USFWS actions to cease wildlife introductions while at the same time allowing increased lethal takes by landowners is adversely*

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<sup>115</sup> HSUS Factsheet on Hunting contests, <https://www.humanesociety.org/sites/default/files/docs/contest-kills-factsheet.pdf>

– By Todd Wilkinson, A Death Of Ethics: Is Hunting Destroying Itself? In Mountain Journal, on December 12th, 2018, <https://mountainjournal.org/hunting-in-america-faces-an-ethical-reckoning>

<sup>116</sup> Alisa Opar, Ghost Dogs, The long persecuted coyote is not vermin, after all. Researchers are now discovering that it's a resilient, adaptable predator that's not just surviving in U.S. cities but playing a valuable role in restoring the food chain, Audubon, May 2011, <https://www.audubon.org/magazine/may-june-2011/ghost-dogs>

Coyote Relationships with Other Animal Species, Urban Coyote Research Project, <https://urbancoyotersearch.com/coyote-info/coyote-relationships-other-animal-species>  
<https://theheartysoul.com/washington-outlaws-wildlife-killing-contests/?fbclid=IwAR362c5uCPJ03WC2RPvPer8zqc4kdhOtp0A8-drtk-NoiTQbpdixSBptbNU>

<sup>117</sup> Meta-Analysis of Coyote Diet Reveals Differences by Geographical Region, Wolf Education International, April 5th, 2018, <http://wolfeducationinternational.com/meta-analysis-of-coyote-diet-reveals-differences-by-geographical-region/>

Meta-Analysis of Coyote Diet Reveals Differences by Geographical Region studies show that increasing coyote populations in states where there are whitetail deer is definitely resulting in decreasing deer populations.

– Diane Banegas, Study Concludes Coyotes Help Manage Deer Population in Southeast U.S., USDA, U.S. Forest Service, October 7th, 2015, <https://www.fs.usda.gov/features/study-concludes-coyotes-help-manage-deer-population-southeast-us>. According to the Quality Deer Management Association (QDMA), the reported U.S. deer harvest in 2000 was 7,351,866. That number dropped to 5,969,180 in 2014, which correlates with the increasing population of coyotes over the last 15 years.

<sup>118</sup> Justin L. Brown, B.S., The Influence of Coyotes on an Urban Canada Goose Population in The Chicago Metropolitan Area, The Ohio State University, 2007, <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.465.3901&rep=rep1&type=pdf>

<sup>119</sup> Robert B. Wielgus, Kaylie A. Peebles, Effects of Wolf Mortality on Livestock Depredations, *PLoS One*, December 3rd, 2014, <https://doi.org/10.1371/journal.pone.0113505>

<sup>120</sup> Supra 102 and

– Kaylie A. Peebles, Robert B. Wielgus, Benjamin T. Maletzke, Mark E. Swanson, Effects of Remedial Sport Hunting on Cougar Complaints and Livestock Depredations, *PLoS One*, November 19th 2013. <https://doi.org/10.1371/journal.pone.0079713>

<sup>121</sup> Kim Murray Berger, Eric M. Gese, Joel Berger, Indirect Effects And Traditional Trophic Cascades: A Test Involving Wolves, Coyotes, And Pronghorn. In Ecology, Ecological Society of America. First published: 01 March 2008 <https://doi.org/10.1890/07-0193.1>

<sup>122</sup> Supra 102,103 and Ben Guarino, Killing Wolves to Protect Farm Animals Backfires, Dodo, December 6th, 2014, <https://www.thedodo.com/wolf-hunts-backfire-863508247.html>

<sup>123</sup> Supra 121, 122 &

– Becky Kramer, Killing wolves to protect livestock doesn't work in long run, WSU study says, *Seattle Times*, December 3rd, 2014, <https://www.seattletimes.com/seattle-news/killing-wolves-to-protect-livestock-doesnrsquot-work-in-long-run-wsu-study-says/>

– Kaylie A. Peebles, Robert B. Wielgus, Benjamin T. Maletzke, Mark E. Swanson, Effects of Remedial Sport Hunting on Cougar Complaints and Livestock Depredations. In Plos One, Published: November 19, 2013. <https://doi.org/10.1371/journal.pone.0079713>

affecting endangered and threatened species.<sup>124</sup> The USFWS was recently reprimanded and admonished by the North Carolina District Court for dragging its feet for decades in protecting endangered wildlife.<sup>125</sup> The District Judge rebuked the USFWS for brazenly coming up with a proposal to grant North Carolina landowners the permission to kill critically endangered wolves if they stepped onto their property.<sup>126</sup> The USFWS proposal failed to honor the ESA's mandate of the Congress which aims to resurrect, conserve, and protect the endangered Red wolves.<sup>127</sup> In the last three decades alone, due to lack of red wolf management by the USFWS,<sup>128</sup> over 121 red wolves have been illegally killed.<sup>129</sup> In 2018 alone, despite there being only thirty-five Red wolves left in the Five-county area, the USFWS took the exact opposite route to that of facilitating predatory reintroductions, preservation of wildlife, and revivals of endangered wolves in the regions.<sup>130</sup> Hence, right now, only seven of the critically endangered Red Wolves remain in the wild.<sup>131</sup>

By claiming that hunting seasons evoke public's tolerance and acceptance toward the targeted species,<sup>132</sup> special interest groups like the *National Rifle Association (NRA)* have constantly lobbied and rallied the USFWS to remove federal protections for endangered and vulnerable wildlife species.<sup>133</sup> Moreover, these bodies continue to maintain their

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<sup>124</sup> Supra.

<sup>125</sup> NC Case No. 2:15-CV-42-BO, Red Wolf Coalition, Defenders of Wildlife, And Animal Welfare Institute vs, United States Fish And Wildlife Service. [https://www.southernenvironment.org/uploads/words\\_docs/Red\\_Wolf\\_Summ\\_Judgement\\_ORDER.11.5.18.pdf](https://www.southernenvironment.org/uploads/words_docs/Red_Wolf_Summ_Judgement_ORDER.11.5.18.pdf)

– Darryl Fears, Federal judge blasts Fish and Wildlife Service, says endangered wolves cannot be shot, Washington Post, November 5th 2018. [https://www.washingtonpost.com/science/2018/11/05/federal-judge-blasts-fish-wildlife-service-says-endangered-wolves-cannot-be-shot/?fbclid=IwAR0\\_](https://www.washingtonpost.com/science/2018/11/05/federal-judge-blasts-fish-wildlife-service-says-endangered-wolves-cannot-be-shot/?fbclid=IwAR0_)

– Darryl Fears, Interior Department plans to let people kill endangered red wolves, Washington Post, June 27th, 2018, <https://www.washingtonpost.com/news/energy-environment/wp/2018/06/27/interior-plans-to-let-people-to-kill-endangered-red-wolves/>

<sup>126</sup> Service proposes new management rule for non-essential, experimental population of red wolves in North Carolina, June 27th, 2018, <https://www.fws.gov/southeast/news/2018/06/service-proposes-new-management-rule-for-non-essential-experimental-population-of-red-wolves-in-north-carolina/>

Supra 126.

<sup>127</sup> USFWS's Proposal for Managing the Wild Red Wolf Population, in Wolf Conservation Centre, <https://nywolf.org/u-s-fish-and-wildlife-services-proposal-for-managing-the-wild-red-wolf-population/>

<sup>128</sup> Hinton, Joseph & White, Gary & Rabon Jr, David & Chamberlain, Michael. 2016. Survival and population size estimates of the red wolf. *The Journal of Wildlife Management*. 81. 10.1002/jwmg.21206.

<sup>129</sup> Critically Endangered Red Wolf Illegally Killed in August; Only 7 Known to Remain in Wild

October 15, 2020, <https://nywolf.org/2020/10/critically-endangered-red-wolf-illegally-killed-in-august-only-7-known-to-remain-in-wild/?fbclid=IwAR2-NYa530qSK-gjuGRK7mbaJCoYYWSqUpyz4IOeHMOk0ZGIGiaOsbo9Wk>

<sup>130</sup> World's Only Wild Red Wolves in Jeopardy, Southern Environmental Law Centre, <https://www.southernenvironment.org/cases-and-projects/nc-coyote-rule-risks-endangered-red-wolves>

USFWS's Proposal for Managing the Wild Red Wolf Population, <https://nywolf.org/u-s-fish-and-wildlife-services-proposal-for-managing-the-wild-red-wolf-population/>

<sup>131</sup> Critically Endangered Red Wolf Illegally Killed in August; Only 7 Known to Remain in Wild. October 15, 2020, <https://nywolf.org/2020/10/critically-endangered-red-wolf-illegally-killed-in-august-only-7-known-to-remain-in-wild/?fbclid=IwAR2-NYa530qSK-gjuGRK7mbaJCoYYWSqUpyz4IOeHMOk0ZGIGiaOsbo9Wk>

<sup>132</sup> Hunting and Conservation, on NRA website, <https://www.nra.org/campaigns/huntingconservation/hunting-home-page/>

Also read more on NRA, <https://law.jrank.org/pages/8738/National-Rifle-Association.html>, and Supra 60, 61.

<sup>133</sup> Memorandum of Understanding Between National Rifle Association of American And the U. S. Fish and Wildlife Service Through The National Wildlife Refuge System, NWRS, USFWS, <https://www.fws.gov/refuges/youcanhelp/nraMOU.html>

stance that hunting wildlife is a cost-effective approach in wildlife management and that it conserves wildlife and minimizes illegal poaching.<sup>134</sup> Whereas hunting has actually exacerbated man–animal conflicts and illegal poaching.<sup>135</sup> Such bald claims are devoid of scientific amplifications,<sup>136</sup> especially when justifying the killing of millions of wild animals that are almost ridden to extinction.<sup>137</sup> These “conservationists” and the governmental agencies have not even spared America’s national animals such as the Bald Eagle and the Bison.<sup>138</sup>

Under the current administration, the Endangered Species Act is being made a toothless legislation by stripping away its bedrock provisions’ reach and meaning.<sup>139</sup> As seen above, the current government’s USFWS has increased the dismantling of predator reintroductions and reauthorized the use of wildlife killing-cyanide bombs.<sup>140</sup> Moreover, the Environmental Protection Agency is granting permission for the indiscriminate animal killing practices undertaken by the Wildlife Services.<sup>141</sup> These administrative actions have been met with strong opposition by animal welfare activists

– Hunting and conservation, NRA Institute for Legislation, <https://www.nraaila.org/campaigns/huntingconservation/hunting-home-page/>

<sup>134</sup> Frank Minter, How Hunting Helps Wildlife, NRA site, January 17th, 2018. <https://www.nrafamily.org/articles/2018/1/17/how-hunting-helps-wildlife/>

Right to Hunt, Fish and Harvest Wildlife, Congressional Sportsmen Foundation, <http://congressionalsportsmen.org/policies/state/right-to-hunt-fish> and Supra 132.

<sup>135</sup> Michael Paterniti, Trophy Hunting: Should we kill animals to save them? National Geography, <https://www.nationalgeographic.com/magazine/2017/10/trophy-hunting-killing-saving-animals/> and Supra 5, 14

<sup>136</sup> Bradley J. Bergstrom. 2017. Carnivore conservation: shifting the paradigm from control to coexistence, *Journal of Mammalogy* 98(1): 1–6, <https://doi.org/10.1093/jmammal/gyw185>

– By Brandon Champion, Michigan poacher who killed 18 wolves, bald eagles loses hunting license for life. In Michigan, Updated Oct 14, 2020; Posted Oct 14, 2020, <https://www.mlive.com/news/2020/10/michigan-poacher-who-killed-18-wolves-bald-eagles-loses-hunting-license-for-life.html?fbclid=IwAR25HIJzw0EURjCrrMvm3YfJyuaUEj8IVQ27t-y5r5iSGartzVJL8CTnHo>

<sup>137</sup> Supra 5,7,14, 72,77,81,66-70, and 138

<sup>138</sup> – Frank Minter, Feds to Use Hunters to Cut Arizona Bison Numbers, NRA Hunters, September 15th 2017, <https://www.nrahl.org/articles/2017/9/15/feds-to-use-hunters-to-cut-arizona-bison-numbers/>

– Wyatt Williams, When the National Bird is a Burden, Bald eagles have been the emblem of the United States for more than two centuries. Now, in some parts of the country, they’re a nuisance. *New York Times Magazine*, January 19<sup>th</sup>, 2019, <https://www.nytimes.com/2017/01/19/magazine/bald-eagle-national-burden.html>

– The Bald Eagle: Pest or National Bird? Mike MacDonald in Pest Control Services, Rove Pest Control, June 26th, 2017. <https://www.rovepestcontrol.com/the-bald-eagle-pest-or-national-bird/>

<sup>139</sup> The Endangered Species Act Is Under Attack, On Earthjustice site, February 26th, 2020. <https://earthjustice.org/features/endangered-species-act-under-attack>

<sup>140</sup> Trump administration reauthorizes wildlife-killing M-44 ‘cyanide bombs’ despite strong opposition, Western Environmental Law Centre, news Release, August 7, 2019, <https://westernlaw.org/trump-administration-reauthorizes-wildlife-killing-m-44-cyanide-bombs-despite-strong-opposition/>

– Abbie Beneett, Trump administration ‘threatens’ NC’s endangered red wolves, other species, report says, *The Charlotte Observer*, December 18th, 2018, <https://www.charlotteobserver.com/news/state/north-carolina/article223270610.html>

In Common Dreams, by Andrea Germanos, Trump’s USDA Sued Over Program Allowing ‘Horrific’ Mass Slaughter of Native Wildlife. Published on Common Dreams, on October 8th, 2020. <https://www.commondreams.org/news/2020/10/08/trumps-usda-sued-over-program-allowing-horrific-mass-slaughter-native-wildlifeideas>

– Extinction Plan, 10 SPECIES IMPERILED BY THE TRUMP ADMINISTRATION, on Endangered Species Coalition, <https://www.endangered.org/campaigns/annual-top-ten-report/extinction-plan/>

<sup>141</sup> Supra 71,140.

and condemnation by wildlife conservationists.<sup>142</sup> Despite which, appeals for preventing the lethal harm to targeted, nontargeted animals, and native wildlife continue to be rejected by the USFWS.<sup>143</sup>

*The US Department of Interior*, the executive department that oversees the US Fish and Wildlife Services has been rolling back various aspects of environmental and wildlife protection regulations.<sup>144</sup> The USFWS led by the Secretary of Interior has repealed wildlife protection regulations that in turn furthers the current agency's top priority to increase hunting on public lands, national parks, and wildlife refuges.<sup>145</sup> These National Reserves comprise of seventy six NPS managed national areas, three hundred and thirty six wildlife refuge areas, two twenty million acres of the US public lands, etc.<sup>146</sup> For instance, the 2020 August Hunting season has opened Alaska's public lands for hunters to kill wild animals by unscrupulous and unscientific means.<sup>147</sup> The State of Alaska's biodiversity rich ecosystem is an icon of untouched, expansive wilderness area with indigenous wildlife species and complex ecological communities.<sup>148</sup> The National Park Service managed national reserves, parks, national wildlife refuges, national monuments, national forests, etc., came into existence to conserve, protect, and enhance these public lands for the greater good of all.<sup>149</sup> The Federal law, the National Historic Preservation Act granted regulatory authority to the NPS agency so that it preserves national reserves and conserve wildlife for the American public in an unimpaired manner and thereby to ensure intergenerational equity.<sup>150</sup> According to the Congress enacted federal law, hunting in National Preserves and conservation areas is legally to be made permissible only when it does not adversely affect natural resources.<sup>151</sup>

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<sup>142</sup> Supra 140.

<sup>143</sup> Supra 140.

<sup>144</sup> Tracking deregulation in the Trump Era, Brookings Institute, Thursday, August 6th, 2020, <https://www.brookings.edu/interactives/tracking-deregulation-in-the-trump-era/>

– The Trump Administration Is Reversing 100 Environmental Rules. Here's the Full List. By Nadja Popovich Livia Albeck-Ripka Kendra Pierre-Louis, In the New York Times, Updated July 15, 2020, <https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks.html>

<sup>145</sup> By Austin Price, Trump's Interior Department Reverses Ban of Pesticides in Wildlife Refuges, in Sierra Club's National magazine, August 9th, 2018, <https://www.sierraclub.org/sierra/trump-s-interior-department-reverses-ban-pesticides-wildlife-refuges>

<sup>146</sup> Supra 11.

<sup>147</sup> By Rachel Nuwer, Why the U.S. government is allowing bears, wolves to be hunted in their dens, In National Geographic, Animals, Wildlife Watch section, On August 7th, 2020. <https://www.nationalgeographic.com/animals/2020/08/new-hunting-rules-alaska-national-preserves/?fbclid=IwAR3TAq8J973Y5ou5C2-BIIUkOS-01Ki1pDb9hwKzduld8Hue4-WGQ9Bft94>

<sup>148</sup> John Schoen, a wildlife biologist now retired from the Alaska Department of Fish and Game.

<sup>149</sup> National Park Service Organic Act, 1916.

54 U.S.C. 100101(a) et seq.

"Congress created the National Park Service and prescribed that the fundamental purpose of national parks, monuments, and other reservations is "to conserve the scenery, and the natural and historic objects and wild life therein and to provide for the enjoyment of the same... as will leave them unimpaired." [https://www.nps.gov/training/nrs/references/references\\_fedlaw.html](https://www.nps.gov/training/nrs/references/references_fedlaw.html)

<sup>150</sup> Supra 149.

<sup>151</sup> America's Public Lands Explained "There are also national preserves – like Florida's Big Cypress or Lake Clark National Park & Preserve in Alaska. Activities like hunting, fishing or oil and gas extraction may be permitted at

Hence, rather than using the Supremacy clause as well as the Commerce Clause<sup>152</sup> to enforce Federal laws in protecting wildlife and preserving wildlife populations in every state's habitats, the current government is passing agency rules that reek of misaligned objectives.<sup>153</sup> The final rule issued by the National Park Service permits abhorrent hunting practices such as "Taking any black bear, including cubs and sows with cubs, with artificial light at den sites; harvesting brown bears over bait; taking wolves and coyotes (including pups) during the denning season (between May 1 and August 9); taking swimming caribou; taking caribou from motorboats under power; taking black bears over bait; and, using dogs to hunt black bears."<sup>154</sup> And thereby declares that the federal government may no longer prevent hunters from using such means.<sup>155</sup> The rule is a result of the Interior Secretary's 2017 High priority 3356 and 3347 Orders and a memorandum that openly encouraged states and tribal lands to increase hunting on public lands.<sup>156</sup> This was after repealing the Obama administration's 2015 rule that had explicitly prohibited inhumane and barbaric killing of bear cubs, wolf cubs, etc.<sup>157</sup> Baiting wild animals with human food that was once prohibited and looked down upon is now being considered as a fair way in killing the unsuspecting wild animals as well.<sup>158</sup> The ill-advised and inconsistent grant permits hunters to not even spare hibernating or even nursing bear and wolf mothers or their cubs.<sup>159</sup> By allowing unethical and once unlawful hunting practices, the National Park Service of Alaska has openly declared that it intends to be in alignment of the state's agenda in increasing harvest opportunities in national reserves and surrounding lands.<sup>160</sup> The brutish rule is to complement and supplement the state of Alaska's wildlife management laws that aggressively focuses on reducing predators on public lands;<sup>161</sup> by eliminating key stone predators, the agency

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*national preserves if they don't jeopardize the park's natural resources.*"<https://www.doi.gov/blog/americas-public-lands-explained>

<sup>152</sup> Commerce Clause, Article 1 Section 8 of the U.S Constitution, <https://www.britannica.com/topic/commerce-clause>

Supremacy Clause, Article VI, Paragraph 2 of the U.S. Constitution, [https://www.law.cornell.edu/wex/supremacy\\_clause](https://www.law.cornell.edu/wex/supremacy_clause)

<sup>153</sup> Supra 147, 140, 144.

<sup>154</sup> Alaska; Hunting and Trapping in National Preserves.

A Rule by the National Park Service on 06/09/2020, <https://www.federalregister.gov/documents/2020/06/09/2020-10877/alaska-hunting-and-trapping-in-national-preserves>

<sup>155</sup> Supra 154.

<sup>156</sup> Secretarial Orders, 3347 & 3356, on USFWS <https://www.fws.gov/sfbpc/secretarial-orders.html> [https://www.doi.gov/sites/doi.gov/files/uploads/signed\\_so\\_3356.pdf](https://www.doi.gov/sites/doi.gov/files/uploads/signed_so_3356.pdf), and supra 154

<sup>157</sup> Alaska; Hunting and Trapping in National Preserves, A Rule by the National Park Service, In Federal Register, on 10/23/2015, <https://www.federalregister.gov/documents/2015/10/23/2015-26813/alaska-hunting-and-trapping-in-national-preserves>

<sup>158</sup> Supra 154.

<sup>159</sup> Supra 154.

<sup>160</sup> Supra 154, 156.

<sup>161</sup> Intensive Management in Alaska, 1994 – The Alaska Department of Fish and Game, <https://www.adfg.alaska.gov/index.cfm?adfg=intensivemanagement.main#:~:text=The%20Alaska%20Legislature%20recognized%20the>,

is increasing game populations further.<sup>162</sup> Thus, in order to appease the hunting community, the National Park Service has set aside the agency's primary mission of conservation and further embraced dismantling its mission by permitting the exploitation of wildlife and national reserves. Parallely, ecologists and biologists fear that this hunting measure is setting a dangerous precedent for wildlife exploitation in the lower forty-eight states that already have loosely clad wildlife protection laws that give way to the slightest of the man–animal conflict situations.<sup>163</sup>

The insatiable lust for killing wildlife does not stop within the geographical bounds of the USA.<sup>164</sup> However, this article does not cover the billions of wild animals that are hunted or captured overseas, to be imported back to the USA as hunting trophies or pet animals.<sup>165</sup> As long as the importers have obtained permission and can present the requisite paperwork, the USFWS largely allows the import of wild animals.<sup>166</sup> This includes highly endangered and threatened wildlife of other countries that are imported in as hunting souvenirs.<sup>167</sup> Moreover, subject to federal and foreign wildlife laws, even trading with the listed ESA species is allowed when importers are granted a special federal permit.<sup>168</sup>

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Intensive%20Management%20Law%20in%201994.&text=The%20department%20will%20continue%20to,conser-  
vation%20as%20our%20guiding%20principles.

<sup>162</sup> Supra 161.

<sup>163</sup> By Gasan, Idaho Kills 17 Wolves On Public Lands To Benefit Elk Hunters, on March 25th, 2020. [https://gasanature.org/idaho-kills-17-wolves-benefit-hunters/?fbclid=IwAR2\\_OPWUTZ-Bobw5tzs3rGIVa4FCz\\_IFcB0B-4qX9Rd4TC194fNdWQJqnDM](https://gasanature.org/idaho-kills-17-wolves-benefit-hunters/?fbclid=IwAR2_OPWUTZ-Bobw5tzs3rGIVa4FCz_IFcB0B-4qX9Rd4TC194fNdWQJqnDM)

William Ripple, an ecologist at Oregon State University, in Corvallis, <https://www.nationalgeographic.com/animals/2020/08/new-hunting-rules-alaska-national-preserves/?fbclid=IwAR3TAq8J973Y5ou5C2-BIIUkOS-01Ki1pDb9hwKzduld8Hue4-WGQ9Bft94>

<https://www.americanprairie.org/sites/default/files/5%20-%20Consistency%20With%20Some%20DOI%20Secretarial%20Orders.pdf>

<https://nywolf.org/2020/07/washington-wildlife-officials-gun-down-endangered-wolf-to-protect-cows/?fbclid=IwAR1076x-HKjeVOruDGD8vLZzSFIOIsjYvlwQ6rXozCl6CZEf3dMqkhRM6M>

<sup>164</sup> Eskew, E.A., White, A.M., Ross, N. et al. 2020. United States wildlife and wildlife product imports from 2000–2014. *Scientific Data* 7: 22 . <https://doi.org/10.1038/s41597-020-0354-5>

<sup>165</sup> Melissa Gaskill, Scientists: Trophy Hunting 'Not Irreplaceable' for Conservation Funding, On December 3rd, 2019. <https://therevelator.org/trophy-hunting-conservation/?fbclid=IwAR2gStkk6jduKL4ykYIP0Bri-15SKw7MLX2okGJIACqvDJVTCpLrAAMniQw>

<sup>166</sup> Importing and Exporting Your Commercial Wildlife Shipment, <https://www.fws.gov/le/commercial-wildlife-shipment.html>

PART 14 – IMPORTATION, EXPORTATION, AND TRANSPORTATION OF WILDLIFE, Code of Federal Regulations, <https://www.govinfo.gov/content/pkg/CFR-2018-title50-vol1/xml/CFR-2018-title50-vol1-part14.xml>

<sup>167</sup> By Sam Wolfson, Nearly 40,000 giraffe parts have been imported to the US in last 10 years, in The Guardian. On August 23rd, 2018. <https://www.theguardian.com/world/2018/aug/23/giraffe-parts-humane-society-report>

– By Rosie Frost, US IMPORTS ARE HELPING TO DRIVE THE 'SILENT EXTINCTION' OF GIRAFFES, in Euro news. On 15th October 2020. <https://www.euronews.com/living/2020/10/15/us-imports-are-helping-to-drive-the-silent-extinction-of-giraffes>

– Illegal Giraffe Trade in the U.S. Is Destroying the Global Giraffe Population, in Green Matters, By Sophie Hirsh, <https://www.greenmatters.com/p/illegal-giraffe-trade>

<sup>168</sup> Bringing Pets and Wildlife into the United States Licensing and Health Requirements, <https://www.cbp.gov/sites/default/files/assets/documents/2016-Aug/pets-wildlife-unitedstates.pdf>



## Wildlife harvests adversely affect the ecology of harvested ecosystems

As shown above, “Harvest” is a euphemism and a misleading terminology.<sup>169</sup> The word “Harvest” conjures an image of an innocuous activity with a nurturing connotation so as to devoid the wholesale slaughter of wildlife species of ethical and ecological considerations; Because hunting and killing wildlife species is a controversial – objectionable topic, modern day hunters have substituted appropriate words with politically appealing and socially acceptable terms.<sup>170</sup> Consequentially, when a misleading terminology such as “harvest” pops up in proposed legislation, such as the NRA-backed<sup>171</sup> *right to hunt and fish* constitutional amendments<sup>172</sup> that have been passed or are pending in many states,<sup>173</sup> it has the potential to lead the unwary into accepting practices that they may not have otherwise supported such as hunting with dogs or the use of assault weapons.<sup>174</sup> Thus, making it easier for “wildlife managers” to cull wildlife under the pretext of “wildlife conservation”, thereby deflecting public awareness and outcry. The use of these terms also covers up and justifies the widespread practice of trophy killing by hunters.<sup>175</sup>

<sup>169</sup> See Supra 5,7,14, 22,25,56,154,160.

<sup>170</sup> Whereas “Harvesting” is culling thousands of wild animals under the pretence of wildlife conservation and trading in their body parts; layman are divorced from awareness of these issues due to misleading terminologies used by self-proclaimed wildlife conservationists.

<sup>171</sup> Why does NRA support Right to Hunt and Fish (RTHF) state constitutional amendments?

<https://www.nraifa.org/get-the-facts/hunting-and-conservation/why-does-nra-support-right-to-hunt-and-fish-rthf-state-constitutional-amendments/>

– German Lopez, How the NRA resurrected the Second Amendment, Here’s the story of how America’s gun politics got so broken, Vox News, May 4th, 2018, <https://www.vox.com/policy-and-politics/2017/10/12/16418524/nra-second-amendment-guns-violence>

<sup>172</sup> Second Amendment, NRA-ILA, <https://www.nraifa.org/second-amendment/>

<https://www.nrahlf.org/articles/2018/11/22/why-the-nra-is-the-national-rights-association/>

– Charlotte Harris, Are hunters an endangered species? Voters will decide if hunting rights need protecting, News Observer, November 01, 2018, <https://www.newsobserver.com/news/politics-government/article215933210.html>

<sup>173</sup> Alia Beard Rau, Hunting, fishing may be Arizona rights -Some legislators, gun-rights advocates seek to make 36th amendment to state Constitution, The Arizona Republic, January 31st 2010, <http://archive.azcentral.com/arizonarepublic/local/articles/2010/01/31/20100131politics-hunting0131.html>

– State Constitutional Right to Hunt and Fish, National Conference of State Legislatures, <https://www.ncsl.org/research/environment-and-natural-resources/state-constitutional-right-to-hunt-and-fish.aspx>

– This Map Shows You Which States Have A Constitutional Right to Hunt and Fish, Wide Open Spaces, <https://www.wideopenspaces.com/heres-a-map-that-shows-you-which-states-have-a-constitutional-right-to-hunt-and-fish/>

<sup>174</sup> Bird Hunting Dog Breeds, <http://wingshootingusa.org/BreedShowcase/>

– John Hay Rabb, The Dog hunting Debate, North American Whitetail, [http://www.northamericanwhitetail.com/editorial/deermanagement\\_naw\\_debate\\_1009/263851#](http://www.northamericanwhitetail.com/editorial/deermanagement_naw_debate_1009/263851#)

Other related articles: [http://www.nbcnews.com/id/26916860/ns/us\\_news-life/t/sport-hunting-hounds-under-scrutiny/#.W\\_8hmWhKjIU](http://www.nbcnews.com/id/26916860/ns/us_news-life/t/sport-hunting-hounds-under-scrutiny/#.W_8hmWhKjIU)

– Rob Chaney, Dog shooting reveals legal grey area for hunting, recreation, Missoulian, November 20th, 2013, [https://missoulian.com/news/local/dog-shooting-reveals-legal-gray-area-for-hunting-recreation/article\\_00ff345c-5184-11e3-87ae-001a4bcf887a.html](https://missoulian.com/news/local/dog-shooting-reveals-legal-gray-area-for-hunting-recreation/article_00ff345c-5184-11e3-87ae-001a4bcf887a.html)

– Candice Norwood, The Right to Hunt Is Now Constitutionally Protected in North Carolina, Governing, November 7th, 2018, <https://www.governing.com/topics/transportation-infrastructure/gov-right-to-hunt-north-carolina-ballot-gun-rights.html>

– A Primer on Hunting with Dogs <https://www.artofmanliness.com/articles/a-primer-on-hunting-with-dogs/>

<sup>175</sup> Also read – By Todd Wilkinson, A Death Of Ethics: Is Hunting Destroying Itself? In Mountain Journal, on December 12th, 2018. <https://mountainjournal.org/hunting-in-america-faces-an-ethical-reckoning>



*First:* Ecologists, Robert J. Knell and Carlos Martínez-Ruiz in their scientific study article, “Selective harvest focused on sexual signal traits can lead to extinction under directional environmental change” state that, “when there is directional environmental change, selective harvest of males with the largest secondary sexual traits can lead to extinction in otherwise resilient populations. When harvest is not selective, the males best suited to a new environment gain most of matings and beneficial alleles spread rapidly. But when these best adapted males are removed, however, their beneficial alleles are lost, leading to extinction.”<sup>176</sup> The usual targets of harvest were and are predatory males with their attractive features such as large antlered deers, lions with manes, elephants with tusks, stag beetles with extra-long horns, etc.<sup>177</sup> Trophy hunting and selective harvesting wipe out wildlife species with ornamental traits, whose genetic health and vitality are intertwined with their ornamental features.<sup>178</sup> The long-term effects of wildlife harvesting have been removing these wildlife genes from reproductive circulation, which are best adopted to withstand environmental and climatic conditions’ variations.<sup>179</sup>

*Second:* In another scientific article on the “Genetic effects of harvest on wild animal populations,”<sup>180</sup> the ecologists Allendorf et al. have rightly pointed out that, “Harvest has the potential to cause three types of genetic change: alteration of population subdivision, loss of genetic variation, and selective genetic changes.” Hence removing even a few wild animals has far-reaching and complex consequences on surrounding ecosystems.<sup>181</sup> Once these predatory species are removed from a region it brings about adverse evolutionary changes in the ecosystem such as changing and shifting the feeding, breeding, and territorial patterns of herbivorous species.<sup>182</sup> The rest of the predatory species succumb to the exterminating practices of humans and environmental changes.<sup>183</sup>

*Third:* Ecologists Richard Bischof et al. in their article *Regulated hunting – reshapes the life history of Brown Bear*<sup>184</sup> in *Nature Ecology and Evolution* point out how the recovery of carnivores across North America and Europe, (following their extirpations in the nineteenth and the early

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<sup>176</sup> Knell, Robert & Martínez Ruiz, Carlos. 2017. Selective harvest focused on sexual signal traits can lead to extinction under directional environmental change. *Proceedings of the Royal Society B: Biological Sciences* 284:20171788. 10.1098/rspb.2017.1788.

<sup>177</sup> Supra 176.

<sup>178</sup> Supra 176.

<sup>179</sup> Supra 176.

<sup>180</sup> Allendorf, Fred & England, Phillip & Luikart, Gordon & Ritchie, Peter & Ryman, Nils. 2008. Genetic effects of harvest on wild animal populations. *Trends in Ecology & Evolution* 23: 327–337. 10.1016/j.tree.2008.02.008. 4

<sup>181</sup> Supra 181.

<sup>182</sup> Supra 181.

<sup>183</sup> Supra 181.

<sup>184</sup> Bischof, Richard & Bonenfant, Christophe & Rivrud, Inger Maren & Zedrosser, Andreas & Friebe, Andrea & Coulson, Tim & Mysterud, Atle & Swenson, Jon. 2018. Regulated hunting re-shapes the life history of brown bears. *Nature Ecology & Evolution* 2. 10.1038/s41559-017-0400-7. <https://www.nature.com/articles/s41559-017-0400-7>

twentieth century) did not automatically regenerate apex predator demography, life histories or reestablish their feeding, breeding, and territorial patterns.<sup>185</sup> The team's study also revealed that "regulated hunting severely disrupted the interplay between age-specific survival and environmental factors, altered the consequences of reproductive strategies, and changed reproductive values and life expectancy in a population of the world's largest terrestrial carnivore."<sup>186</sup>

*Finally*, Ecologists emphasize that manmade alterations have the potential to reshape the ecology of harvested systems.<sup>187</sup> Eric Palkovacs et al. in "Ecology of harvest-driven trait changes and implications for ecosystem management" have reviewed a host of such cases.<sup>188</sup> Atlantic cod, for example, responded to fishing pressures by growing smaller and maturing faster, and the species no longer occupies the apex predator niche they once did.<sup>189</sup> Ditto with parrotfish on the Australia's Great Barrier Reef where they no longer consume algae at historical rates, this contributes to the reef's tipping from coral to algae-dominated states.<sup>190</sup> Also, hunted elk and deer are now less bold and migrate shorter distances, transport fewer nutrients across landscapes and have different effects on vegetation.<sup>191</sup> *As highlighted in the abovementioned examples*, the "wildlife managers" and sanctioned hunting operators cannot control wildlife populations without inflicting adverse consequences on natural ecosystems.<sup>192</sup> To pronounce: Natural ecosystem and its biodiversity interactions are complex mutualisms whose their ecological responses can be unpredictable reactions to anthropogenic changes.<sup>193</sup>

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<sup>185</sup> Supra 184.

<sup>186</sup> Supra 184.

<sup>187</sup> Palkovacs, Eric & Moritsch, Monica & Contolini, Gina & Pelletier, Fanie. 2018. Ecology of harvest-driven trait changes and implications for ecosystem management. *Frontiers in Ecology and the Environment* 16. 10.1002/fee.1743. <https://esajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/fee.1743>

<sup>188</sup> Supra 187.

<sup>189</sup> Supra 187.

<sup>190</sup> Supra 187.

<sup>191</sup> Supra 187.

<sup>192</sup> Supra 176,180,184,187.

Also read: William K. de la Mare, What is Wrong with our Approaches to Fisheries and Wildlife Management? – An Engineering Perspective.

<sup>193</sup> Supra 192.

Also read: Ronald J. Brooks, The Free Lunch: myths that direct conservation policy and the natural laws that constrain it, Gaining Ground: In Pursuit of Ecological Sustainability, Edited by David M. Lavigne.

– William E. Rees, Why Conventional Economic Logic Won't Protect Biodiversity, Gaining Ground: In Pursuit of Ecological Sustainability, Edited by David M. Lavigne.

– Stephen Best, Saving the Planet to Death: the need to reform the most important barrier to ecological sustainability, Gaining Ground: In Pursuit of Ecological Sustainability, Edited by David M. Lavigne.

– Michelle Campbell and Vernon G. Thomas, Implementing the Precautionary Approach: towards enabling legislation for marine mammal conservation in Canada, Gaining Ground: In Pursuit of Ecological Sustainability, Edited by David M. Lavigne

## Conclusion on “wildlife management”

In the US alone, hunting wildlife is a billion dollar industry.<sup>194</sup> As shown above, nonlethal repellents and/or aversion agents are not mandated as primary measures in deterring wildlife from properties.<sup>195</sup> A conjectured reasoning suggests that unlike hunting, harmless conflict mitigation measures do not require “harvesting” wildlife for their meat, hides, and body particles;<sup>196</sup> adoption of humane measures would not sustain recreational sports or funnel commercial trade in “problem animals” either.<sup>197</sup> Besides, state laws allow interest groups to hunt wildlife as such “wildlife management” generates huge sums of revenues to the government by the billions of expenditures incurred by “hunting sportsmen” and by “wildlife managers” in killing wildlife.<sup>198</sup> Parallely, these activities keep the pro-hunting vote banks intact for vested political groups.<sup>199</sup>

As seen above, it is clear that the wildlife hunting fraternity’s claims that their “sport” helps to control wildlife is misleading and contorted.<sup>200</sup> Also, hunting wildlife species often opens floodgates for people to kill wild animals, irrespective of a wild animal’s history and innocuousness.<sup>201</sup> Informed ethical calculations need to be made. If humans’ activities unduly continue to meddle with the ecosystem, it could potentially implicate a greater number of wildlife deaths in agricultural activities or even place wild animal killings right next to commercialized slaughter of livestock.

At the end, public hunting would have far reaching consequences on the environment like wrecking imbalances in the ecosystem.<sup>202</sup> Further, culling

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<sup>194</sup> President Proposes \$1.2 Billion FY 2019 Budget for U.S. Fish and Wildlife Service, [https://www.fws.gov/news/ShowNews.cfm?ref=president-proposes-\\$1.2-billion-fy-2019-budget-for-u.s.-fish-and-w&\\_ID=36224](https://www.fws.gov/news/ShowNews.cfm?ref=president-proposes-$1.2-billion-fy-2019-budget-for-u.s.-fish-and-w&_ID=36224)

– Economic Impacts of Hunting, Freshwater Fishing, Saltwater Fishing, Wildlife Viewing and Recreational Boating, Florida Fish and Wildlife Conservation Commission, <https://myfwc.com/about/overview/economics/>

– Recreation on US land generates billions for western states, October 1st, 2018. <https://katu.com/news/travel-and-outdoors/recreation-on-us-land-generates-billions-for-western-states>

Gren, I., Häggmark-Svensson, T., Elofsson, K. et al. 2018. Economics of wildlife management – an overview. *European Journal of Wildlife Research* 64: 22. <https://doi.org/10.1007/s10344-018-1180-3>

<sup>195</sup> Supra 5, 7, 14 and as pointed out by the agency actions of the USFWS and the USDA’s WS operations.

<sup>196</sup> Supra 5, 7, 14.

<sup>197</sup> Supra 5, 7, 14.

<sup>198</sup> 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, FHW/11-NAT (RV) Revised February 2014. <https://www.census.gov/prod/2012pubs/fhw11-nat.pdf>

– Kentucky Department of Fish & Wildlife Services <https://fw.ky.gov/Hunt/Pages/Which-License-or-Permit-Do-I-Need-to-Hunt.aspx>

– Economic benefits of hunting, Outdoor hole, History of Hunting <https://outdoorhole.com/history-of-hunting-in-america/>. See Supra 5, 60, 61, 133, 138, 162, 171, 172, 173.

<sup>199</sup> See Supra 198 and

– New 5-Year Report Shows 101.6 Million Americans Participated in Hunting, Fishing & Wildlife Activities, U.S. Department of Interior, September 7th, 2017. <https://www.doi.gov/pressreleases/new-5-year-report-shows-1016-million-americans-participated-hunting-fishing-wildlife>

– Hunting, Hunters as Conservationists, USFWS, <https://www.fws.gov/refuges/hunting/hunters-as-conservationists/>

– Hunting and fishing are pastimes enjoyed by 82 million Americans by Larry Moore in U.S Forest Service page, <https://www.fs.usda.gov/features/hunting-and-fishing-are-pastimes-enjoyed-82-million-americans>

<sup>200</sup> See Supra 5, 14, 167.

<sup>201</sup> See Supra 70, 85.

<sup>202</sup> See Supra 176,180,184,187.

wildlife species destructs vital connections in the natural environment.<sup>203</sup> The broken connections include the disruption or destruction of “ecological services” provided by key predators such as wolves, bears, and cougars.<sup>204</sup> Trophic Cascade effects seen in Yellowstone national park makes a strong case against the “harvesting” of wild animals in nature.<sup>205</sup> Hence there needs to be an increased consideration of the role of every single wildlife species in maintaining the health of the ecosystem. The whole concept of branding wildlife species as “Vermin”, must be shelved and the hostile approach to man–animal conflict needs to end. Acknowledging the far-reaching effects of human-driven changes is crucial; as even aggressive and invasive behavior of wild animals is to be justified by the modifications made by humans to the wildlife habitats and the environment.

### ***What framework should “wildlife management” in the USA emulate***

Managing excessive wildlife populations can address the scarcity of wildlife population elsewhere by rewilding measures, or by capturing “problem animals” from densely populated areas and relocating them in areas which need them as a prey base. Thus, supporting predatory wildlife comeback should become a core element of wildlife conservation cum management.

*In the Biological Control method*, predators specific to the resident excess prey animals are introduced to balance out the situation, their populations in turn being balanced by the resulting decline of the targeted excess prey base.<sup>206</sup> Advocating the introduction of biological control predators, particularly the wolves to restore the balance in the ecosystem is required. Hence reintroduction of predators to reduce the excess prey base in mismatched areas would be a humane and sensible alternative to the indiscreet culling of wildlife.

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<sup>203</sup> Supra 202.

<sup>204</sup> Supra 153, 54, 116–123.

Kate Wheeling, In the Pacific Standard, How the Loss of Large Carnivores Cascades Through Ecosystems, Pacific Standard, March 10th, 2019, <https://psmag.com/environment/how-the-loss-of-large-carnivores-cascades-through-ecosystems>

<sup>205</sup> Supra 89,90,91 and 204.

<sup>206</sup> Also see:

Human–Wildlife Conflict Resolution, Wildlife Campus material. <http://www.wildlifecampus.com/Courses/Human-WildlifeConflicts/IntroductiontoHuman-WildlifeConflicts/WildlifeConflictResolution/1524.pdf>

– Dynamics of Predation, By: Alison N. P. Stevens (Mount Ida College) 2010 Nature Education Stevens, A. 2010. Dynamics of predation. *Nature Education Knowledge* 3(10):46.

– How do predation and resource availability drive changes in natural populations? <https://www.nature.com/scitable/knowledge/library/dynamics-of-predation-13229468/>

– Predator-Prey Interaction. [http://www2.nau.edu/lrm22/lessons/predator\\_pre/predator\\_pre.html](http://www2.nau.edu/lrm22/lessons/predator_pre/predator_pre.html)

– Ian A. Hatton, Kevin S. Mccann, John M. Fryxell, T. Jonathan Davies, Matteo Smerlak, Anthony R. E. Sinclair, & Michel Loreau. 2015. The predator-prey power law: Biomass scaling across terrestrial and aquatic biomes. *Science* 349(6252): aac6284. DOI: 10.1126/science.aac6284. <https://science.sciencemag.org/content/349/6252/aac6284>

### **The ideal role model – European wildlife bank**

The European ecosystems are being restored by the *European Wildlife Bank (EWB)*.<sup>207</sup> The EWB has engaged in wildlife reintroduction, population enhancement and species protection by creating favorable conditions for the spontaneous comeback of wildlife species like brown bears, Iberian wolves, moose, and red deer in Europe.<sup>208</sup> This ecologically sound initiative has the potential to reduce hunting quotas, create hunting-free areas, combat wildlife poisoning, poaching and mitigate man–animal conflict, livestock damage, etc. Parallely it helps in protecting the nesting, denning, or breeding sites of wildlife species and naturally harmonizes their interplay in the ecosystem.<sup>209</sup> Hence wildlife agencies in the USA need to emulate the EWB’s model in wildlife management.

### **Conclusion**

Most of the farmers in rural areas are heavily invested in their livelihood activities and are completely dependent on livestock production and agricultural produce.<sup>210</sup> Hence protecting their produce at any cost is a topmost priority for them. As seen above, instead of engaging in sustainable measures to protect their livestock, livestock owners have traditionally used lethal methods against millions of wild animals who are killed and maimed in the process.<sup>211</sup> However, many of these methods are implemented without first considering experimental evidence of their effectiveness in mitigating predation-related threats or in avoiding species imperilment and ecological degradation. This comes across as a vindictive retribution as it serves no long-term purpose in wildlife management or in long-term crop, livestock and property protection. Despite decades of such intense persecutions, farmers have failed to redress their problems, demonstrating the futility in attempting to eradicate “Vermin” from farmlands and encroached areas.

All things considered, it is important to note that failing to respect the needs of local communities (while working toward mitigating man–animal conflict situations in agricultural areas) will only make the conservation efforts and wild animal control ineffective. In these instances, educating

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<sup>207</sup> The European Wildlife Bank is designed to facilitate the reintroduction and restocking of herbivores to rewilding areas across the continent. It has already proven successful, supplying animals to nearly 20 sites across Europe. The bank itself has prospered, increasing to around 850 animals over the last four years. <https://rewilding-europe.com/rewilding-in-action/wildlife-comeback/>

<sup>208</sup> Supra 208.

<sup>209</sup> Supra 208.

<sup>210</sup> Bettencourt, Elisa Maria Varela, Tilman, Mário, Narciso, Vanda, Carvalho, Maria Leonor da Silva, & Henriques, Pedro Damião de Sousa. 2015. The livestock roles in the wellbeing of rural communities of Timor-Leste. *Revista de Economia e Sociologia Rural* 53(Suppl 1): 63–80. <https://doi.org/10.1590/1234-56781806-94790053s01005>

FAO on Agriculture, Poverty and farming systems <http://www.fao.org/3/ac349e/ac349e03.htm>

<sup>211</sup> Supra 5,7,14. Also read: Ron A. Bender, The Right to Kill Wild Animals in Defense of Person or Property, 31 *Mont. L. Rev.* (1969). Available at: <https://scholarship.law.umt.edu/mlr/vol31/iss2/4>

localities to adopt nonlethal and ecologically sensitive deterrents such as natural repellents to wildlife, installation of bright lights and noise deflectors, use of mesh fences in the outer perimeter of farm areas, etc., would be helpful and cost effective. The use of guard dogs in protecting one's property and reintroduction of shepherds to guard livestock are sustainable options that prevent harm and promote coexistence between humans and wildlife species.

*In any event*, outlawing the use of traps in the USA is necessary as its applications are unsound and inhumane.<sup>212</sup> In regulating a wildlife population, lethal control should be the last measure one should consider; killing wild animals should be suspended until its functional effectiveness is proven, and until it is able to meet the stringent standards of evidentiary science.<sup>213</sup>

Regardless of wildlife's resistance to Anthropocene, humans' tolerance of native wildlife can be improved by recognizing the critically important role every wild animal and species plays in protecting the environment. Developing incentives for people to appreciate native wildlife through eco-beneficial models such as wildlife watching, and nature-based ecotourism of protected wildlife areas should complement better enforcement frameworks of wildlife protection laws.<sup>214</sup>

### ***One of the best ways to deal with "problem animals" is by changing one's own behavior***

Commercial agriculture, in its quest for expansion has largely upset the natural ecology of worldwide ecosystems.<sup>215</sup> Duly, wild animals will not as much be enticed to tread in humans' area when we naturally reduce their need to access our food sources. Further, there are umpteen number of cost-effective, humane alternatives to mitigate man-animal conflict situations such as state's using

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<sup>212</sup> Animal Welfare Institute, Edited by Camilla H. Fox and Christopher M. Papouchis, MS, *Cull of the Wild, A Contemporary Analysis of Wildlife Trapping in the United States*. <http://www.projectcoyote.org/Book-Cull-of-the-Wild.pdf>

<sup>213</sup> Also read: William S. Lynn, *Between Science and Ethics: what science and the scientific method can and cannot contribute to conservation and sustainability*, *Gaining Ground: In Pursuit of Ecological Sustainability*, Edited by David M. Lavigne.

<sup>214</sup> Also read: Arthur R. Mugisha and Lilly B. Ajarova, *Ecotourism: benefits and challenges – Uganda's experience*, *Gaining Ground: In Pursuit of Ecological Sustainability*, Edited by David M. Lavigne.

– David Lavigne, Rosamund Kidman Cox, Vivek Menon, & Michael Wamithi, *Reinventing Wildlife Conservation for the 21st Century*, *Gaining Ground: In Pursuit of Ecological Sustainability*, Edited by David M. Lavigne.

– Valerius Geist, *The North American Model of Wildlife Conservation: a means of creating wealth and protecting public health while generating biodiversity*, *Gaining Ground: In Pursuit of Ecological Sustainability*, Edited by David M. Lavigne.

John F. Oates, *Conservation, Development and Poverty Alleviation: time for a change in attitudes*, *Gaining Ground: In Pursuit of Ecological Sustainability*, Edited by David M. Lavigne.

<sup>215</sup> Radoslava Kanianska (July 27th, 2016). *Agriculture and Its Impact on Land-Use, Environment, and Ecosystem Services, Landscape Ecology – The Influences of Land Use and Anthropogenic Impacts of Landscape Creation*, Amjad Almusaed, IntechOpen, DOI: 10.5772/63719. Available from: <https://www.intechopen.com/books/landscape-ecology-the-influences-of-land-use-and-anthropogenic-impacts-of-landscape-creation/agriculture-and-its-impact-on-land-use-environment-and-ecosystem-services>

wildlife contraceptives, performing sterilization of excess wild animal populations, and conducting translocation drives of problem causing wildlife.

On a longer run, the livestock owners rather be assisted with humane methods of wildlife evasion or paid a compensation for loss of produce<sup>216</sup> than having valuable wildlife removed forever from the ecosystem.<sup>217</sup> In urban and rural areas which are prone to wildlife invasions, it is necessary to acknowledge that it is usually the tardiness of residents in the area that attracts and multiplies wildlife populations.<sup>218</sup> Encouraging neighborhood communities with wildlife in their vicinity to effectively contain and dispose garbage, be mindful of their domestic pets and in distress situations haze “problem animals” or spray natural repellents are simplistic solutions to adopt.

Moreover, treating wildlife species as “Vermin” only perpetuates the fear, angst, and disharmony between humans and wildlife. Hence synergistically creating a culture of coexistence by replacing habitat and forest encroachments with habitat restorations, and recolonizing excess herbivore areas with predators, dispersers, and raptor wildlife will protect the interests of all involved and improve the quality of natural ecosystems.

Ultimately, by understanding wildlife species and their behavior patterns better, we would be well positioned to find humane solutions to man–animal conflict situations. This would in turn help humans coexist and prudently evolve alongside these resourceful wild animals.

## Notes on contributor

*Sahana Ramdas* is a Wildlife and Environmental advocate from India. She has worked with two nonprofits, Wildlife SOS & Friendicoes SECA as their Head Legal Associate for over three years. During her time with the two organizations, she has legally assisted them in supporting prosecution efforts of the state governments across the country. With the co-founders, she has coauthored a Wildlife Crime Enforcement manual to conduct wildlife law enforcement workshops. Currently, she is completing her LLMs in the USA and has also been gaining legal experience in international environmental and wildlife law matters.

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<sup>216</sup> Also read: Johnson MF, Karanth KK, Weinthal E. 2018. Compensation as a policy for mitigating human-wildlife conflict around four protected areas in Rajasthan, India. *Conservation and Society* 16:305–319.

Available from: <http://www.conservationandsociety.org/text.asp?2018/16/3/305/234513>

– Jonathan K. Yoder, Damage Abatement And Compensation Programs As Incentives For Wildlife Management On Private Land [https://www.aphis.usda.gov/wildlife\\_damage/nwrc/symposia/economics\\_symposium/yoderHR.pdf](https://www.aphis.usda.gov/wildlife_damage/nwrc/symposia/economics_symposium/yoderHR.pdf)

<sup>217</sup> Also read: Stephen Best, Saving the Planet to Death: the need to reform the most important barrier to ecological sustainability, *Gaining Ground: In Pursuit of Ecological Sustainability*, Edited by David M. Lavigne.

– Vivek Menon and David Lavigne, Attitudes, Values and Objectives: the real basis of wildlife conservation, *Gaining Ground: In Pursuit of Ecological Sustainability*, Edited by David M. Lavigne.

– Martin Willison, Conserving Biodiversity: why we should and how we can, *Gaining Ground: In Pursuit of Ecological Sustainability*, Edited by David M. Lavigne.

<sup>218</sup> Science applied: How Can We Manage Overabundant Animal Populations? [http://bcs.whfreeman.com/webpub/biology/friedlandessentials1e/student%20resources/science%20applied%20pdfs/essentials\\_SA\\_03.pdf](http://bcs.whfreeman.com/webpub/biology/friedlandessentials1e/student%20resources/science%20applied%20pdfs/essentials_SA_03.pdf)