

SHARE THE SCIENCE

THE LEGAL DUTY OF STATE WILDLIFE AGENCIES TO INFORM
VOTERS AND EVALUATE WILDLIFE BALLOT INITIATIVES

Nimrod Society

I. INTRODUCTION

The history of wildlife management in the United States demonstrates the need for policies grounded in science to effectively preserve biodiversity and maintain ecological balance. Early approaches to wildlife management in the U.S. involved efforts to protect certain valuable species while controlling others considered undesirable. However, the intense exploitation of wildlife that occurred during the westward expansion of the country and the rise of industrialization led to the near extinction of iconic species such as the bison. This crisis spurred a powerful conservation movement, ultimately leading to the development of the North American Model of Wildlife Conservation.

This Model, along with subsequent legal advancements, established a system in which both federal and state governments have essential roles in managing wildlife. A key legal principle, the Public Trust Doctrine, was incorporated into American law in the 19th century. This doctrine dictates that states manage wildlife for the benefit of the state's citizens. In their role as trustees, state fish and wildlife agencies have specific fiduciary duties, including the responsibility of using expertise and scientific data in their decision-making and to openly share relevant information with the public.

Many states have enacted laws that explicitly require the use of science in wildlife management. These statutes often define "management" as the application of biological information and mandate the use of the "best scientific data available." Even in states where such requirements aren't explicitly stated, the need for science-based management is often implied in legal language that requires leaders of state wildlife agencies to have conservation expertise and for those leaders to rely on scientific data when making wildlife policy decisions.

However, a troubling trend is emerging- public initiatives are influencing wildlife policy decisions without giving due consideration to scientific findings. This disregard for science-based management poses a significant threat, potentially undoing the substantial progress made in wildlife conservation over the past century. The success of wildlife conservation in the U.S. has been closely linked to the integration of scientific knowledge into policy and management practices. It is therefore essential to confront and reverse the trend of neglecting science in wildlife management, ensuring the continued health and preservation of wildlife for generations to come.

This paper will delve into the legal and political history of wildlife management in the U.S., examining the development of legal mandates for science-based management at both federal and state levels. It will further explore the Public Trust Doctrine's role in mandating science-based practices and the legal obligation to share scientific information with the public.

II. LEGAL AND POLITICAL HISTORY OF WILDLIFE MANAGEMENT IN THE U.S.

When European colonists arrived in North America, they found a land abundant in wildlife resources.¹ In this “New World,” wild game was essential to survival.² This stands in stark contrast to what the colonists were accustomed to in Europe. In Europe, game was scarce and “commoners were rarely allowed to hunt.”³ Ancient law charged kings with ownership of all wildlife- holding it in sacred trust for *landowners*.⁴ As the United States Supreme Court noted in *Geer v. Connecticut*, “[on] the continent of Europe, in all countries, the right to acquire [wild animals] by possession was recognized as being subject to the government authority under its power.”⁵ Coupling the king’s ownership of wild animals and European prohibitions on commoners carrying weapons due to fear of rebellion, hunting or possessing wild game was reserved only for the king and upper nobility.⁶

Although the colonists “discovered a land rich in wildlife resources”⁷ that seemed endless, wildlife did not go entirely unregulated. “Massachusetts had a closed season for deer in 1694, and by the end of the colonial period all the colonies but Georgia had closed seasons for deer.”⁸ These infant wildlife management policies had two goals: “to protect valuable species such as deer from overharvest and to encourage the destruction of undesirable species such as wolves.”⁹

However, as the human population of North America increased and settlers expanded westward, these wildlife policies did not follow,¹⁰ and the seemingly limitless wildlife population began to decline.¹¹ As the Industrial Revolution took place in America and urbanization soared, the exploitation of wildlife peaked and populations plummeted.¹²

¹ Jim Spencer, *The Birth of Wildlife Conservation*, Ducks Unlimited (February 19, 2024) www.ducks.org/conservation/national/the-birth-of-wildlife-conservation; David Willms & Anne Alexander, *The North American Model of Wildlife Conservation in Wyoming: Understanding It, Preserving It, and Funding Its Future*, 14 WYO. L. REV. 659, 662 (2014).

² Spencer, *supra* note 1; Willms & Alexander, *supra* note 1, at 663.

³ Spencer, *supra* note 1.

⁴ *Id.* at 525-28 (discussing English common law surrounding ownership of wildlife); Michael Furtman, *Like No Other Place: The North American Model of Wildlife Conservation*, Izaak Walton League of America: Outdoor America (2015) www.iwla.org/publications/outdoor-america/articles/outdoor-america-2015-Issue-2/north-american-model.

⁵ 161 U.S. 519, 523 (1869).

⁶ Furtman, *supra* note 4.

⁷ Willms & Alexander, *supra* note 1, at 662.

⁸ Dean Lueck, *An Economic Guide to State Wildlife Management*, Property and Environment Research Center (PERC Research Study RS 00-2, Nov. 9, 2000) at p. 2 www.perc.org/wp-content/uploads/old/rs00_2.pdf.

⁹ *Id.*

¹⁰ *Id.* (noting that the first wildlife laws west of the Mississippi were not enacted in any state or territory until 1851).

¹¹ Willms & Alexander, *supra* note 1, at 663; Furtman, *supra* note 4 (noting that early westward expansion and habitat destruction led to population decline, but “most wildlife was safe from extirpation” until the Industrial Revolution).

¹² *Id.*; Willms & Alexander, *supra* note 1, at 663.

Infamously, the exploitation of wildlife during this period of expansion and urbanization led to “the near extinction of the bison”¹³ due to the “growing class of wealthy industrialists”¹⁴ who commercialized wildlife, “both as a source of food and for trinkets.”¹⁵ The development of the railroad in the west made shipping meat, furs, feathers, or carcasses from the frontier to the urban markets economical—“leading to unparalleled slaughter.”¹⁶

The near extinction of the bison, and the later extinction of the passenger pigeon, helped spur a movement that encouraged state management of wildlife—“la[y]ing the foundation for the North American Model of Wildlife Conservation.”¹⁷ Beginning around the 1850s, sportsmen began organizing clubs “to crusade against game-law violations and market hunting.”¹⁸ And by the 1880s, “all the 48 continental states (or their respective territories) had approved game legislation, primarily in the form of uniform statewide closed seasons and limits on trade in game and game products.”¹⁹

Concurrently with the development of wildlife legislation during this period of exploitation, the legal foundation for state wildlife management began to emerge in American courts.²⁰ First, in 1821, the highest court in New Jersey declared that the sea, fish, and wildlife lay “in the hands of the sovereign power, to be held, protected, and regulated for the common use and benefit.”²¹ Then, in *Martin v. Lessee of Waddell* in 1842, the United States Supreme Court imported²² the Public Trust Doctrine into federal jurisprudence through the English principle of the “public common of piscary”²³— where the king holds the dominion and property in navigable waters as a public trust.²⁴ Finally, in 1896, the United States Supreme Court explicitly held that power and control over wildlife were “lodged in the State...to be exercised...as a trust for the benefit of the people.”²⁵

Then, around the turn of the 20th century, conservation efforts began to take a more prominent role in American politics. In direct response to the depletion of wildlife populations, “dozens of hunting, conservation, and scientific organizations formed in the

¹³ Willms & Alexander, *supra* note 1, at 663-64 (explaining that the American Bison population dropped from an estimated 40 to 70 million free roaming bison in the 1700s to only 540 bison by 1886).

¹⁴ Furtman, *supra* note 4.

¹⁵ *Id.*; Willms & Alexander, *supra* note 1, at 663-64.

¹⁶ Willms & Alexander, *supra* note 1, at 663.

¹⁷ *Id.* at 664.

¹⁸ *A Conservation History of the United States*, ConservationHistory.org, (last visited March 12, 2025) <https://conservationhistory.org/sportsman-push-for-laws-to-protect-wildlife/>.

¹⁹ Lueck, *supra* note 8, at 2.

²⁰ See *Infra* PART III-C for a discussion of the Public Trust Doctrine.

²¹ Lane Kisonak, *Fish and Wildlife Management on Federal Lands: The Authorities and Responsibilities of State Fish and Wildlife Agencies*, 50 ENVTL. L. 935, 939-40 (Winter 2020).; National Wildlife Federation (NWF), *History & Heritage*, NWF: History & Heritage (last visited March 12, 2025) www.nwf.org/About-Us/History.

²² *Arnold v. Mundy*, 6 N.J.L. 1, 71 (1821).

²³ 41 U.S. 367, 412 (1842).

²⁴ *Id.* at 411.

²⁵ *Geer*, 161 U.S. at 529 (1896).

1880s.”²⁶ These sportsmen-led organizations spurred states into managing wildlife more aggressively by “lobb[ying] for stricter laws to prevent market hunting and wasteful sport hunting.”²⁷ States responded by forming “commissions tasked with developing the laws and regulations needed to successfully preserve and manage wildlife,” and by 1910, “[e]very state in the union had some sort of commission to protect wild game and fisheries.”²⁸

This conservation legislation was not only happening at the state level, but at the federal level too. In 1900, Congress passed the Lacey Act, putting an end to transporting illegally harvested wildlife across state lines.²⁹ Then, in 1901, hunter and outdoorsman Theodore Roosevelt³⁰ stepped into the Presidency and his conservation-minded policies began to take shape.³¹ During his Presidency, Roosevelt “inspired [the] nation to conservation”³² and designated millions of acres to be secured as a “habitat base for fish and wildlife” where “the common people [could] hunt and fish.”³³ And, in 1913 Congress passed the Migratory Bird Act, declaring that migratory game and insectivorous birds are within the custody and protection of the United States, thus implementing the federal government’s first wildlife management legislation.³⁴

However, “[b]y the 1930’s, many people recognized that laws regulating consumption” and method of taking were not enough.³⁵ For example, although waterfowl was given additional legislative protection in the 1920’s, waterfowl populations hit an all-time low in the 1930’s.³⁶ Federal and state governments struggled to enforce the regulations because they lacked funding.³⁷ Yet, the emergence of wildlife ecology as a field in the 1930’s saw “[t]he first generation of professionals studying complex interrelationships between organisms and the environment join[] the conservation cause and beg[in] managing fish and wildlife resources.”³⁸ As this new discipline evolved and the tough economic times of the 1930’s led to government spending cuts, “sportsmen’s clubs, conservation organizations and scientific

²⁶ Willms & Alexander, *supra* note 1, at 665; *see also* Conservationhistory.org, *supra* note 19 (noting the creation of the Audubon Society in 1886 and the Sierra Club in 1892).

²⁷ Willms & Alexander, *supra* note 1, at 665.

²⁸ *Id.*

²⁹ Conservationhistory.org, *supra* note 18; Furtman, *supra* note 4.

³⁰ Jeff Brammer, *Sportsmen: The Creators of Modern Wildlife Conservation and Irreplaceable Contributors to Maintaining Biodiversity*, 3 U.S. FISH & WILDLIFE SERVICE: CONSERVATION HISTORY 1, 3-5 (2019) (discussing Roosevelt’s contributions to the conservation movement) [www.fws.gov/sites/default/files/documents/CH-Journal April 2019 Vol III No 1 0.pdf](http://www.fws.gov/sites/default/files/documents/CH-Journal%20April%202019%20Vol%20III%20No%201%200.pdf).

³¹ *Id.*; NWF: History & Heritage, *supra* note 21.

³² *Id.*

³³ *Id.*; *see also* Conservationhistory.org, *supra* note 18 (providing a timeline of conservation legislation and policy: 1901 Bison Range Preservation; 1903 Pelican Island Refuge; 1906 Grand Canyon Preserve; and 1909 Wildlife Reservations).

³⁴ Conservationhistory.org, *supra* note 18.

³⁵ Brammer, *supra* note 30, at 7.

³⁶ *Id.*

³⁷ Willms & Alexander, *supra* note 1, at 669.

³⁸ Brammer, *supra* note 30, at 5.

societies” rallied together and managed to successfully lobby “the federal government to pass legislation to fund natural resource agencies, wildlife research[,] and incentives” for habitat conservation.³⁹

This period was the most critical era in conservation and wildlife management history. “The very science of wildlife management [has] its roots in this period.”⁴⁰ And, that science was at the heart of the new funding legislation. The passage of the Federal Aid in Wildlife Restoration Act, colloquially known as the Pittman-Robertson Act, secured funding for the “wildlife-restoration projects”⁴¹ at the state level, but the funding came with the condition⁴² that states comply with the Act’s provisions. Importantly, the original Act defined these “wildlife-restoration projects” to include “research into problems of wildlife management as may be necessary to efficient administration affecting wildlife resources.”⁴³ Therefore, the Pittman-Robertson Act secured conservation funding while cementing science’s place in the “efficient administration [of] wildlife resources.”⁴⁴

The passage of the Pittman-Robertson Act and the emergence of wildlife management sciences led to “remarkable reversals of fortune for wildlife.”⁴⁵ “States with depleted game populations saw a rapid rebound in numbers, and Pittman-Robertson funding was further directed toward conducting wildlife surveys[] [and] research.”⁴⁶ As Aldo Leopold correctly noted from his study of wildlife in the Midwest, “through scientific analysis and environmental controls, wildlife populations could be restored.”⁴⁷ Since then, science-based wildlife management has become the foundation for the successful, and ongoing recovery of American wildlife—so much so it has become the *law*.⁴⁸ Evident from these remarkable reversals of fortune, healthy wildlife populations depend on science-based wildlife management. However, recent public initiatives in western states appear to disregard this long held truth and stand to undo a century worth of conservation work.

³⁹ *Id.* at 6.

⁴⁰ Furtman, *supra* note 4.

⁴¹ Pittman-Robertson Wildlife Restoration Act of 1937, § 1 (codified as 16 U.S.C § 669 (1939) (amended 2019)).

⁴² These conditions required states to “make laws governing the conservation of wildlife,” agree to what the Act demands, and only use license fees paid by hunters for administering the fish and game department. *Id.*

⁴³ *Id.* at § 2 (codified as 16 U.S.C § 669a (1939) (amended 2000 & 2019)).

⁴⁴ *Id.*

⁴⁵ Furtman, *supra* note 4.

⁴⁶ Brammer, *supra* note 30, at 8.

⁴⁷ *Id.* at 7.

⁴⁸ See *infra* PART III.

III. LEGAL MANDATE FOR SCIENCE-BASED WILDLIFE MANAGEMENT

The federal government and most states explicitly mandate the use of science in policymaking decisions concerning wildlife management. Even in states without explicit mandates, the necessity of science-based wildlife management is implicitly recognized through statutory requirements for conservation expertise among officials and scientific data usage in decision-making processes.⁴⁹

A. *Explicit Mandates*⁵⁰

As the federal government became more involved in regulating conservation, science-based wildlife management took the central role in policy decisions. Now, the federal government explicitly mandates the use of science in wildlife conservation and management through various statutes governing endangered species,⁵¹ migratory birds,⁵² fisheries,⁵³ ocean resources,⁵⁴ and a plethora of other wildlife and habitat management statutes.⁵⁵

Many states have followed the federal government's lead and enacted statutes explicitly requiring science-based wildlife management. Colorado, for instance, has embedded conservation principles within the legal framework of its parks and wildlife division, ensuring that wildlife is scientifically managed. Colorado's definition of management in these relevant sections of code is "the collection and application of biological information for the purposes of increasing" species' populations "up to the optimum carrying capacity."⁵⁶ That same section further explains that "[t]he term includes the entire range of activities that constitute a modern, **scientific** resource program."⁵⁷ Moreover, Colorado law mandates the Parks and Wildlife Commission to restore and manage grey wolves "using the best scientific data available."⁵⁸

⁴⁹ Additionally, the North American Model of wildlife management (hereinafter, "NAM"), though just a model, requires scientific management of wildlife. The NAM was adopted by AFWA and all 50 states + DC are governmental members.

⁵⁰ See Appendix 1, Table 1: Explicit Statutory Mandates.

⁵¹ 16 U.S.C. § 1532 (defining "'conserve', 'conserving', and 'conservation'" to mean the use of, *inter alia*, "all activities associated with scientific resources management" necessary "to bring any endangered species" back to sustainable levels); 16 U.S.C. §§ 1533(b)(1)(A) & (b)(2) (declaring that the Secretary of the Interior shall make certain decisions "solely on the basis of the best scientific and commercial data available").

⁵² 16 U.S.C. § 704(c)(1)(A)(i) (allowing the Secretary discretion in deciding whether to adopt the recommendation of flyway councils based on his determination of whether "the recommendation is consistent with science-based and sustainable harvest management").

⁵³ 16 U.S.C. § 1801(13) (finding that "science-based conservation and management approaches should be adapted to the characteristics of [recreational and commercial fishing] sector[s]").

⁵⁴ 16 U.S.C. § 6401(2) (explaining the purpose of the part is "[t]o promote science-based management").

⁵⁵ See *e.g.*, 16 U.S.C. §§ 460nnn-52, 704, 941h, 1604, 1851, 6501, 8003, and 8303.

⁵⁶ C.R.S.A. § 33-2-103(1).

⁵⁷ *Id.* (**emphasis added**).

⁵⁸ C.R.S.A. § 33-2-105.8(2)(a).

Similarly, Oregon’s regulatory framework mandates the use of science in wildlife management. However, this differs from Colorado’s mandate because in Colorado, the mandate is found in the language of the statute. In Oregon, the mandate is found in regulations⁵⁹ instead of statutes. This is a nuanced difference, but legally significant. Statutes are created and passed by full legislative bodies, but regulations are generally developed and passed by individual government agencies who are given legislative authority to do so.⁶⁰ Thus, generally, statutes are superior and more solidified requirements.

Michigan also explicitly mandates science-based wildlife management. The state’s statutes explicitly recognize that “[t]he conservation of fish and wildlife populations of the state depend upon the wise use and sound scientific management.”⁶¹ The statute then mandates the commission, “to the greatest extent possible, utilize principles of sound **scientific management** in making decisions regarding the taking of game.”⁶²

Likewise, California Fish and Game Code emphasizes the importances of scientific knowledge in the management of wildlife⁶³ and preservation of the state’s ocean resources.⁶⁴ In Nevada, the statutory scheme for the state agency requires scientific knowledge in the management of wildlife, and an additional requirement that any regulations relating to the closure of a season to “be based upon **scientific data**.”⁶⁵ Moreover, Nevada mandates that technical reports be submitted to the wildlife commission to ensure informed decision-making.⁶⁶

B. Implicit Mandates⁶⁷

Even in states without explicit statutory mandates for science-based wildlife management, the requirement is often implied through legal language emphasizing conservation expertise and reliance on scientific data. By requiring this conservation expertise, the law effectively endorses science-based wildlife management since that expertise is exclusively developed through the North American Model—a system rooted in scientific research and methodology.

For example, although Idaho’s code does not explicitly use the term “science” in its pronouncement of the state’s duties in managing wildlife, science-based wildlife management is implied through the legal language requiring leaders withing the state agency

⁵⁹ See Or. Admin. R. 635-007-0505(8)(a); Or. Admin. R. 635-180-0001; Or. Admin. R. 635-170-001; Or. Admin. R. 635-140-0015; Or. Admin. R. 635-135-0001; Or. Admin. R. 635-110.

⁶⁰ Lueck, *supra* note 8, at 3.

⁶¹ MI ST § 324.40113a(1)(b).

⁶² *Id.* at (2) (**emphasis added**).

⁶³ Cal. Fish & Game Code § 101.5.

⁶⁴ Cal. Pub. Res. Code § 35505(c).

⁶⁵ NV ST 501.181 (4)(a) (**emphasis added**).

⁶⁶ NV ST 501.337 (5).

⁶⁷ See Appendix 2, Table 2: Implicit Statutory Mandates

to have conservation and wildlife management expertise.⁶⁸ The plain language of the statutes creating the positions of director and commissioner requires the candidates to have more experience than just possessing a hunting license.⁶⁹

Similarly, Arizona’s wildlife policies require members of its Game and Fish Commission to be “well informed on the subject of wildlife and requirements for its conservation.”⁷⁰ However, this language is not as strong as the language used in the Idaho statute.⁷¹ The notable difference between the two is the language requiring the director in Idaho to have experience in “wildlife management.”⁷² Arizona does not have the same requirement.⁷³ Nonetheless, Arizona’s wildlife management policy implies science-based wildlife management in another way.

Arizona’s legislature mandates the Game and Fish Commission to “[c]ooperate with...researchers at universities in [Arizona] to collect data and conduct projects...on issues within the scope of the department’s duties.”⁷⁴ This requirement to cooperate on issues relating to “the management, preservation and harvest of wildlife”⁷⁵ clearly implies science-based wildlife management because it mandates the state agency to “[c]ooperate with”⁷⁶ scientists when making policy decisions concerning wildlife within the state.

Generally, states that fail to explicitly require science in its wildlife management legislation and regulations imply the requirement through one of the above identified frameworks. Either the leaders of the state agencies must possess science-based wildlife management expertise,⁷⁷ or the state agencies are mandated to cooperate with science-based wildlife managers in crafting wildlife policies.⁷⁸

C. The Public Trust Doctrine’s Mandate for Science-based Wildlife Management

As discussed above, the Public Trust Doctrine (“PTD”) was incorporated into American law in the 19th century and “survives in the United States as one of the most important doctrines

⁶⁸ ID ST § 36-102(b) (“No person shall be appointed a member of said commission unless he shall be well informed upon, and interested in, the subject of wildlife conservation and restoration”); ID ST § 36-106(a) (declaring that the director of the department of fish and game “shall be a person with knowledge of, and experience in, the requirements for the protection, conservation, restoration, and management of the wildlife resources of the state”).

⁶⁹ *Id.*

⁷⁰ AZ ST § 17-201(A).

⁷¹ Compare AZ ST §§ 17-201(A) and 17-211(A) with ID ST § 36-102(b) and ID ST § 36-106(a).

⁷² ID ST § 36-106(a).

⁷³ AZ ST § 17-211(A). Arizona directors must pass an examination before assuming office.

⁷⁴ AZ ST § 17-231(A)(9).

⁷⁵ *Id.* at (A)(2).

⁷⁶ *Id.* at (A)(9) (emphasis added).

⁷⁷ Appendix 2 (identifying Idaho, Washington, Utah, and Arkansas as states following this framework).

⁷⁸ *Id.* (identifying Arizona, Washington, and Oklahoma as states following this framework).

of American Property law.”⁷⁹ Simply put, the PTD is a common law concept where the state manages natural resources, including wildlife,⁸⁰ for the benefit of its citizens. Legally speaking, the PTD creates a trust where the state (*trustee*)⁸¹ holds legal title to natural resources (*trust property/res*) and manages the natural resources for the benefit of all the citizens (*beneficiaries*)^{82,83} “The PTD borrows from private trust law for its basic framework and for many of its tenets;”⁸⁴ therefore, the state’s management of natural resources is subject to “fiduciary duties.”⁸⁵ Thus, when either the legislature or state agency/commission fail to perform their duties as trustee, the beneficiaries may use the courts to compel the fulfillment of the fiduciary obligations that the PTD imposes.⁸⁶

These fiduciary duties include “a duty of utmost good faith, trust, confidence, and candor owed by a fiduciary to the beneficiary and a duty to act with the highest degree of honesty and loyalty toward another person and in the best interests of the other person.”⁸⁷ As one author noted, “[t]he essence of the trust responsibility is the sovereign fiduciary duty to protect the public’s crucial assets from irrevocable damage.”⁸⁸

Among the fiduciary duties imposed on states in the PTD context, the most critical are the fiduciary duties “of **protection**” and “of **furnishing information** to beneficiaries (accounting).”⁸⁹ Pursuant to the duty of protection, “the trustee has an [active rather than passive] obligation to take the steps required to protect and preserve trust resources from substantial impairment.”⁹⁰ Part of the state’s active obligation of ensuring no substantial impairment of trust property is the requirement for “decision makers to rely on experts with

⁷⁹ DOUGLAS QUIRKE, THE PUBLIC TRUST DOCTRINE: A PRIMER 1 (Univ. of Or. Sch. of L. Env’t and Nat. Res., Feb. 2016) (internal quotations omitted).

⁸⁰ *But see Chernaik v. Brown*, 367 Or. 143, 157 (2020) (holding that the PTD, as applied in Oregon, does not apply to fish and wildlife).

⁸¹ Quirke, *supra* note 79, at p. 10, 11 (“The legislature, as the main governing branch, is the principal trustee” and, as agents of the legislature, administrative agencies and wildlife commissions bear “equal responsibility for performing the duties” of trustee); *Geer*, 161 U.S. at 534 (holding that “it is the duty of the legislature to enact such laws as will best preserve the subject of the trust and secure its beneficial use in the future to the people of the state)

⁸² *Geer*, 161 U.S. at 529, 533 (holding that states must manage wildlife, as trustees, “for the benefit of the people” and “to make such laws as will best preserve such game, and secure its beneficial use in the future to the citizens”); *accord, Baldwin v. Fish & Game Comm’n of Montana*, 436 U.S. 371, 392 (1978) (Burger, C.J., concurring) ([The PTD] manifests the State’s special interest in regulating and preserving wildlife **for the benefit of its citizens**) (**emphasis added**)

⁸³ Quirke, *supra* note 79, at 1-2; *see also* Kisonak, *supra* note 21, at 939.

⁸⁴ Quirke, *supra* note 79, at 1.

⁸⁵ *Id.* at 2; Kisonak, *supra* note 21, at 942.

⁸⁶ Quirke, *supra* note 79, at 11; *Arizona Center for Law in the Public Interest v. Hassell*, 837 P.2d 158, 168-69 (Az. Ct. App. 1991); *Lake Michigan Fed’n. v. U.S. Army Corps of Engineers*, 742 F.Supp. 441, 446 (N.D. Ill. 1990).

⁸⁷ Quirke, *supra* note 79, at 2 (cleaned up) (citing BLACK’S LAW DICTIONARY 640 (7th ed. 1999)).

⁸⁸ Patrick C. McGinley, Climate Change and the Public Trust Doctrine, 65 Planning & Env’t L. 7 (August 2013).

⁸⁹ Quirke, *supra* note 79, at 12 (**emphasis added**).

⁹⁰ *Id.* at 13 (internal citations omitted).

relevant expertise to determine whether the duty of protection is being met.”⁹¹ Thus, the PTD mandates science-based wildlife management through the fiduciary duty of protection, which requires state agencies—the trustee—to rely on experts to ensure wildlife is managed properly.

Moreover, “without an accurate accounting of trust resources, it is impossible for the trustees to fulfill the duty of protection[] because trustees must be apprised of the condition of the resources they are charged with protecting” to make sure the resources are actually being protected.⁹² Ultimately, the duty of accounting is “owed to beneficiaries in order to provide them with information crucial to determining whether the trustees are fulfilling their fiduciary duties.”⁹³ So, not only does the PTD mandate science-based wildlife management, it also requires state agencies to share the science with the public, the beneficiaries, so the public may determine whether wildlife is being managed appropriately.

Through the imposition of fiduciary duties on states’ management of wildlife, the PTD clearly mandates the use of science-based wildlife management. States, as trustees, are legally required to protect wildlife, as trust property. This is an active requirement which demands that the states rely on wildlife management experts to gauge their level of protection.

D. The Source of the Science Used in Wildlife Policy Making

Historically, federal courts often deferred to an agency’s reasonable interpretation of statutes unless Congress had clearly addressed the issue. Under this framework, commonly known as Chevron deference, federal agencies—such as the EPA—could define what constitutes the “best available science,” and courts would generally accept that definition. Accordingly, agencies could base policy decisions on scientific data gathered internally or obtained from outside sources. However, recent Supreme Court decisions have curtailed this deference. Courts are no longer required to defer to agency expertise when interpreting ambiguous statutes.⁹⁴ The extent to which federal courts will now defer to agencies in similar contexts remains uncertain.

When statutes or regulations do not specify the level or type of scientific data required, courts have articulated principles to guide agency decision-making. Agencies cannot ignore available biological information or commercial data—especially if the information is the most current or scientifically superior.⁹⁵ At the same time, agencies may not rely on data that

⁹¹ *Id.*

⁹² *Id.* at 21.

⁹³ *Id.*

⁹⁴ *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369 (2024) (overturning *Chevron*).

⁹⁵ *Am. Wildlands v. Kempthorne*, 530 F.3d 991, 998 (D.C. Cir. 2008); *Sw. Ctr. for Biological Diversity v. Babbitt*, 926 F. Supp. 920, 927 (D. Ariz. 1996); *Las Vegas v. Lujan*, 891 F.2d 927, 933 (D.C. Cir. 1989).

their own scientists deem inaccurate.⁹⁶ Courts have also emphasized that studies relied upon need not be perfect, so long as they are accurate.⁹⁷ In short, the appropriate standard requires agencies to consider all credible scientific data, regardless of source, while excluding data deemed unreliable by the agency’s own experts.

E. Potential Avenues of Recourse for Failure to use Science in Wildlife Management

Courts and litigants have developed several doctrinal pathways to compel state agencies and legislatures to comply with statutory and fiduciary obligations in wildlife management, particularly where science-based decision-making is mandated by law. These enforcement mechanisms include writs of mandamus and declaratory judgment actions to force compliance with nondiscretionary statutory duties, as well as public trust doctrine claims alleging breaches of fiduciary obligations. Together, these tools illustrate how judicial oversight can be used to ensure that wildlife governance is not only lawful, but grounded in the best available scientific evidence.

i. Writs of Mandamus & Declaratory Relief Where Statutorily Mandated

Writs of mandamus and actions seeking declaratory relief are mechanisms by which a court compels a government official, agency, or lower court to perform a specific act. These remedies are often pursued simultaneously.

To obtain a writ of mandamus, the act in question must be a ministerial, nondiscretionary duty clearly required by law—typically indicated by a statute’s use of the word “shall.” The party seeking the writ typically must demonstrate a clear legal right to the relief requested, the existence of a plain statutory duty imposed on the agency or officer, and that no other adequate legal remedy exists. Similarly, in a declaratory judgment action, the complaining party must show that the statute imposes a duty and the agency’s failure to act is unlawful.

Courts generally focus on whether the duty is ministerial or discretionary. They are reluctant to issue a writ of mandamus when the state action or inaction involves broad management or day-to-day policy decisions. Conversely, a discrete, nondiscretionary duty is more likely to fall within the scope of a writ of mandamus.

For example, in 2021, a Wisconsin state court issued a writ of mandamus compelling the Wisconsin Department of Natural Resources (“WDNR”) to hold a wolf hunt after the Natural Resources Board refused to establish a wolf hunting season.⁹⁸ The plaintiffs argued that the

⁹⁶ *Ctr. for Biological Diversity v. Lohn*, 296 F. Supp. 2d 1223 n.13 (W.D. Wash. 2003), vacated on other grounds by *Ctr. for Biological Diversity v. Lohn*, 511 F.3d 960 (9th Cir. 2007).

⁹⁷ *Bldg. Indus. Ass’n of Superior Cal. v. Norton*, 247 F.3d 1241, 1246-67 (D.C. Cir. 2001), cert. denied 534 U.S. 1108 (explaining that agencies “must utilize the best scientific...data available, not the best scientific data possible”).

⁹⁸ *Hunter Nation, Inc. v. DNR* – Circuit Court of Jefferson County, Wisconsin. <https://will-law.org/hunter-nation-v-dnr-2021/>.

statute’s language—stating the WDNR “shall allow” a wolf hunt—imposed a discrete, nondiscretionary duty. The court agreed and issued the writ. Applied to science-based wildlife policymaking, this case demonstrates that state agencies or commissions must consider available scientific evidence when making legislative or rulemaking decisions.

ii. *Public Trust Doctrine – Breach of Fiduciary Duty*

An alternative mechanism for enforcing science-based wildlife management is to bring an action against the legislature or agency/commission for breaching fiduciary duties.⁹⁹ Particularly, the legislature or state agency/commission may breach the fiduciary duty of protection if, as trustee, it fails to take the necessary steps to safeguard trust resources from “substantial impairment.”¹⁰⁰ “Ensuring that there is no substantial impairment of trust resources requires environmental decision makers to rely on experts with relevant expertise to determine whether the duty” is being met.¹⁰¹ This fiduciary duty also mandates the use of “the best available science to determine” the appropriate levels of resource use in order to prevent substantial impairment.¹⁰²

IV. THE LEGAL MANDATE FOR SCIENCE-BASED MANAGEMENT INCLUDES A MANDATE FOR SHARING THAT SCIENCE WITH THE PUBLIC

The legal mandate for science-based management extends beyond the mere application of scientific principles- it also encompasses a duty to share that science with the public. This obligation is deeply embedded in statutory law across multiple states. In the states without statutory law addressing the topic, the duty is encompassed in the broader framework of the PTD as briefly discussed above. Together, these mandates reinforce the principle that transparency and science-based decision making are required components of responsible wildlife management.

A. *Statutory Mandates*¹⁰³

Statutory mandates in various states explicitly require the dissemination of scientific information. In Arizona, for example, A.R.S. § 17-231(A)(5) directs the Game and Fish Commission to “[p]rovide for the assembling and distribution of information to the public relating to wildlife and activities of the department.”¹⁰⁴ Similarly, Michigan law requires the coordinator of environmental education within the Department of Natural Resources to “[w]ork with...broadcasting entities[] and private sector interests to support...activities to

⁹⁹ Quirke, *supra* note 79, at 10; *See also Robinson Twp. v. Commonwealth*, 83 A.3d 916 (Pa. 2013); *Kootenai Env'tl. Alliance v. Panhandle Yacht Club, Inc.*, 671 P.2d 1085 (1983).

¹⁰⁰ *Illinois Cent. R.R. Co. v. Illinois*, 146 U.S. 387, 453 (1892).

¹⁰¹ Quirke, *supra* note 79, at 13.

¹⁰² *Id.*

¹⁰³ See Appendix 3, Table 3: Statutory Mandates to Share the Science.

¹⁰⁴ AZ ST § 17-231(A)(5).

increase understanding of the basic sciences and natural resources and the environment.”¹⁰⁵ Oregon has a comparable requirement which mandates the Fish and Wildlife Director to collect, apply, and disseminate information relevant to wildlife management.¹⁰⁶ And Colorado’s statutory law requires the director of natural resources to cause publication of “certain regular or special reports” at the request of “the governor or **general assembly**.”¹⁰⁷

B. PTD Mandate to Share the Science

Beyond state statutes, the PTD provides a foundation for the obligation to share scientific information. The PTD imposes fiduciary obligations on state agencies, requiring them to act as trustees of public resources, including wildlife.¹⁰⁸ A crucial aspect of this fiduciary duty is the duty of accounting. In private trust law, the duty of accounting requires trustees to furnish the beneficiaries with information and data regarding the financial well-being of the trust assets. In the PTD context, the duty of accounting mandates that state wildlife agencies (the trustees) provide information to the public (the beneficiaries) regarding the management of wildlife (the trust property).¹⁰⁹ Moreover, state agencies must present the information in a way that “is understandable to the [public].”¹¹⁰

The duty of accounting is arguably the most important fiduciary duty. Without an accurate depiction of the status of the trust property, the beneficiaries would not know if the trust property was being managed properly. As some have noted, “[f]ulfillment of the duty of accounting is nothing short of crucial to fulfillment of many other fiduciary duties.”¹¹¹ The duty against waste, the duty to protect, the duty of restoration, “all require an accurate accounting as a prerequisite, because a trustee cannot fulfill” those duties without accurate information regarding the health of the trust property.¹¹²

V. CONCLUSION

The history of wildlife management in the United States illustrates the necessity of science-based policies in preserving biodiversity and ecological balance. From the early recognition of wildlife as a shared resource to the formal establishment of legal mandates requiring scientific oversight, conservation efforts have continuously evolved to meet new challenges. The implementation of statutory requirements and the Public Trust Doctrine underscores

¹⁰⁵ MI ST § 324.2503(b).

¹⁰⁶ OR ST § 496.118.

¹⁰⁷ CO ST §§ 24-1-136(4) (**emphasis added**), 24-33-102.

¹⁰⁸ See *infra* PART III-C.

¹⁰⁹ *Id.*

¹¹⁰ Quirke, *supra* note 79, at 21

¹¹¹ *Id.*

¹¹² *Id.*

the government's fiduciary responsibility to protect and manage wildlife for the public good. Moreover, these legal mandates extend beyond management to include transparency, ensuring that scientific findings are shared with the public. As contemporary debates challenge longstanding conservation principles, it is crucial to uphold the integrity of science-based wildlife management to prevent the reversal of over a century's worth of conservation progress. The success of American wildlife conservation serves as a testament to the effectiveness of informed policy decisions, reinforcing the importance of continued adherence to scientific methods in wildlife governance.