

PROTECTING NATURAL STEWARDSHIP: PUBLIC TRUSTS, WILDLIFE TRUSTS, AND THE EFFECT OF TROPHIC CASCADES

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INTRODUCTION

Carter Niemeyer, a retired wildlife biologist, once recalled seeing a placard in Idaho that read, “KILL ALL THE GODDAMN WOLVES AND THE PEOPLE WHO PUT THEM THERE.”¹ The call to arms might seem melodramatic, but it aptly captures the resentment many ranchers in the American West harbor toward the gray wolf.² Such animosity is not new. Since colonists first started settling the Americas, wolves have been vilified as “the greatest inconveniency,”³ “land piranhas,”⁴ and even “anti-American.”⁵ Although antipathy toward the predator dates back centuries, the second half of the placard—calling for the killing of “the people who put [wolves] there”—reveals a more nascent, complex source of tension between ranchers and wolf-advocates.⁶ These

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1. Paige Williams, *Killing Wolves to Own the Libs?*, THE NEW YORKER (Mar. 28, 2022), <https://www.newyorker.com/magazine/2022/04/04/killing-wolves-to-own-the-libs-idaho>.

2. Shawn Regan, *The Wolf Wars are Back*, NAT'L REVIEW (Aug. 12, 2021), <https://www.perc.org/2021/08/20/the-wolf-wars-are-back/>.

3. Williams, *supra* note 1.

4. Douglas H. Chadwick, *Wolf Wars*, NAT'L GEOGRAPHIC (Mar. 2010), <https://www.nationalgeographic.com/magazine/article/wolf-wars?loggedin=true>.

5. Williams, *supra* note 1 (recalling that in the early 1900s, a U.S. Senator from Montana argued it was un-American *not* to eliminate creatures that jeopardized the production of beef for American workers).

6. Williams, *supra* note 1.

tensions are particularly pronounced in Idaho, Montana, and Wyoming, where ranching is an integral part of the states' economies.⁷

The “people” responsible for “[putting] the wolves there” are federal agents from the U.S. Fish and Wildlife Service,⁸ who did so in the 1990s pursuant to a reintroduction plan after the wolf was nearly extirpated from the region.⁹ The federal government, along with conservationists and ecologists, has become the object of rancher vexation, leading to decades of aptly named “wolf wars” raging across the region where the gray wolf was reintroduced.¹⁰

Despite being at the center of such controversy, the gray wolf has long been synonymous with the American West, embodying the allure of the rugged terrain of the Northern Rocky Mountains and our nation's natural wonders, like Yellowstone National Park.¹¹ But its presence has not always been welcome. As early as 1634, colonialist William Wood lamented that there was “little hope of [wolves'] utter destruction” due to the species' sheer numbers and the spaciousness of the American wilderness.¹² Once-thriving populations were hunted to near extinction through government-sponsored efforts to make room for settlers and their herds of livestock,¹³ and the predator's tendency to prey upon cows and sheep “kept wolves in the crosshairs, with their deaths viewed as an economic and ecological good.”¹⁴ Even prominent conservationists advocated for the eradication of wolves to promote the health of other species.¹⁵ Despite Wood's prediction that humans

7. See Anna T. Maher et al., *National and State Economic Values of Cattle Ranching and Farming-Based Ecosystem Services on Federal and Private Lands in the U.S.*, in SUSTAINABLE RANGELANDS ROUNDTABLE PUBL'N (Aug. 2020), <http://www.sustainableland.org/wp-content/uploads/2020/09/B-1367.pdf> (surveying the economic value of ranching and livestock production by state).

8. Williams, *supra* note 1.

9. *Gray Wolf Timeline for the Contiguous United States*, INT'L WOLF CTR., <https://wolf.org/gray-wolf-timeline/> (last visited Apr. 21, 2022).

10. See generally Edward A. Fitzgerald, *The Alaskan Wolf War: The Public Trust Doctrine Missing in Action*, 15 ANIMAL L. 193, 197 (2009); Chadwick, *supra* note 4; Rachael Bale, *The New 'War on Wolves'*, NAT'L GEOGRAPHIC (May 13, 2021), <https://www.nationalgeographic.com/newsletters/article/the-new-war-on-wolves-20210513> (noting in each piece the title reference to “wolf wars”).

11. Bale, *supra* note 10.

12. See Williams, *supra* note 1 (noting that the first bounty—totaling one penny—began in Massachusetts in 1630); *Gray Wolf Timeline in the Contiguous United States*, *supra* note 10 (summarizing the history of wolf bounties by state).

13. Williams, *supra* note 1.

14. *Id.*

15. See, e.g., Catherine E. Semcer, *Securing a Future for Wolves in the West*, PROP. & ENV'T RSCH. CTR. (Dec. 6, 2021), <https://www.perc.org/2021/12/06/securing-a-future-for-wolves-in-the-west/> (describing how Aldo Leopold, “the father of the American land ethic,” once believed

could never eradicate wolves, Americans came close to proving him wrong. The federal government deployed battalions of hunters and trappers throughout the West, lacing deer carcasses with enough strychnine to kill over a dozen wolves at a time.¹⁶ Between 1915 and 1942, government hunters alone killed over 24,000 wolves.¹⁷ Only three decades ago, gray wolves—once a hallmark of the Greater Yellowstone Ecosystem—were conspicuously absent from the region.¹⁸

Only in 1978 did the federal government admit its mistake by listing the gray wolf under the newly passed Endangered Species Act (ESA), which restricted the killing of wolves.¹⁹ Enacted in 1973, the ESA “provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found.”²⁰ The U.S. Fish and Wildlife Service (FWS) is the federal agency largely responsible for implementing the ESA, although the Act requires all federal agencies to ensure that any actions they authorize, fund, or execute are “not likely to jeopardize the continued existence of any listed species.”²¹ Included in the FWS’s responsibilities are identifying and “list[ing]” species as either endangered or threatened.²² Once a species is no longer deemed endangered or threatened, the FWS can delist the species.²³ Listed species are afforded robust

killing wolves was vital to conservation); Jeremy Johnston, *Preserving the Beasts of Waste and Desolation: Theodore Roosevelt and Predator Control in Yellowstone*, YELLOWSTONE SCIENCE 14, 14 (Spring 2002), <https://www.nps.gov/parkhistory/hisnps/NPSHistory/beasts.pdf> (recalling that even Teddy Roosevelt, one of history’s most prolific outdoorsmen and the President responsible for the creation of the first national park, declared wolves as “the beasts of waste and destruction”); Williams, *supra* note 1 (describing how William Hornaday, prominent conservationist and first director of the Bronx Zoo, endorsed shooting wolves on sight).

16. Williams, *supra* note 1.

17. *Gray Wolf Timeline for the Contiguous United States*, *supra* note 10.

18. CAROLINE FRASER, *REWILDING THE WORLD: DISPATCHES FROM THE CONSERVATION REVOLUTION* 47 (Picador, 1st ed. 2009).

19. Semcer, *supra* note 15 (discussing the ESA’s prohibition on killing listed species, among other things. Since the first listing in 1978, the gray wolf has been delisted and relisted several times, discussed in detail in Part III).

20. *Summary of the Endangered Species Act*, U.S. ENV’T PROT. AGENCY, <https://www.epa.gov/laws-regulations/summary-endangered-species-act> (last updated Sep. 12, 2022).

21. *Id.*

22. 16 U.S.C. § 1533(a)(2)(A)(i). Under § 1533(b)(1)(A), “the Secretary shall make determinations required by subsection (a)(1) solely on the basis of the best scientific and commercial data available to him after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction; or on the high seas.”

23. 16 U.S.C. § 1533(a)(2)(A)(ii).

protections under the Act, including prohibitions on takings,²⁴ which the Act defines as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”²⁵

Even after the FWS listed the gray wolf as endangered, it took another decade for efforts to recover the species to gain traction, culminating in 1987 when the FWS published the Northern Rocky Mountain Wolf Recovery Plan.²⁶ Pursuant to the plan, in early 1995, the FWS reintroduced gray wolves to Yellowstone National Park,²⁷ designating them an experimental population under the ESA.²⁸ Yellowstone could display its historical panoply of wildlife once again.

For all its ecological importance, the reintroduction of the gray wolf also resonates meaningfully in the legal world. Specifically, this Note argues that the traditional property law doctrines of public trust and wildlife trust should be read to compel the protection of species that produce positive environmental externalities, or “trophic cascades.” These doctrines, read together, require *state* governments—as opposed to only federal agencies—to protect certain species of wildlife. First applied by the Supreme Court in 1810²⁹ and later enshrined in state constitutions and statutes,³⁰ the public trust doctrine requires states to hold certain natural resources in trust for the benefit of the public.³¹ States are the trustees, and present and future generations of the public are the trust beneficiaries.³² Included in the state’s role as trustee is the responsibility to preserve the trust resources (if future generations are

24. 16 U.S.C. § 1538(a)(1)(B).

25. 16 U.S.C. § 1532(19).

26. *Gray Wolf Timeline for the Contiguous United States*, *supra* note 9.

27. *Wolf Restoration*, NAT’L PARK SERVICE, <https://www.nps.gov/yell/learn/nature/wolf-restoration.htm> (last updated Feb. 18, 2022).

28. 16 U.S.C. § 1539(j).

29. *Carson v. Blazer*, 2 Binn. 475, 478 (Pa. 1810) (concluding that “the owner of land on the banks of the Susquehanna [River] has no exclusive right to fish in the river immediately in front of his lands, but that the right to fisheries in that river is vested in the state, and open to all”).

30. Michael C. Blumm & Aurora Paulsen, *The Public Trust in Wildlife*, 2013 UTAH L. REV. 1437, 1439 (2013) (noting examples of states that have incorporated the public trust doctrines in their constitutions).

31. Erin Ryan, Holly Curry & Hayes Rule, *Environmental Rights for the 21st Century: A Comprehensive Analysis of the Public Trust Doctrine and Rights of Nature Movement*, 42 CARDOZO L. REV. 2447, 2452 (2021) (defining the public trust doctrine and its evolution in the United States).

32. Patrick Redmond, *The Public Trust in Wildlife: Two Steps Forward, Two Steps Back*, 49 NAT. RES. J. 249, 259 (2009) (“The precise affirmative duties or obligations of the state as trustee . . . have unfortunately been rarely discussed by the courts, but since future generations are among the trust’s intended beneficiaries, these obligations must include the duty to preserve.”).

indeed the beneficiaries, the assets must exist for them to be enjoyed).³³ In contrast, the wildlife trust acknowledges state ownership of wildlife as an attribute of sovereignty.³⁴ Thus, under this doctrine, each state may exercise its authority to regulate and manage wildlife within its borders. Although courts have recognized some limits of state ownership, such as when ownership conflicts with applicable federal law,³⁵ the concept “is alive and well in the twenty-first century.”³⁶

Many species, including the gray wolf, create trophic cascades that contribute to maintaining and regenerating the physical health of their habitats.³⁷ This Note argues that courts should therefore extend the wildlife trust and public trust doctrines to require the protection of such species because of their integral role in preserving other public trust assets. Although the ESA is currently the primary means by which conservationists attempt to protect species like the gray wolf,³⁸ the approach advanced by this Note can supplement the ESA and fill crucial gaps. Throughout this Note, the gray wolf is used as a touchpoint to flesh out the mechanics of this argument—but it is important to acknowledge the broader application to other species that produce trophic cascades that help maintain their environments.³⁹

Part I of this Note discusses the ecological importance of the gray wolf to the American West, along with its checkered history with

33. See Ryan, Curry & Rule, *supra* note 31, at 2480 (commenting about “an increasing thumb on the scale toward protecting environmental values because of the state’s obligation to preserve them unimpaired for the enjoyment of future generations.”).

34. See Blumm & Paulsen, *supra* note 30, at 1451 (stating that “despite some confusion about the viability of the *Geer* decision, state ownership of wildlife in a sovereign capacity is overwhelmingly the majority view”).

35. *Id.* at 1440; see also *Hughes v. Oklahoma*, 441 U.S. 322, 335–36 (1979) (permitting states to protect and conserve wild animals within their borders, so long as doing so does not interfere with interstate commerce).

36. Blumm & Paulsen, *supra* note 30, at 1451.

37. Brodie Farquhar, *Wolf Reintroduction Changes Ecosystem in Yellowstone*, YELLOWSTONE NAT’L PARK TRIPS (June 30, 2021), <https://www.yellowstonepark.com/things-to-do/wildlife/wolf-reintroduction-changes-ecosystem/>.

38. See *The US Endangered Species Act*, WORLD WILDLIFE FUND <https://www.worldwildlife.org/pages/the-us-endangered-species-act#:~:text=Viewed%20as%20the%20gold%20standard,since%20the%20ESA%20became%20law> (last visited Apr. 27, 2022) (declaring the ESA to be the “gold standard” for conservation legislation as the “world’s most effective law[] for preventing and reversing the decline of endangered or threatened wildlife”).

39. This Note does not attempt to delineate the extent to which a species must produce trophic cascades to warrant protection under the public trust doctrine. Many species—including non-apex predators—can produce positive, physical benefits on their environments. This Note merely seeks to introduce the theory, which will then be up to courts to apply upon consideration of data gathered by wildlife biologists, zoologists, and other relevant experts.

ranchers and the political consequences of its reintroduction and continued presence. The political climate surrounding wolves is important because it reveals the tenuous relationship between state wildlife management policies and the ESA, and how the erratic applicability of the ESA exacerbates conservation efforts. Part II discusses the history of both the public trust and wildlife trust doctrines in the United States. Lastly, Part III offers a novel theory in which the public trust doctrine—historically confined to physical property—as well as the wildlife trust doctrine can be invoked together to compel the protection of gray wolves because of their positive impact on the physical environments they inhabit. This Part summarizes existing scholarship regarding the application of the public trust doctrine to wildlife and offers a new justification based on trophic cascades. Part III also highlights the benefits of employing the public trust doctrine to compel states to protect wolves compared to the ESA. To do so, this Part demonstrates how this Note’s theory can supplement and address the noted shortcomings of the ESA.

I. WOLVES, TROPHIC CASCADES, AND THE ESA

The gray wolf’s historic range once covered over two-thirds of the United States.⁴⁰ As Americans began expanding westward, wolves were indiscriminately eradicated to make room for settlers and their herds of livestock.⁴¹ These efforts were so successful that the gray wolf’s range receded to small pockets of upper Michigan and Minnesota;⁴² only 700 wolves remained in the continental United States by the 1960s.⁴³ Ranchers and livestock producers continued to deride wolves, but by the 1970s, strong ecological and conservation arguments had emerged in favor of reintroducing the gray wolf to the Greater Yellowstone Ecosystem (GYE).⁴⁴

40. *Gray Wolf*, THE NAT’L WILDLIFE FED’N, <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/Gray-Wolf#:~:text=The%20gray%20wolf’s%20story%20is,due%20to%20strong%20conservation%20efforts> (last visited Apr. 23, 2022).

41. Semcer, *supra* note 15.

42. Chadwick, *supra* note 4.

43. *Gray Wolf Timeline for the Contiguous United States*, *supra* note 9.

44. Semcer, *supra* note 15; for purposes of this Note, the GYE consists of two national parks—Yellowstone and Grand Teton—consisting of 2.5 million acres, and five national forests, encompassing more than fifteen million acres. The area of the parks alone is larger than Rhode Island and Delaware combined.

By 1978, the FWS had listed the gray wolf as an “endangered species.”⁴⁵ Two decades later, federal agents captured wolves in Canada and released them into Yellowstone National Park and the wilderness areas of central Idaho in an unprecedented federal action that “triggered . . . an eruption of hope, fear, resentment, lawsuits, and headline news” throughout the country.⁴⁶ The reintroduction of the wolves spurred a host of legal and ecological questions that fascinated legal academics and biologists alike.⁴⁷ For the purpose of this Note, the most important aspect of the wolf reintroduction was the trophic cascades they produced upon their return.

A. *Wolves Produce Trophic Cascades*

In addition to a boon in wolf-related tourism,⁴⁸ wolves confer extensive ecological benefits to Yellowstone National Park and the GYE. The wolves’ benefits to the GYE are paradigmatic of an ecological phenomenon known as a “trophic cascade,” in which the presence of apex predators atop a food pyramid effectuates a “waterfall” of ecosystem-wide benefits.⁴⁹ This descriptive theory identifies how the impact of predator-prey relationships resonates throughout the food chain from “the apex predator at the top to the soil microbial level at the bottom.”⁵⁰ To translate into legal and economic vernacular, trophic cascades are essentially positive environmental externalities resulting from an apex predator’s presence in its ecosystem.

Prior to the return of the wolves, Yellowstone National Park had been “wolfless” since 1926.⁵¹ The seventy-year absence and subsequent

45. *Gray Wolf Timeline for the Contiguous United States*, *supra* note 9.

46. Chadwick, *supra* note 4.

47. See Farquhar, *supra* note 37 (the reintroduction produced a “feeding frenzy” of scientific research due to the rare opportunity to study the effects of a semi-controlled experiment of apex predator restoration); Robert B. Keiter, *The Greater Yellowstone Ecosystem Revised: Law, Science, and the Pursuit of Ecosystem Management in an Iconic Landscape*, 91 U. COLO. L. REV. 1, 25 (2020) (focusing on the legal implications of the gray wolf’s reintroduction).

48. Holly Doremus, *Restoring Endangered Species: The Importance of Being Wild*, 23 HARV. ENVTL. L. REV. 1, 34-35 (1999) (referencing estimates putting the annual economic benefit of the wolf reintroduction at \$20 million. The return of the wolves to Yellowstone National Park has brought increased tourism, flooding the local economy with increased purchases of food, souvenirs, and lodging).

49. See Whitney G. Stohr, *Trophic Cascades and Private Property: The Challenges of a Regulatory Balancing Act and Lessons the UK Can Learn from the Reintroduction of the American Gray Wolf*, 2 U. BALT. J. LAND & DEV. 15, 19 (2012) (discussing the ecological impacts of apex predators throughout their food chains).

50. *Id.*

51. *But see Wolf Restoration*, *supra* note 27 (although 1926 marked the date the last wolf

reintroduction allowed the park to serve as a 2.22 million acre laboratory to study the effects of apex predators on an ecosystem.⁵² With wolves gone, Yellowstone elk and deer populations experienced unbridled growth, pushing the park to its carrying capacity and ultimately forcing park officials to undertake culling programs.⁵³ Facing little predatory pressure, the rampant elk populations overgrazed on willow, aspen, and cottonwood plants—critical sources of food for the GYE’s beavers.⁵⁴ Declining beaver populations led to fewer dams, jeopardizing fish populations that relied on pools created by dams for spawning.⁵⁵

The 1995 reintroduction of the wolves prompted an extraordinary reversal of damage wrought by excessive ungulate populations (such as deer, moose, and elk) during the seventy years prior.⁵⁶ The ecosystem was whole once again, resulting in unprecedented rates of healing and restoration of park species, forests, and rivers. The wolves curtailed bloated elk populations,⁵⁷ and, perhaps more importantly, influenced the grazing habits and patterns of the herds.⁵⁸ Elk no longer grazed carefree on aspen and cottonwood but instead resumed their normal behavioral patterns, becoming more nomadic and traveling to different parts of the park to graze.⁵⁹ Countless other species also directly benefit from scavenging abandoned wolf kills.⁶⁰ Although tourist sightings of the elusive predator are rare, signs of their return and positive impact are ubiquitous throughout the GYE.⁶¹

pack in Yellowstone was killed, reports of single wolves continued for several years).

52. Farquhar, *supra* note 37.

53. Stohr, *supra* note 49, at 20.

54. Farquhar, *supra* note 37.

55. Jamie Rappaport Clark, *We Were Wrong About Wolves, Here’s Why*, DEFENDERS OF WILDLIFE (Mar. 21, 2020), <https://defenders.org/blog/2020/03/we-were-wrong-about-wolves-heres-why>; *see also* *Trophic Cascade*, MISSION: WOLF, <https://www.missionwolf.org/trophic-cascade#:~:text=and%20herbivore%20populations,-,The%20Trophic%20Cascade,a%20more%20natural%20ecosystem%20balance> (last visited Apr. 28, 2022) (other species that have benefitted from the wolf reintroduction include, but are not limited to, raptors such as eagles, hawks, and osprey; other species of bird such as ravens and magpies; other predators like grizzly bears; foxes, coyotes, lynx, wolverines, beetles, and bison).

56. Stohr, *supra* note 49, at 21.

57. *Gray Wolf*, THE NAT’L PARK SERV., <https://www.nps.gov/yell/learn/nature/wolves.htm> (last visited Mar. 23, 2022) (each wolf kills between eighteen and twenty-two elk per year); *see generally* *Gray Wolf*, *supra* note 40 (detailing the typical diet for wolves, clarifying that wolves prefer to eat large, hooved mammals like deer and elk and can eat twenty pounds of meat in a single meal).

58. Farquhar, *supra* note 37.

59. Clark, *supra* note 55.

60. Stohr, *supra* note 49, at 21.

61. Research shows the presence of wolves generates positive externalities for motor vehicle

Importantly, the wolves' benefits are not confined to the GYE's flora and fauna. Scientists have discovered a plethora of geological and riparian benefits⁶² directly traceable to the reintroduction.⁶³ For example, by affecting the beaver populations,⁶⁴ wolves have improved the health of GYE rivers and streams—more beavers mean more dams, and more dams mean less riverbed erosion.⁶⁵ Similarly, elk now spend more time grazing in open plains to more easily spot predators like wolves, mitigating the negative effects of trampling and overgrazing on densely wooded areas and riparian plants that protect the structural integrity of the GYE's riverbanks.⁶⁶ Revitalized riverbanks and resurgent vegetation⁶⁷ continue to improve the overall health of the nearly 1,000 rivers and streams composing Yellowstone's 2,500 miles of running water.⁶⁸ Among these waterways include the Yellowstone River, the longest undammed river in the continental United States.⁶⁹

Today, the lower forty-eight states boast over 6,000 gray wolves, and in late 2020, the FWS determined that the species had exceeded conservation goals, which warranted delisting under the ESA.⁷⁰ The FWS cited the “successful recovery of the gray wolf” to justify stripping the species of its legal protections under the ESA.⁷¹ The decision was

drivers by considerably reducing vehicle collisions with deer. Motor vehicle collisions with deer are responsible for 200 human fatalities and nearly \$10 billion in total economic losses in the United States each year. Perhaps surprisingly, deer kills by wolves are “only a small driver of the reduction.” Much of the effect stems from changed behavioral responses of deer, who are less likely to venture near open spaces such as roads. See Addison Del Mastro, *Cars Get Safer in a Landscape of Fear*, PROP. & ENV'T RSCH. CTR. (Jul. 19, 2021), <https://www.perc.org/2021/07/19/cars-get-safer-in-a-landscape-of-fear/>.

62. For purposes of this Note, riparian benefits refer to the increased stabilization of riverbanks, the improved health of plant life that grows adjacent to waterways, and the decreased rate of erosion of riverbeds.

63. Clark, *supra* note 55.

64. See Farquhar, *supra* note 37 (noting that at the time the wolf was reintroduced, there was only one beaver colony in the entire national park, whereas there were nine colonies as of 2021).

65. Clark, *supra* note 55.

66. See generally Edward A. Fitzgerald, *Lobo Returns from Limbo: New Mexico Cattle Growers Assn. v. U.S. Fish & Wildlife Serv.*, 46 NAT. RES. J. 9, 60 (2006) (noting the effects that wolves have had on the natural features of the GYE, specifically the rivers and streams).

67. See Farquhar, *supra* note 37 (listing a multitude of plant and tree species that have been positively impacted from the return of the gray wolf).

68. *Water, THE NAT'L PARK SERV.*, <https://www.nps.gov/yell/learn/nature/water.htm#:~:text=More%20than%20600%20lakes%20and,2%2C500%20miles%20of%20running%20water> (last visited Mar. 23, 2022).

69. *The Yellowstone River, THE NAT'L PARK SERV.*, <https://www.nps.gov/yell/learn/nature/yellowstone-river.htm> (last visited Mar. 23, 2022).

70. Bale, *supra* note 10.

71. Corryn Wetzel, *Judge Restores Federal Protections for Gray Wolves in 44 States*, SMITHSONIAN MAG. (Feb. 15, 2022), <https://www.smithsonianmag.com/smart-news/gray-wolves-headed-back-to-the-endangered-species-list-180979575/>.

contentious and prompted numerous environmental groups to challenge the FWS's determination that the gray wolf population no longer required the protection of federal law.⁷² Despite ardent protests, the gray wolf remained unlisted for nearly two years, meaning management of the species became exclusively a matter of state law. But the FWS decision to delist the wolf was successfully challenged in the U.S. District Court for the Northern District of California, where Judge Jeffrey White reversed the FWS action, ruling that the Service "failed to adequately analyze and consider the impacts of partial delisting and of historical range loss on the already-listed species."⁷³ Importantly, the only population of wolves to which the court order did not apply was the Northern Rocky Mountain population, which calls the GYE home.⁷⁴ As discussed below, many of the states—particularly those the Northern Rocky Mountain population inhabit—do not share the federal government's affinity for promoting healthy wolf populations.

B. Wolves Reveal Gaps in the ESA

While ecologists and Yellowstone visitors celebrated the wolf's 1995 homecoming,⁷⁵ local ranchers were understandably wary about the return of an old foe.⁷⁶ The resulting "wolf wars" and state management policies of the species reveal the issues that arise when the ESA is the sole source of wolves' legal protection. Ranchers felt betrayed, as the federal government, who once aided the effort to rid the area of gray wolves, was now bringing back the predator and protecting it with the full force of federal law.⁷⁷ Although the wolves were released onto federal land within the park, it would be impossible to keep them from

72. Cassie Ferri, *Gray Wolf Listing Reinstated under Endangered Species Act*, THE WILDLIFE SOCIETY (Feb. 14, 2022), <https://wildlife.org/gray-wolf-listing-reinstated-under-endangered-species-act/>.

73. *Defenders of Wildlife v. U.S. Fish & Wildlife Serv.*, 584 F. Supp. 3d 812.

74. See *Gray Wolf Recovery News and Updates*, U.S. FISH & WILDLIFE SERV. (Feb. 11, 2022), <https://www.fws.gov/initiative/protecting-wildlife/gray-wolf-recovery-news-and-updates> (exempting the Northern Rocky Mountain population from relisting, meaning they are subject to the hunting laws of Idaho, Montana, and Wyoming).

75. See Chadwick, *supra* note 4 (in Yellowstone alone, tens of thousands of tourists come to watch wolves annually, adding an estimated \$35 million to the area's economy).

76. Williams, *supra* note 1.

77. Robert C. Moore, *The Pack is Back: The Political, Social, and Ecological Effects of the Reintroduction of the Graywolf to Yellowstone National Park and Central Idaho*, 12 T.M. COOLEY L. REV. 647, 674–75 (1995) (noting the distrust of Wyoming, Idaho, and Montana citizens toward the federal government generated by the reintroduction program).

wandering onto adjoining private land,⁷⁸ especially when such private land was replete with vulnerable livestock.⁷⁹

Indeed, in 2008—a little over a decade after the reintroduction—wildlife agents confirmed 569 sheep and cattle deaths attributable to wolves throughout the West.⁸⁰ Although this amounted to less than 1 percent of livestock deaths in the region, the economic losses were often not distributed evenly—usually, unlucky ranchers bore disproportionate economic losses due to wolves preying repeatedly on the same herd.⁸¹ Farmers and ranchers killed 264 wolves that had attacked livestock in Idaho, Montana, and Wyoming, the three states sharing a border with Yellowstone National Park.⁸² Driving down rural roads throughout these states, a common bumper sticker captures the prevailing sentiment toward wolves among many ranchers: beneath a depiction of a crossed-out wolf, the sticker reads “Smoke a Pack a Day.”⁸³

Private groups have attempted to placate ranchers’ grievances by offering compensation for livestock lost to depredation by wolves.⁸⁴ Defenders of Wildlife was the first conservation organization to establish a wolf compensation program, which was funded entirely by private donations.⁸⁵ Ranchers are largely unsatisfied with such compensation schemes, however, because they are often not compensated in full for their losses. There are two reasons for this: 1) compensation requires confirmation of a wolf kill, and 2) the economic losses attributable to wolves cannot be measured solely by the number of livestock eaten by wolves.⁸⁶ Confirmation is difficult because it requires furnishing a carcass, which may be impossible when carcasses are carried off by wolves or when scavengers shred the evidence.⁸⁷ Similarly, cattle that are harassed by wolves may lose 30 to 50 pounds annually and suffer from stress-induced hormonal effects leading to

78. *Gray Wolf*, *supra* note 40 (noting that wolf packs hunt within territories ranging from 50 to over 1,000 square miles).

79. Williams, *supra* note 1.

80. Chadwick, *supra* note 4.

81. *Id.*

82. *Id.*

83. *Id.*

84. Semcer, *supra* note 15.

85. *See id.* (the program reimbursed livestock producers 100 percent of the fair market value of a certified livestock loss to wolves, up to \$3,000. The organization paid out over \$500,000 between 1995 and 2009, when Defenders of Wildlife shifted the program focus away from compensation.).

86. Chadwick, *supra* note 4.

87. Semcer, *supra* note 15.

high abortion rates among herds.⁸⁸ Such losses are non-compensable under the current scheme and fuel the “wolf wars” being waged by ranchers despite well-intended private attempts to make ranchers whole.

The politicization of the gray wolf has pitted ranchers against conservationists,⁸⁹ rural landowners against urbanites,⁹⁰ and state governments against federal agencies.⁹¹ Conservationists point to the benefits that wolves bring to their environment and the positive effect they have on other species; ranchers point to the effects of predation on their stocks. Both sides accuse the other of invoking “inflamed rhetoric” and exaggerated statistics about the benefits of wolves or the extent to which they impact ranching.⁹² Similarly, the politics of wolf recovery “has tended to come down to a rural-urban divide.”⁹³ Rural landowners lament livestock fatalities, while urbanites value wolves for their “natural beauty” or “existence value.”⁹⁴ As Addison Del Mastro notes, these competing interests “turn wolf reintroduction into a zero-sum issue, in which wolf advocates’ gain comes at the expense of the private landowners who bear the cost of wolf recovery.”⁹⁵

The bloodiest and most important battle of this wolf war is being waged between the states and the federal government. Once the wolf was first delisted in the GYE in 2011, states such as Idaho and Montana jumped at the opportunity to implement their own wolf management regimes.⁹⁶ It took only a few hunting seasons in these states for wolves to find themselves once again in threat of extirpation from the region, prompting the FWS to relist the wolves in September 2014.⁹⁷ Since then, the wolf has cycled through periods of federal protection under the ESA and the harsher, unsympathetic regimes states adopt when the wolf is delisted and the ESA no longer applies.

Economic factors are partly to blame for the discrepancy between federal and state attitudes toward the wolf. For instance, Idaho is home

88. Chadwick, *supra* note 4.

89. Semcer, *supra* note 15.

90. Del Mastro, *supra* note 61.

91. Bale, *supra* note 10.

92. Williams, *supra* note 1.

93. Del Mastro, *supra* note 61.

94. *Id.*

95. *Id.*

96. Williams, *supra* note 1; *see also* Keiter, *supra* note 47 at 25 (discussing the results of “jurisdictional fragmentation” that currently plague wolf management).

97. For a detailed timelines of the history of the gray wolf in the United States, *see Gray Wolf Timeline for the Contiguous United States*, *supra* note 9.

to a \$2 billion cattle industry.⁹⁸ The state generates an additional \$6 million annually in hunting fees.⁹⁹ Because Idaho is economically tied to cattle and the presence of elk for big game hunters, it is no surprise that the state has “long had a reputation as the most hostile toward the gray wolf.”¹⁰⁰ When wolves are periodically delisted from the ESA, this hostility manifests itself via dramatically broadened opportunities to kill wolves; Idaho recently allowed for the killing of up to 90 percent of the state’s gray wolf population.¹⁰¹ Other states have followed suit, including Montana, which allowed hunters to kill “as many wolves as they want,” including through hunting methods some sportsmen decry as unethical.¹⁰² In the most recent two-year period in which wolves were delisted (and thus lost protection under the ESA), over 500 wolves were killed in Idaho and Montana alone, out of a total population of only 2,600.¹⁰³ Some commentators have even alleged that the laws are little more than spiteful “retribution” against liberal conservationists.¹⁰⁴

When the species was most recently delisted in 2020, word of an impending “massacre” of wolves in the western states spread to Washington, D.C., where twenty-one U.S. senators, nearly sixty conservation groups, and over 800 scientists implored the White House to re-list the gray wolf on an emergency basis.¹⁰⁵ Although the FWS did not willingly re-list the gray wolf, U.S. District Judge Jeffrey White reversed the FWS decision to delist the wolf from the ESA in a

98. Williams, *supra* note 1.

99. *Id.* (detailing the importance of elk hunting to the economy and citizens of Idaho—about ninety thousand people hunt elk in Idaho every year).

100. *See id.* (the request garnered significant media attention when President Biden referenced wolf hunting in a virtual townhall. Renowned conservationists, including Jane Goodall, also vocally criticized Idaho’s policies regarding the management of wolf populations).

101. Bale, *supra* note 10; *see also* Williams, *supra* note 1 (detailing the extent to which Idaho hunting regulations have loosened, noting that, for the first time, sportsmen are permitted to kill an unlimited number, can hunt year round, and employ night-vision goggles, A.T.V.s, and silencers—all of which raise ethical questions regarding “fair chase.”).

102. Bale, *supra* note 10; *see also* Williams, *supra* note 1 (noting how hunters are now even permitted to use motorized vehicles to “pursue wolves to the point of exhaustion, or simply run them over”).

103. Douglas Main, *Most U.S. Wolves are Listed as Endangered—Again. Here’s Why*, NAT’L GEOGRAPHIC (Feb. 22, 2022), <https://www.nationalgeographic.com/animals/article/gray-wolves-relisted-endangered-species-act?loggedin=true>; Press Release, Idaho Wildlife Conservation and Management (Jan. 27, 2022) (estimating an Idaho summer population of 1,500 wolves for the past three years).

104. Williams, *supra* note 1.

105. *Id.*

February 2022 ruling.¹⁰⁶ As of the date of this Note, the gray wolf is once again listed as threatened under the ESA.¹⁰⁷

Given the historical, highly politicized, multi-jurisdictional nature of these issues, it is important to consider the legal tools available to promote the conservation and protection of the gray wolf. The extent to which the management of wolves varies between the states and the federal government reveals weaknesses in relying exclusively on federal law to protect wolves, especially given the fluctuating applicability of the ESA. Thus, this Note offers an argument to compel states to protect the wolf via judicial combination of the wildlife and public trust doctrines to include species that produce trophic cascades among the assets held in public trust.

II. THE PUBLIC AND WILDLIFE TRUST DOCTRINES

Both the public trust and the wildlife trust doctrines are among the oldest doctrines of the common law, tracing their origins to ancient Rome.¹⁰⁸ The public trust doctrine originated primarily to protect the public use of waterways for navigation, commerce, and travel,¹⁰⁹ whereas the wildlife trust doctrine recognizes sovereign ownership of wildlife.¹¹⁰ Underlying the doctrines is the assertion that some resources, such as navigable waters or natural wildlife, must be protected against private expropriation or monopolization due to their importance to the public.¹¹¹ Because both doctrines concern state control of specific resources, the public and wildlife trusts have often been mistakenly lumped together and generally referred to as the public trust doctrine.¹¹² The two doctrines are distinct, however, and there are important policy reasons that support maintaining their independence.¹¹³ For example, “the resources protected by each

106. Ferri, *supra* note 73; Defs. of Wildlife, et al. v. U.S. Fish and Wildlife Serv., et al., No. 21-cv-00344-JSW, (D.N.C.A. 2022).

107. Ferri, *supra* note 72.

108. Erin Ryan, *Short History of the Public Trust Doctrine and its Intersection with Private Water Law*, 38 VA. ENVTL. L.J. 135, 137 (2016); Blumm & Paulsen, *supra* note 30.

109. Ryan, *supra* note 108.

110. Blumm & Paulsen, *supra* note 30.

111. Ryan, *supra* note 108.

112. Autumn T. Breeden, “Raisins are not Oysters”: *Horne and the Improper Synthesis of the Public and Wildlife Trusts*, 6 ARIZ. J. ENVTL. L. & POL’Y 534, 545 (lamenting that the public and wildlife trusts have been lumped together through “convenience, simplicity, and seeming similarities”).

113. *See id.* (The conflation of the public and wildlife trust doctrines has resulted in “improper expansion of the wildlife trust based on the reaches of the public trust.” For more information on why the two doctrines should not be synthesized, *see Raisins are not Oysters*, Part IV).

doctrine are intrinsically different and require unique protections that should not be generalized between the two trusts.”¹¹⁴

A. *The Public Trust Doctrine*

The public trust doctrine first appeared in American jurisprudence as early as 1810, when the Supreme Court of Pennsylvania held that a riparian landowner along a navigable river could not exclude the public from fishing it.¹¹⁵ Perhaps the most seminal case regarding public trust dates to 1892, when the Supreme Court first expressly adopted the doctrine in *Illinois Central Railroad v. Illinois*. This case concerned a conveyance by the Illinois state legislature of over 1,000 acres of submerged land to Illinois Central Railroad—a private company—in a transaction smacking of political favoritism and corruption.¹¹⁶ The land Illinois conveyed was the lakebed of the Chicago Harbor, arguably the most valuable and important property in all of Lake Michigan.¹¹⁷ Many Illinois citizens denounced the conveyance,¹¹⁸ and Illinois legislators sought to repeal the statutory conveyance only four years later in response to the public backlash. The legislators sued for declaratory relief to reestablish public ownership of the harbor.¹¹⁹ Illinois invoked public trust principles to defend its position, arguing that the previous legislature had lacked the power to alienate itself from lands encumbered by the public trust.¹²⁰

The Supreme Court accepted Illinois’ argument, affirming that the public trust doctrine precluded the state’s earlier attempt to convey the Chicago harbor to a private company.¹²¹ The Supreme Court thus retroactively invalidated the transfer of lakeshore property;¹²² from a legal perspective, it was like there had never even been a conveyance. The Supreme Court succinctly stated that each state holds title to the lands under its navigable waters¹²³ “in trust for the people of the state,

114. *Id.* at 545–46.

115. *Carson v. Blazer*, 2 Binn. 475, 478 (Pa. 1810) (concluding that “the owner of land on the banks of the Susquehanna [River] has no exclusive right to fish in the river immediately in front of his lands, but that the right to fisheries in that river is vested in the state, and open to all”).

116. *Ryan*, *supra* note 108, at 162–63.

117. *Id.*

118. *Id.* at 137.

119. *Ill. Cent. R.R. v. Illinois*, 146 U.S. 387, 449 (1892).

120. *Id.* at 438–39.

121. *Id.* at 453.

122. *Id.*

123. Meaning submerged lands, or, more simply, the land underneath water in lakes, rivers, streams, etc.

that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein, freed from the obstruction or interference of private parties.”¹²⁴ As the beneficiary of the trust, the public is entitled to hold the state trustee accountable for errant management choices affecting the trust corpus.¹²⁵

Only two years after the Court decided *Illinois Central Railroad*, it once again decided a case in which the parties disputed ownership of navigable waterways. Specifically, *Shively v. Bowlby* turned on whether the grant of land to a private owner by the federal government included the submerged lands of the Columbia River in Oregon.¹²⁶ The defendant claimed that Congress had granted title to the original claimant prior to Oregon’s statehood, and that therefore Oregon neither held title to the submerged land nor held the land in trust for the public.¹²⁷ The Court meticulously traced the history of the ownership of the disputed land and ultimately concluded that the private owners had never received “title or right in the land below the high-water mark.”¹²⁸

Importantly, the Court reached the conclusion that the land in question had *always* been encumbered by the public trust. This was true before Oregon was admitted into the Union in 1859, and even prior to the United States declaring its independence nearly a century earlier.¹²⁹ The Court concluded that the submerged lands of the Columbia River were encumbered by the public trust that was held by the English King, and that after the American Revolution those same rights went to the thirteen colonies before ultimately vesting with the states.¹³⁰

Historically—as evidenced by both *Illinois Central* and *Shively*—the public trust doctrine was exclusively applied to navigable waters and submerged land.¹³¹ Although the public trust doctrine traditionally had a narrow focus during eras of weaker environmental understanding, the trend over time has been to expand its focus to a broader array of natural resources.¹³² These resources now include

124. *Ill. Cent.*, 146 U.S. at 452. [Check that your shortform citation to this case is consistent throughout]

125. Ryan, *supra* note 108, at 165.

126. 152 U.S. 1, 53–54 (1894).

127. *Id.*

128. *Id.* at 58.

129. *Id.*

130. Ryan, Curry & Rule, *supra* note 31, at 2451.

131. Breeden, *supra* note 112, at 547.

132. Allan Kanner & Mary E. Ziegler, *Understanding and Protecting Natural Resources*, 17 DUKE ENVTL. L. & POL’Y F. 119, 126 (2006).

more than merely submerged lands under navigable waters; some states have expanded the doctrine of public trust to include dry land, air, minerals, and energy sources.¹³³ Pennsylvania even added “scenic, historic, and esthetic values to the body of the state’s public trust resources.”¹³⁴ Lloyd Cohen, an associate professor at Chicago-Kent College of Law, aptly traces the public trust doctrine’s “journey from the sea, up navigable streams, to unnavigable streams, its leap to inland ponds, and then like our amphibian ancestors its eventual emergence from the water and march across the land.”¹³⁵

In addition to an expansion of the resources covered under the public trust doctrine, there has been a subtle, yet important, expansion in the responsibilities the doctrine imposes on the holder of trust resources. Both *Illinois Central* and *Shively* stand for the idea that the state cannot alienate itself from the resources it holds in public trust; the Court imposed limits on the state’s ability to transfer ownership of some types of property.¹³⁶ Now, however, the public trust doctrine incorporates both limits *and* duties on state governments in their stewardship of natural resources.¹³⁷ Such duties have arisen as “more recent cases have recognized that the trust is active, not passive, and imposes a responsibility on states to preserve and *promote* the trust corpus.”¹³⁸ Indeed, since the Court issued its holding in *Illinois Central*, “the doctrine has gradually transformed from an affirmation of sovereign authority over these resources to a recognition of sovereign *responsibility* to preserve them for future generations.”¹³⁹

Judicial expansion of the doctrine to include affirmative duties is integral to this Note’s claim, because it provides a basis for protecting species like the wolf on a state level. Environmental advocates have lauded this “gradual transformation from an anti-monopoly doctrine of sovereign authority to one of sovereign responsibility to also protect environmental values.”¹⁴⁰ When acting as a trustee, the government does not own trust resources in the same way that it owns ordinary

133. Ryan, *supra* note 108, at 167.

134. *Id.* at 167–68; see also PA Const. Art. I, § 27.

135. Lloyd R. Cohen, *The Public Trust Doctrine: An Economic Perspective*, 29 CAL. W. L. REV. 239, 256 (1992).

136. *Ill. Cent.*, 146 U.S. at 390.

137. John C. Dernbach, *The Role of Trust Law Principles in Defining Public Trust Duties for Natural Resources*, 54 U. MICH. J. L. REFORM 77, 79 (2020).

138. Kanner & Ziegler, *supra* note 132, at 126 (emphasis added).

139. Ryan, *supra* note 108, at 167 (emphasis added).

140. Ryan, Curry & Rule, *supra* note 31, at 2451.

public lands under its jurisdiction. Rather, it holds the resource ‘in trust’ for the real legal owner—the public.”¹⁴¹

In his scholarship on the evolution of the public trust doctrine, John Echeverria identifies four distinct meanings of the doctrine:

- (1) creating a duty to manage trust resources for broad public benefit; (2) creating a duty to consider the public trust before taking action that may adversely affect trust resources; (3) a basis for citizen standing to sue to protect public trust resources; and (4) a limitation on private title in land and other resources subject to the public trust doctrine.¹⁴²

Each meaning is applicable to this Note’s claim that courts should extend the public trust doctrine to include trophic cascade-producing animals, but the most important is the first. This meaning is exemplified by *Illinois Central* and addresses the government’s substantive legal duty as trustee. Like in *Illinois Central*, the public trust doctrine should be read to constrain government authority to grant public trust resources to private parties.¹⁴³ Such constraint is important to this Note regarding the ability of states to extirpate wolves, which are trust assets due to their ability to sustain other trust resources through the trophic cascades they produce.

B. *The Wildlife Trust Doctrine in the United States*

The public trust doctrine is not the sole weapon in the environmental advocate’s arsenal. The wildlife trust doctrine can also serve as a vehicle through which to strengthen and enforce environmental protection. Like the public trust doctrine, the wildlife trust doctrine is a remnant of ancient Roman law.¹⁴⁴ The doctrine first appeared in American jurisprudence in *Geer v. Connecticut*.¹⁴⁵ Edward Geer legally hunted several types of birds in Connecticut during their respective hunting seasons.¹⁴⁶ Trouble arose, however, when he transported the birds outside of Connecticut in violation of a state statute.¹⁴⁷ He appealed his conviction under the statute and the issue

141. Ryan, *supra* note 108, at 161.

142. John D. Echeverria, *The Public Trust Doctrine: 30 Years Later: The Public Trust Doctrine as a Background Principles Defense in Takings Litigation*, 45 U.C. DAVIS L. REV. 931, 951 (2012).

143. 146 U.S. 387, 398.

144. Blumm & Paulsen, *supra* note 30, at 1438.

145. 161 U.S. 519 (1896).

146. *Id.* at 521.

147. *Id.*

ultimately came before the Supreme Court.¹⁴⁸ The Court had to decide “whether a state could regulate wildlife in a manner that made possession of the wildlife within the state lawful but subsequent transport of the same wildlife to another state impermissible.”¹⁴⁹ The Court upheld the state export ban on game, declaring that states can “control and regulate the common property in game” because they hold such a right in “trust for the benefit of the people of the state, who owned all of the wild game in the state in common.”¹⁵⁰ Decades later, the Court overruled *Geer’s* conclusion that it was constitutional for states to forbid entry of game into interstate commerce.¹⁵¹ The ruling, however, turned exclusively on the Court’s interpretation of the dormant commerce clause—the rationale concerning state authority to regulate intrastate wildlife as an attribute of state sovereignty survives to this day.¹⁵²

Since *Geer*, there has been a paucity of caselaw regarding the extent of states’ duties to protect wildlife.¹⁵³ Many state courts and legislatures, however, have expressly recognized the *right* of states to protect wildlife that emanate from its sovereign ownership thereof.¹⁵⁴ But, importantly, there has been little recognition of affirmative obligations that derive from that authority.¹⁵⁵

III. COMBINING THE PUBLIC AND WILDLIFE TRUSTS TO ACCOUNT FOR TROPHIC CASCADES AND SUPPLEMENT THE ESA

Although the public trust and wildlife trust doctrines are unquestionably separate legal theories, trophic cascades muddle the distinction. Species that produce significant trophic cascades should be included among the resources held in public trust because such species play a material role in maintaining other assets in the trust, including natural and physical resources; the wildlife trust doctrine permits states

148. *Id.* at 522.

149. Blumm & Paulsen, *supra* note 30, at 1459.

150. *Geer v. Connecticut*, 161 U.S. 519, 528-29 (1896).

151. *Hughes v. Oklahoma*, 441 U.S. 322, 333 (1979).

152. Blumm & Paulsen, *supra* note 30, at 1461.

153. Blumm & Paulsen, *supra* note 30, at 1471; *See also*, Eric T. Freyfogle and Dale D. Goble, *Wildlife Law: A Primer* 33, at 34 (2009) (“The duties states have and the limits they face in managing wildlife remain largely undecided.”).

154. Blumm & Paulsen, *supra* note 30, at 1471.

155. *See* Susan Morath Horner, *Embryo, Not Fossil: Breathing Life into the Public Trust in Wildlife*, 35 *LAND & WATER L. REV.* 23, 27 (2000) (“Most cases that have addressed the public trust in wildlife have focused on whether a state had the power to enact laws regulating the resource, and what might be the limits of such authority. Courts have rarely addressed what obligations might co-exist with such authority.”).

to exercise such authority. The wolves' substantial—albeit indirect—impact on the natural resources of the GYE suggests that state governments have affirmative duties under the public trust doctrine to protect the gray wolf that extend beyond the mere interest in preserving biodiversity. The broadening of the public trust doctrine to include affirmative responsibilities compels states to take action to protect trust resources rather than merely precluding them from relinquishing control of these resources to private parties. Courts should construe a state's failure to conserve and promote wolf populations as a breach of its duty as trustee.

A. *Combining the Public and Wildlife Trust Doctrines*

Working in conjunction with each other, the public trust and wildlife trust doctrines compel states to preserve certain species as a means to protect a state's natural resources. Neither doctrine can persuasively achieve this result absent the other; each is necessary, neither is sufficient. The public trust doctrine must be invoked because—unlike the wildlife trust doctrine—it imposes responsibility on states to take affirmative action to conserve the resources held in trust for the public.¹⁵⁶ With respect to the GYE, these resources include the region's thousands of navigable rivers, vital vegetation such as willow, cottonwood, and aspen,¹⁵⁷ as well as an increasingly broad array of other natural resources.¹⁵⁸

The notion that the public trust doctrine should be extended to wildlife is hardly novel.¹⁵⁹ Many scholars have advocated for an expansion of the public trust doctrine to include wildlife among the assets that the states hold in trust for the people.¹⁶⁰ Some scholars have underscored the importance of keeping the doctrines distinct.¹⁶¹ Other scholars have advocated for the merging of the two doctrines to impose upon states a duty to manage their wildlife populations responsibly¹⁶²—similar to the claim being advanced in this Note. This Note offers a new theory to this discussion advocating for the merger of the doctrines

156. Echeverria, *supra* note 142, at 951–52.

157. Farquhar, *supra* note 37.

158. Kanner & Ziegler, *supra* note 132, at 126.

159. *See generally* Blumm & Paulsen, *supra* note 30; Doremus, *supra* note 48; Mary Christina Wood, *Protecting the Wildlife Trust: A Reinterpretation of Section 7 of the Endangered Species Act*, 34 ENVTL. L. 605 (2004).

160. Blumm & Paulsen, *supra* note 30.

161. *See* Breeden, *supra* note 112, at 545 (discussing the various policy reasons for maintaining a distinction between the public and wildlife trust doctrines).

162. Blumm & Paulsen, *supra* note 30, at 1486.

based on trophic cascades. Species that produce trophic cascades should be held in public trust precisely because they act as natural stewards of other trust resources. A state with the responsibility to protect rivers and forests should be equally responsible for protecting species that positively affect these other assets.

This Note's argument requires the wildlife trust doctrine's affirmation that the state does indeed own the wildlife within its borders.¹⁶³ As Blumm and Paulsen note in their article on the relationship between the wildlife trust and public trust doctrines, "perhaps the most important effect of marrying states' sovereign ownership of wildlife with the public trust doctrine is that citizens gain the right to enforce states' responsibilities to preserve this resource."¹⁶⁴ The wildlife trust doctrine enables the state to manage animals even if the animals are not technically "resources" for purposes of the traditional public trust doctrine. Managing wildlife includes deciding whether it should be hunted, regulating hunting, and ultimately having the final word on issues relating to wildlife in the state (assuming that state laws are not preempted by applicable federal law). Similarly, the joint application of the doctrines would require state governments to enforce the doctrine against private parties who harm wildlife or wildlife habitat.¹⁶⁵

The wolves of the GYE have revealed the extent to which animals play a role in preserving the physical environment, including the natural resources that are held in public trust. As the public trust doctrine has evolved to now require affirmative steps to conserve and maintain trust resources, states should be legally required as trustees to preserve and protect wildlife to the extent that wildlife helps prevent the degradation of trust resources. The state governments of Idaho, Montana, and Wyoming already hold the natural resources of the GYE in public trust. The public and wildlife trust doctrines should be extended to apply to the gray wolf—meaning the state would also hold the wolf in trust for the public, which it may do because it has the authority to manage wildlife.

Such an extension of the public trust would make the situation facing states like Idaho analogous to the situation that faced Illinois in *Illinois Central Railroad*. Illinois successfully invoked the public trust

163. *Id.*

164. *Id.*

165. *Id.*

doctrine to retroactively invalidate the conveyance of the land beneath the Chicago harbor to a private company.¹⁶⁶ If the public trust is extended to wolves, states could similarly be precluded from “conveying” wolves to private parties in the form of unsustainable hunting regimes. Wolf advocates could analogize these situations to argue that the public trust doctrine requires the state to hold the gray wolf in trust in perpetuity. While states could still allow hunting under this doctrine, state wildlife commissions could only allow hunting to the extent that the wildlife population remained at a sufficient level to continue maintaining the environment.

B. Filling in the Gaps of the ESA

The extension of the public trust doctrine to some species of wildlife can supplement the ESA and fill in the gaps by imposing conservation requirements on states regardless of the ESA’s applicability. Proponents hail the Act as “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.”¹⁶⁷ Although the ESA undoubtedly has teeth, the ESA is not without its shortcomings. After briefly discussing the shortcomings, this Note explains how the combination of the public and wildlife trust doctrines addresses them. These shortcomings include: 1) the narrow goals and animating purposes of the ESA, and 2) the inapplicability of the ESA to unlisted or delisted species.

First, the ESA offers only a floor of protection for species facing extinction. The overarching statutory purpose of the ESA is to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.”¹⁶⁸ The Act further identifies “conservation” of listed species as one of its primary objectives.¹⁶⁹ Conservation, per the Act, means more than preventing extinction; it means taking affirmative actions to return the populations of listed species to levels so that they no longer require legal protection.¹⁷⁰ But these goals do not take into account the trophic cascades that wildlife produce. Detractors of the ESA criticize the Act as nothing more than a mere “endorsement of the preservation of species in an ecological version of ‘stamp-collecting.’”¹⁷¹ The ESA fails

166. Ill. Cent. R.R. v. Illinois, 146 U.S. 387, 410 (1892).

167. Tenn. Valley Auth. v. Hill, 437 U.S. 153, 180 (1978).

168. 16 U.S.C. § 1531(b).

169. 16 U.S.C. § 1536(a)(1).

170. 16 U.S.C. § 1532(3).

171. Doremus, *supra* note 48, at 11.

to acknowledge the importance of prioritizing wildlife that produce trophic cascades, leaving species in urgent need of protection to languish in the Act's "bureaucratic waiting room."¹⁷²

By contrast, the combination of the public trust and wildlife trust doctrines offers an ex-ante justification of species conservation. Species must be protected because of a deep-rooted, historical legal doctrine. Conservation is not left to the discretion of the FWS, which can be subject to extraneous factors like political pressures.¹⁷³ Each state would have an independent obligation to maintain, protect, and—as required—restore populations regardless of whether it is required to do so by a federal agency. This would expedite protection efforts and address the inefficiencies resulting from the ESA's narrow focus only on those species facing imminent extinction.

Second, the ESA only applies to species deemed to be threatened or endangered, which is determined at the discretion of the FWS.¹⁷⁴ Species not listed receive protection only to the extent it is offered by states, which may invoke the wildlife trust doctrine to manage and regulate species as they deem fit. This has led to criticism that although the Act is effective at preventing extinctions, it does a poor job of promoting recovery.¹⁷⁵ Oscillating coverage between federal and state regimes creates a problem known as "jurisdictional fragmentation."¹⁷⁶ The obvious, pronounced policy divides between the federal agencies and the GYE states accentuate the problem.¹⁷⁷ The FWS is constantly evaluating the health of populations of listed species to determine whether a species—or a regional population of a species—has "biologically recovered" enough to warrant delisting.¹⁷⁸ Although delisting is the goal of the ESA (since it means the species is no longer threatened or endangered), constant delisting and relisting based on

172. *The Endangered Species Act*, CTR. FOR BIOLOGICAL DIVERSITY <https://www.biologicaldiversity.org/campaigns/esa/index.html> (last visited Apr. 28, 2022).

173. See Kristoffer Whitney, *Critics of the Endangered Species Act are Right about What it Does. But They Miss the Point.*, THE WASHINGTON POST (Aug. 2, 2018), <https://www.washingtonpost.com/news/made-by-history/wp/2018/08/02/critics-of-the-endangered-species-act-are-right-about-what-it-does-but-they-miss-the-point/> (describing the Trump Administration's veiled attempts to roll back protections at the urging of industry lobbyists).

174. 16 USC §§ 1533(a), 1532(6), 1532(20).

175. Matt Kettmann, *Why the Endangered Species Act is Broken, and How to Fix It*, SMITHSONIAN MAG. (May 15, 2013), <https://www.smithsonianmag.com/innovation/why-the-endangered-species-act-is-broken-and-how-to-fix-it-63482436/>.

176. Keiter, *supra* note 47, at 5.

177. *Id.*

178. Williams, *supra* note 1.

fluctuating population levels can be problematic. The lapses in ESA protection invite states to implement their own management regimes, which are often in stark contrast with the conservation focus of the ESA (as is clearly the case in Idaho, Montana, and Wyoming).¹⁷⁹ The result is a cycle that materializes as follows: species protected by the ESA gradually recover until they are no longer at risk of imminent extinction; the FWS delists the species (or individual geographic populations of the species), turning over management to states; states who are hostile toward the species permit hunting; any progress toward restoration under the ESA is reversed; the FWS determines the species must be relisted; repeat.

Extending the public trust to include wolves alleviates this problem because it imposes preservation duties on states regardless of the ESA's applicability. Individual states would be required to manage wolf populations responsibly and protect them because wolves would be among the assets held in public trust. Imposing responsibilities on the state level would mitigate the effects of jurisdictional fragmentation that currently trap wolves in a limbo of uncertain protection. This approach would also allow states to grow into a more dominant role in dealing with listed and candidate species while maintaining protection standards.¹⁸⁰

Together, the public trust doctrine and the wildlife trust doctrine can plug some of the holes in the ESA. The doctrines form a compelling ex-ante justification that applies to all wildlife. Similarly, the argument would be tailored toward states—rather than the federal government—which would ensure enduring legal justifications for protection, even in the absence of federal acts such as the ESA.

CONCLUSION

In 1905, the U.S. Forest Service began hiring professional trappers to extirpate wolves from the national forests and other federal land.¹⁸¹ Congress even appropriated funds specifically for research into the

179. 16 U.S.C. § 1536(a)(1).

180. See generally *Under Threat: The Endangered Species Act and the Plants and Wildlife it Protects*, CTR. FOR AM. PROGRESS (Nov. 28, 2017), <https://www.americanprogress.org/article/under-threat/> (addressing the political and economic critiques of the ESA and the efforts of state governments to play a more active role in its administration); see also M. Nie et al., *Fish and Wildlife Management on Federal Lands: Debunking State Supremacy*, ENVTL. LAW 47, 4 (2017).

181. Doremus, *supra* note 48, at 5.

eradication of “noxious animals.”¹⁸² Since then, scientists have begun to realize predators’ integral role in sustaining the overall health of ecosystems. The gray wolf’s history in the GYE demonstrates the positive effect of trophic cascades and reveals the fragile relationship between creature and habitat.

Many features of these habitats, such as the rivers, forests, and other natural resources, constitute the corpus of a trust held by state governments for the benefit of the public. Courts are increasingly reading the public trust doctrine to impose upon state governments a responsibility to take action to protect and maintain trust assets. Coupled with the wildlife trust doctrine, this expansion of the public trust should include the conservation of wildlife that produce trophic cascades and help sustain their physical environments. Including wolves among the assets held in public trust would ensure conservation of the species on a state-level while remedying the problems that arise during lapses in federal protection.

Reconciling ranchers with wolves may be a lofty, far-fetched goal beyond the scope of the legal system. Indeed, there will perhaps never be a more polarizing species than the gray wolf. But it is precisely because of this tension that courts should look to existing property law doctrines to create novel arguments by which states can be compelled to preserve species that produce trophic cascades. The corpus of an ever-important trust, of which we are the beneficiaries, may just depend on it.

182. *Id.*