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JURISPRUDENTIAL THEORIES IN BIODIVERSITY CONSERVATION: THEORETICAL FOUNDATIONS AND PRACTICAL APPLICATIONS (Part 1)

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Abstract

This article examined the application of two major jurisprudential theories—natural law theory and legal positivism—to biodiversity conservation. Through the analysis of theoretical frameworks and case studies, the article demonstrates how these theories can be operationalized to strengthen legal protections for biodiversity. Natural law theory offers normative foundations for recognizing inherent value in nature and establishing intergenerational equity. Legal positivism provides structural frameworks for effective conservation legislation and procedural mechanisms for enforcement. The article concludes that integrating these jurisprudential perspectives creates a more robust and ethically grounded approach to biodiversity conservation law, essential for addressing the complex challenges of the ongoing ecological crisis.

Keywords: *Biodiversity, Conservation, Environmental Law, Jurisprudence, Natural Law, Legal Positivism*

1.0 Introduction

The accelerating global decline in biodiversity represents one of the most profound and urgent challenges confronting humanity in the twenty-first century. The loss of species, degradation of ecosystems, and disruption of ecological functions have far-reaching implications not only for environmental stability but also for human well-being, economic sustainability, and the resilience of future generations. Reports by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) and the Intergovernmental Panel on Climate Change (IPCC) underscore the scale of the crisis, warning that approximately one million species are at risk of extinction within decades if transformative changes are not implemented.[1] These developments have elevated the legal regulation of biodiversity from a peripheral concern to a central pillar of environmental governance.

In response to this ecological crisis, legal systems across the globe have mobilized a variety of instruments—ranging from international treaties and national legislation to constitutional provisions and community-based legal norms. However, while the technical and institutional dimensions of biodiversity law have received increasing scholarly and policy attention, the philosophical underpinnings of such laws remain comparatively underexplored.[2] Yet, legal doctrines do not operate in a vacuum; they are shaped by deeper assumptions about the nature of law, justice, and humanity's relationship to the natural world. A more robust engagement with legal philosophy, or jurisprudence, is

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[1] IPBES, *Global Assessment Report on Biodiversity and Ecosystem Services* (IPBES 2019); IPCC, *Climate Change and Land: Summary for Policymakers* (IPCC 2019).

[2] A Camacho and R Glicksman, *Reorganizing Government: A Functional and Dimensional Framework* (NYU Press 2019) 221–224.

thus essential to assess both the limitations of existing biodiversity laws and the possibilities for more ethically grounded and effective reforms.[3]

This article addresses this gap by exploring how two major jurisprudential traditions—natural law and legal positivism—inform, support, and in some cases challenge prevailing approaches to biodiversity conservation. Each of these schools of thought offers distinctive insights into the normative justifications, structural features, and distributive implications of environmental law. Natural law theory, rooted in classical and theological traditions, posits the existence of moral principles inherent in the natural order and accessible through reason, which can serve as a foundation for recognising the intrinsic value of biodiversity and humanity's moral duties toward the nonhuman world.[4] Legal positivism, in contrast, focuses on the sources and formal validity of legal rules, emphasizing institutional authority, clarity, and enforceability—elements critical to the operational effectiveness of biodiversity laws.[5] By situating these jurisprudential frameworks within the broader discourse of biodiversity conservation, this article seeks to contribute to a pluralistic legal philosophy that can guide the design, interpretation, and reform of environmental laws. The integration of normative ethics and legal structure offers a more comprehensive lens for evaluating the efficacy and legitimacy of biodiversity governance in a rapidly changing world.[6]

2.0 Natural Law Theory and Biodiversity Conservation

2.1 Theoretical Foundations

The natural law tradition offers a compelling philosophical foundation for reimagining the relationship between law and biodiversity conservation. Grounded in the belief that legal norms must conform to a higher moral order, natural law theory provides at least three significant contributions to biodiversity jurisprudence. First, it posits the intrinsic value of nonhuman life, challenging the dominant anthropocentric legal paradigms that subordinate environmental protection to human interests. Second, it undergirds the principle of intergenerational justice, emphasising moral duties to future generations who will inherit the ecological consequences of today's legal and policy decisions. Third, it offers a critical framework for evaluating and reforming legal systems that inadequately protect the natural world.

Natural law theory is one of the oldest and most enduring traditions in Western jurisprudence. Its classical foundations lie in the philosophy of Aristotle, who identified a natural order in the universe discernible by reason, and Cicero**,** who described natural law as a universal, unchanging moral code binding on all human beings regardless of positive law.[7] The Christian theologian Thomas Aquinas later systematised these ideas, arguing that true law is a rational participation in the eternal law of God and

[3] K Bosselmann, *The Principle of Sustainability: Transforming Law and Governance* (2nd edn, Routledge 2016) 45–48.
[4] T Aquinas, *Summa Theologiae* (1265–1274), I-II, Q. 94, Art. 2; John Finnis, *Natural Law and Natural Rights* (2nd edn, Oxford University Press 2011).
[5] HLA Hart, *The Concept of Law* (3rd edn, Oxford University Press 2012); Joseph Raz, *The Authority of Law: Essays on Law and Morality* (2nd edn, Oxford University Press 2009).
[6] Carmen G Gonzalez, 'Environmental Justice, Human Rights, and the Global South' (2015) 13 *Santa Clara Journal of International Law* 77.
[7] Cicero, *On the Republic and On the Laws* (James Zetzel tr, Cambridge University Press 1999) II.11

must promote the common good.[8] In his *Summa Theologiae*, Aquinas defines law as "an ordinance of reason for the common good, made by him who has care of the community," asserting that unjust laws—those contrary to natural law—are not true laws at all."

Modern formulations of natural law, particularly in the work of John Finnis**,** have rearticulated its principles in secular and pluralistic terms. Finnis argues that certain "basic goods"—including life, knowledge, aesthetic experience, and sociability—are self-evident and provide a rational basis for ethical reasoning and legal obligation.[9] Although Finnis himself does not explicitly address environmental issues, his framework has been extended by scholars seeking to ground ecological concerns in natural law theory. When applied to biodiversity, natural law theory provides a robust normative justification for environmental protection that is not contingent on utilitarian calculations or cost-benefit analyses. It implies that species, ecosystems, and ecological processes possess inherent worth and are deserving of moral and legal respect. As James Nash argues from a Christian ecological perspective, humans are not sovereign over nature but participants in a moral order that includes the nonhuman world.[10] This moral inclusiveness leads to a duty to preserve biodiversity not only for its instrumental benefits but as an expression of justice.

Contemporary scholars such as Klaus Bosselmann have sought to revitalise natural law principles in light of ecological science. Bosselmann's concept of ecological natural law integrates traditional moral reasoning with the biophysical realities of planetary systems, suggesting that sustainability must be understood as a legal and ethical imperative.[11] He asserts that ecological integrity—the capacity of ecosystems to maintain their structure, composition, and function—is a precondition for justice and legal legitimacy in the Anthropocene.[12] Accordingly, legal systems that fail to preserve biodiversity are not merely ineffective; they are unjust and illegitimate.

Laura Westra, a leading figure in environmental ethics, similarly draws upon natural law to argue for the rights of ecological entities. She maintains that natural systems possess moral standing and a right to integrity, defined as the ability to evolve and function without anthropogenic interference.[13] According to Westra, human legal systems have a duty to recognise and protect these rights, particularly when they are violated by economic or developmental imperatives. Her theory of ecological integrity shifts environmental law from a permissive, utilitarian regime to one rooted in obligations and prohibitions grounded in natural justice.[14]

These philosophical insights have important legal implications. First, natural law theory challenges the instrumentalist orientation of many environmental statutes, which often justify conservation only insofar as it serves human welfare or economic development.[15] By contrast, a natural law perspective

[8] T Aquinas, *Summa Theologiae* I-II, q. 90, a. 4.
[9] J Finnis, *Natural Law and Natural Rights* (2nd edn, Oxford University Press 2011) 86–90
[10] J Nash, *Loving Nature: Ecological Integrity and Christian Responsibility* (Abingdon Press 1991) 23–25.
[11] K Bosselmann, *The Principle of Sustainability: Transforming Law and Governance* (2nd edn, Routledge 2016) 42–44.
[12] K Bosselmann, 'The Ethics of Sustainability: Foundations and Implications' (2013) 28 *The Anthropocene Review* 223, 226.
[13] L Westra, *Environmental Justice and the Rights of Ecological Refugees* (Earthscan 2009) 54–58.
[14] L Westra, *Ecological Integrity and Global Governance: Science, Ethics and the Law* (Routledge 2012) 17–20.
[15] P Singer, *Practical Ethics* (3rd edn, Cambridge University Press 2011) 278–282

mandates the recognition of intrinsic environmental value, encouraging laws that protect species and habitats for their own sake. Second, the tradition affirms the principle of intergenerational equity, which has been increasingly codified in international environmental law but remains under-theorised. Natural law frames this principle not as a policy choice but as a moral obligation rooted in the continuity of human and ecological flourishing.[16]

Finally, natural law theory serves as a critical standard for evaluating the justice of existing biodiversity regimes. It provides a philosophical lens through which to question laws that permit deforestation, habitat destruction, or extinction, even if such laws are procedurally valid. As Aquinas famously stated, a law that contradicts the moral law is a "perversion of law."[17] In this sense, biodiversity law informed by natural law theory aspires not merely to regulate environmental use but to transform the moral vision of legal systems toward sustainability, integrity, and justice.

2.2 Applications in Biodiversity Law

The influence of natural law principles on biodiversity conservation is not merely theoretical; it is also manifest in the evolution and application of substantive legal doctrines, most notably the public trust doctrine. Rooted in classical natural law philosophy, the public trust doctrine posits that certain natural resources—such as air, water, wildlife, forests, and other elements of the environment—are so vital to human and ecological survival that they are inherently public and must be held in trust by the state for both present and future generations.[18] This stewardship obligation is not a discretionary policy choice, but a moral and legal duty grounded in the idea that nature possesses intrinsic value and that governments act as fiduciaries of a common ecological inheritance.[19]

2.2.1 Natural Law and the Origins of the Public Trust Doctrine

The intellectual foundations of the public trust doctrine can be traced to Roman law**,** particularly the *Institutes of Justinian*, which declared that "the air, running water, the sea, and the seashores" were common to all and could not be owned privately. This concept was later absorbed into the natural law jurisprudence of medieval and early modern Europe, which held that certain rights and resources were inalienable because they were part of the universal order established by divine or natural reason.[20] Hugo Grotius**,** in his seminal work *The Free Sea* (*Mare Liberum*), affirmed that the seas and their resources must remain free for all because they are part of the commons—not subject to appropriation by any single sovereign.[21]

These ideas found new life in the Anglo-American legal tradition through the adoption of common law doctrines that echoed the natural law commitment to a moral order above sovereign authority. The

[16] E Ryan, 'Juliana v. United States: Standing for Constitutional Climate Rights' (2020) 9 *Michigan Journal of Environmental & Administrative Law* 1, 15–17.
[17] E Ryan, 'Juliana v. United States: Standing for Constitutional Climate Rights' (2020) 9 *Michigan Journal of Environmental & Administrative Law* 1, 15–17.
[18] M C Wood, *Nature's Trust: Environmental Law for a New Ecological Age* (Cambridge University Press 2014) 120–122.
[19] J L Sax, 'The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention' (1970) 68 *Michigan Law Review* 471
[20] R Tuck, *Natural Rights Theories: Their Origin and Development* (Cambridge University Press 1979) 26–29
[21] H Grotius, *Mare Liberum* (1609), trans. Ralph Van Deman Magoffin (Oxford University Press 1916) ch 1

public trust doctrine, in this context, serves as a judicially enforceable constraint on state action, requiring that natural resources held in trust cannot be sold, alienated, or impaired for private benefit without violating the foundational obligations of governance.[22]

2.2.2 Judicial Affirmation: *Illinois Central Railroad Co. v. Illinois*

The most influential articulation of the modern public trust doctrine in biodiversity-related jurisprudence is found in the landmark U.S. Supreme Court case *Illinois Central Railroad Co. v. Illinois*.[23] In this 1892 decision, the Court invalidated the Illinois legislature's attempt to transfer a substantial portion of the submerged lands of Chicago Harbor to a private railroad company. The Court held that the state had no authority to abdicate control over such trust resources because they were held for public purposes, including navigation, commerce, and environmental stewardship. Writing for the Court, Justice Field emphasized that "[t]he State can no more abdicate its trust over property in which the whole people are interested... than it can abdicate its police powers in the administration of government."[24] This decision set a powerful precedent by recognising the state's fiduciary duty to protect natural resources not just for present use, but for the benefit of future generations—a principle that resonates strongly with natural law's emphasis on intergenerational justice and moral obligation.[25]

2.2.3 Contemporary Expansion: *Juliana v. United States and the Rights of Future Generations*

In more recent times, the public trust doctrine has gained renewed prominence through climate litigation, particularly in the landmark case of *Juliana v. United States*.[26] Filed in 2015 by a group of young plaintiffs, the case alleged that the U.S. federal government had violated their constitutional rights by pursuing policies that contribute to climate change and environmental degradation, thereby undermining the government's public trust obligations. While the Ninth Circuit Court of Appeals ultimately dismissed the case on standing grounds in 2020, the district court's earlier rulings recognised that the atmosphere and climate system could be conceptualised as trust assets, reinforcing the idea that the government holds legal duties to safeguard environmental systems as part of its natural law-derived obligations.[27] Judge Ann Aiken's opinion was particularly notable for its invocation of fundamental rights grounded in intergenerational equity and human dignity, concepts resonant with natural law's universality and moral force.[28]

3. Legal Positivism and Biodiversity Conservation

3.1 Theoretical Foundations

Legal positivism, as a dominant school of thought in contemporary legal theory, maintains that law is a system of rules created and validated by social facts and institutional authority, rather than moral or

[22] C M Rose, 'Joseph Sax and the Idea of the Public Trust' (2007) 25 *UCLA Journal of Environmental Law & Policy* 21.
[23] *Illinois Central Railroad Co. v. Illinois* 146 US 387 (1892).
[24] *Illinois Central Railroad Co. v. Illinois* 146 US 387 (1892).
[25] A D Tarlock, 'The Future of Environmental "Rule of Law" Litigation' (2019) 49 *Environmental Law Reporter* 10016, 10018.
[26] *Juliana v United States* 217 F Supp 3d 1224 (D Or 2016); rev'd on other grounds 947 F 3d 1159 (9th Cir 2020).
[27] E Ryan, 'Juliana v. United States: Standing for Constitutional Climate Rights' (2020) 9 *Michigan Journal of Environmental & Administrative Law* 1, 15–17.
[28] E Ryan, 'Juliana v. United States: Standing for Constitutional Climate Rights' (2020) 9 *Michigan Journal of Environmental & Administrative Law* 1, 15–17.

metaphysical reasoning. Central figures in the positivist tradition include John Austin, Hans Kelsen, H.L.A. Hart, and Joseph Raz, each of whom developed distinct formulations of the theory but agreed on the fundamental separation between law and morality.

John Austin's early articulation defined law as **"**a command issued by a sovereign backed by a sanction**"**, asserting that the legitimacy of law arises solely from its origination by a recognized authority, not from its moral content.[29] Hans Kelsen further refined this view in his *Pure Theory of Law*, advocating for a strictly normative understanding of law based on a hierarchy of norms, culminating in the hypothetical Grundnorm, or basic norm, which underpins the entire legal system's validity.[30] H.L.A. Hart departed from the command model by emphasizing a **"**rule of recognition**"**—a social rule that officials use to identify valid legal norms—thus explaining how complex legal systems are internally coherent without appealing to morality.[31] Joseph Raz extended this tradition by arguing that the law claims authority through its ability to mediate between reasons for action, reinforcing the idea that legal systems can and should be studied independently of their moral content.[32]

This conceptual separation between *lex* and *jus*—between law as it is and law as it ought to be—offers significant explanatory power in the realm of biodiversity conservation, where the design, implementation, and enforcement of environmental regulations depend on formal legal mechanisms. Environmental statutes, administrative regulations, and international treaties such as the Convention on Biological Diversity (CBD**)** are all products of positive law, brought into existence through legislative and executive processes and not by virtue of any intrinsic ethical mandate.[33]

From a positivist standpoint, the authority and efficacy of conservation laws hinge on whether they were enacted by competent institutions according to established procedures. For instance, a biodiversity statute passed by a national legislature is considered legally binding not because it protects nature per se, but because it has been validly enacted under constitutional procedures. This framework clarifies how conservation obligations are constructed and validated: through legislative deliberation, treaty ratification, administrative rule-making, and judicial interpretation.[34] In contrast to natural law approaches, legal positivism does not inquire into whether biodiversity protection is morally right; it instead examines whether and how laws meant to protect biodiversity function within a legal system.

This perspective highlights the central role of the sovereign state in shaping conservation law. Environmental protection norms do not spontaneously emerge from universal moral principles but are the products of political negotiation, legal drafting, and institutional enforcement. National governments are responsible for creating environmental laws, entering international agreements such as the CBD, and establishing regulatory bodies such as environmental protection agencies. Legal positivism thus

[29] J Austin, *The Province of Jurisprudence Determined* (2nd edn, Weidenfeld & Nicolson 1954) 11–13.
[30] H Kelsen, *Pure Theory of Law* (Max Knight tr, University of California Press 1967) 193–205.
[31] HLA Hart, *The Concept of Law* (2nd edn, Clarendon Press 1994) chs 5–6.
[32] J Raz, *The Authority of Law: Essays on Law and Morality* (2nd edn, Oxford
[33] Convention on Biological Diversity (adopted 5 June 1992, entered into force 29 December 1993) 1760 UNTS 79.
[34] P Birnie, Alan Boyle, and Catherine Redgwell, *International Law and the Environment* (3rd edn, OUP 2009) 112–121.

shifts the analytical lens from abstract values to institutional competence and procedural rigor, emphasizing that the success of conservation laws depends on how well legal institutions perform their assigned roles.[35]

Another key contribution of legal positivism lies in its focus on legal procedures and institutional architecture. It prompts critical inquiry into whether conservation laws are enforced equitably, whether agencies tasked with implementation have sufficient resources, and whether decision-making processes meet standards of transparency, fairness, and accountability.[36] Legal positivism thus helps bridge the gap between the formal validity of conservation laws and their practical effectiveness. Scholars such as Elizabeth Fisher underscore the importance of such legal and administrative structures in ensuring that environmental protection efforts are not merely aspirational, but legally actionable and enforceable.[37]

Crucially, legal positivism is particularly well-suited to pluralistic societies where there may be no shared moral consensus about environmental priorities. By detaching legal validity from ethical agreement, it allows for institutional neutrality and political inclusivity. Once biodiversity protection becomes a democratically established goal, the positivist task is to ensure that legal mechanisms for achieving that goal are coherent, valid, and operational.[38] For example, in jurisdictions where biodiversity loss is recognized as a policy problem, positivism provides tools for evaluating regulatory clarity, judicial review procedures, and compliance mechanisms, without relying on contested moral arguments.

Legal positivism does not argue that biodiversity conservation is inherently good or necessary. Instead, it accepts that such goals are contingent on social or political consensus, and then provides a legal and institutional framework for achieving them. This orientation is especially relevant for tackling the technical dimensions of biodiversity governance, such as defining protected areas, classifying endangered species, or designing enforcement regimes.[39] In this sense, legal positivism serves as an indispensable complement to more value-driven or ethical approaches by translating policy commitments into concrete, enforceable legal norms. Legal positivism plays a critical role in shaping the field of biodiversity conservation by emphasizing the structural, procedural, and institutional elements of law. It insists on the importance of rule-making legitimacy and legal clarity, thereby providing a robust framework within which conservation goals—once adopted—can be pursued effectively. While it does not offer a moral justification for protecting biodiversity, it equips lawmakers, judges, and policymakers with the tools to build and maintain a legally coherent and enforceable system of environmental governance. In this way, legal positivism helps transform ethical aspirations into juridical realities, ensuring that environmental protection operates within a framework of legal certainty and institutional accountability.

[35] P Sands and J Peel, *Principles of International Environmental Law* (4th edn, CUP 2018) 132–136.
[36] L Paddock, David Hunter, and Jim Salzman, *Environmental Protection: Law and Policy* (7th edn, Foundation Press 2018) 298–302.
[37] E Fisher, *Environmental Law: A Very Short Introduction* (OUP 2017) 56–61.
[38] D Bodansky, *The Art and Craft of International Environmental Law* (Harvard University Press 2010) 157–159.
[39] J Brunnée and S J Toope, *Legitimacy and Legality in International Law: An Interactional Account* (CUP 2010) 102–105.

3.2 Applications in Biodiversity Law

Legal positivism, as a jurisprudential theory, asserts that the existence and validity of law are determined by social facts and institutional processes rather than moral content. At the heart of this theory lies a commitment to legal rules as authoritative directives that derive their legitimacy from established sources—such as treaties, legislation, and judicial decisions—rather than from ethical or moral reasoning. This conceptual framework has profoundly influenced the architecture and operation of international legal instruments in biodiversity conservation.

One of the clearest manifestations of legal positivism in biodiversity governance is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Adopted in 1973 and entered into force in 1975, CITES exemplifies the positivist commitment to structured and codified legal regimes.[40] It eschews abstract appeals to moral duty or ecological virtue, instead establishing a concrete legal taxonomy that classifies species into three appendices based on scientific assessments of their conservation status.[41] Appendix I includes species threatened with extinction and prohibits their commercial trade; Appendix II contains species not necessarily threatened with extinction but that may become so without controlled trade; Appendix III lists species protected in at least one country that has asked other CITES Parties for assistance in controlling the trade.[42]

Each classification imposes specific legal obligations on state parties, such as the requirement to issue import/export permits, implement trade bans, or conduct risk assessments. These obligations are not aspirational but are binding under international law, providing a framework for consistent application and enforcement across diverse legal systems.[43] This regulatory uniformity reflects a core positivist principle: that law should function as a system of ascertainable, enforceable rules, rather than as a repository of moral ideals. As Sand observes, CITES operates as a "procedural framework designed to produce predictable and coordinated legal responses to specific categories of threat."[44]

Similarly, the influence of legal positivism is evident in regional biodiversity instruments, particularly within the European Union. The Habitats Directive (Council Directive 92/43/EEC) sets out a comprehensive legal regime for the protection of natural habitats and wild fauna and flora. It imposes precise duties on Member States, including the identification and designation of Special Areas of Conservation (SACs), the monitoring of species and habitat conditions, and the submission of regular implementation reports.[45] These duties are reinforced by robust enforcement mechanisms: non-compliance can trigger infringement proceedings before the Court of Justice of the European Union (CJEU), with potentially significant legal and financial consequences.[46] The Directive's authority does

[40] Convention on International Trade in Endangered Species of Wild Fauna and Flora (adopted 3 March 1973, entered into force 1 July 1975) 993 UNTS 243 (CITES).
[41] M Bowman, P G G Davies and C Redgwell, *Lyster's International Wildlife Law* (2nd edn, CUP 2010) 301–312.
[42] CITES Secretariat, *The CITES Appendices* (2024) https://cites.org/eng/app/index.php accessed 23 May 2025.
[43] L Glowka and Others, *A Guide to the Convention on Biological Diversity* (IUCN 1994) 78–81
[44] P H Sand, 'Whither CITES? The Evolution of a Treaty Regime in the Borderland of Trade and Environment' (1997) 36(4) *Journal of Environmental Law and Policy* 297.
[45] Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora [1992] OJ L206/7 (Habitats Directive).
[46] E Morgera, *The Governance of EU Biodiversity Law: Effects of the Habitats Directive* (CUP 2022) 94–117

not stem from moral arguments about the intrinsic value of nature but from its legal form, procedural regularity, and institutional backing—hallmarks of the positivist tradition.

Legal positivism's utility in biodiversity law extends beyond individual statutes and treaties. It informs broader compliance and enforcement frameworks, emphasising the need for law to be systematically applied by competent and authorised institutions. This focus has led to the proliferation of compliance committees under multilateral environmental agreements (MEAs), administrative monitoring systems, and legal audit mechanisms.[47] For example, the Convention on Biological Diversity (CBD) has adopted national reporting and monitoring mechanisms that require Parties to submit data on the implementation of biodiversity strategies and targets.[48] These tools promote transparency and accountability—central tenets of positivist legal systems—without invoking normative debates over justice or ecological rights.

Moreover, positivism's procedural orientation helps ensure that conservation norms are not merely rhetorical. By focusing on enforceability and legal authority, it supports the development of legal instruments with tangible impacts. Mechanisms such as penalties for non-compliance, procedural safeguards, and judicial review help translate the aspirational language of environmental goals into measurable outcomes. As Morgera argues, the "effectiveness of biodiversity law lies not in its ethical posture, but in its capacity to mobilise institutional resources and regulatory tools within a legally coherent framework."[49] Legal positivism offers a pragmatic, rule-based approach to biodiversity conservation. It relocates the focus of legal analysis from questions of moral justification to questions of legal validity, procedural integrity, and institutional competence. By doing so, it facilitates the development of conservation laws that are enforceable, coherent, and operationally viable. Although it may lack the emotive appeal of natural law legal positivism plays a critical role in structuring biodiversity law in ways that are administratively manageable and legally effective. Its emphasis on rule clarity, formal sources, and institutional enforcement makes it an indispensable framework for addressing the biodiversity crisis through law.

4.0 Towards an Integrated Jurisprudential Approaches in Biodiversity Conservation

Synthesizing these two jurisprudential approaches yields a comprehensive and integrated model for biodiversity law. Natural law provides the ethical imperative for protecting biodiversity while **l**egal positivism offers the institutional mechanisms and procedural frameworks to actualize those imperatives. This pluralistic synthesis not only strengthens the philosophical coherence of biodiversity law but also enhances its legal effectiveness and social legitimacy. It responds to the shortcomings of siloed legal thinking by promoting an interdisciplinary jurisprudence that is morally grounded and legally actionable. Integrating natural law and legal positivism into biodiversity conservation law promotes a holistic legal paradigm—one that honors the moral worth of nature, ensures institutional functionality, and protects the rights of vulnerable communities. This integrative jurisprudence is essential for crafting biodiversity regimes that are resilient, enforceable, and just. The practical

[47] Jonas Ebbesson and Ellen Hey (eds), *The Cambridge Handbook of International Environmental Law* (CUP 2018) 452–455.
[48] Convention on Biological Diversity, Decision X/2, Strategic Plan for Biodiversity 2011–2020, UN Doc UNEP/CBD/COP/DEC/X/2 (29 October 2010).
[49] E Morgera, *Under the Radar: The Role of Fair and Equitable Benefit-Sharing in the Conservation of Biodiversity* (2015) 25(1) *Yearbook of International Environmental Law* 27.

application of an integrated jurisprudential framework has found compelling expression in several pioneering legal and institutional innovations. These case studies illustrate how blending normative ethics, legal institutionalism, and equity considerations can produce transformative outcomes in biodiversity conservation law. They affirm the proposition that holistic legal reasoning enhances not only the effectiveness of conservation regimes but also their legitimacy**,** resilience, and justice**.**

4.1 Ecuador's Recognition of the Rights of Nature (Pachamama)

A landmark instance of jurisprudential integration is found in Ecuador's 2008 Constitution, which enshrines the Rights of Nature (Pachamama).[50] This legal innovation draws heavily on natural law principles, asserting that nature possesses intrinsic rights independent of human interests.[51] Article 71 of the Constitution states: "Nature, or Pachamama, where life is reproduced and occurs, has the right to integral respect for its existence and for the maintenance and regeneration of its life cycles, structure, functions and evolutionary processes."[52]

This declaration reflects a biocentric ontology akin to classical natural law, which posits that legal norms must mirror the moral order of creation or the cosmos.[53] Nature, in this view, is not merely a resource but a moral subject. The legal articulation of this ethic signals a shift from anthropocentric conservationism to an ecocentric framework grounded in universal moral claims about the sanctity of life. At the same time, Ecuador's approach exhibits legal positivist rigor. The rights of nature are not aspirational; they are juridically actionable. Constitutional courts have heard and adjudicated cases enforcing nature's rights, including the *Vilcabamba River case*, where road construction causing ecological damage was halted to preserve the river's integrity.[54] This demonstrates that the natural law principles enshrined in the constitution are operationalized through institutional structures, such as constitutional review, legal standing for nature, and judicial remedies.

4.2 Biocultural Rights and the Integration of Customary Stewardship

The emergence of biocultural rights frameworks, particularly in African and Latin American jurisdictions, provides a second exemplar of integrated jurisprudence. Biocultural rights represent a legal innovation that explicitly links cultural diversity and biological diversity, recognizing that Indigenous and local communities (IPLCs) play a central role in conserving ecosystems.[55] This framework embodies natural law by acknowledging the moral necessity of preserving both ecological and cultural integrity. The interdependence of nature and culture reflects a normative ethic akin to what Leopold termed the "land ethic"—a moral responsibility to preserve the community of life.[56] Legally, biocultural rights are often positivized through constitutional or statutory recognition of customary land tenure, community intellectual property, and participatory governance. In Kenya, for instance, the *Katiba Institute v National Land Commission* case affirmed community land rights as a component of

[50] Constitución de la República del Ecuador (2008), arts 71–74
[51] C Cullinan, *Wild Law: A Manifesto for Earth Justice* (2nd edn, Green Books 2011) 33–35
[52] Ecuadorian Constitution 2008, art 71.
[53] J Finnis, *Natural Law and Natural Rights* (2nd edn, Oxford University Press 2011) 198–202.
[54] Constitutional Court of Ecuador, Case No. 11121-2011-0010 (Vilcabamba River case), Judgment of 30 March 2011.
[55] K Bavikatte and T Bennett, 'Community Stewardship: The Foundation of Biocultural Rights' (2015) 6 *Journal of Human Rights and the Environment* 7
[56] A Leopold, *A Sand County Almanac* (Oxford University Press 1949) 203–206

biocultural heritage, integrating local customary norms into formal law.[57] The Community Land Act 2016 further operationalizes these rights through registrable land titles, thereby satisfying positivist demands for legal clarity and enforceability.[58]

5.0 Conclusion

In confronting the urgent and multifaceted challenge of biodiversity loss, law plays a pivotal role—not only as a tool for regulation and enforcement but also as a reflection of society's values, ethical commitments, and visions of justice. This article has examined how two major jurisprudential theories—natural law and legal positivism—offer valuable, though distinct, insights into the foundations and functions of biodiversity conservation law.

Natural law theory provides the essential moral compass, affirming that nature possesses intrinsic value and that human beings have a duty to protect it beyond utilitarian considerations. Legal positivism contributes a framework for structuring and enforcing conservation efforts through clearly defined rules, institutions, and procedures. Individually, each tradition offers useful but incomplete perspectives. However, when brought together in a pluralistic jurisprudential approach, they form a more comprehensive and responsive legal foundation—one that is morally grounded, procedurally sound, and socially equitable. Such integration is especially critical in the Anthropocene, where ecological, political, and social systems are deeply interconnected.

As biodiversity crises intensify globally, future legal developments must continue to draw from these diverse jurisprudential insights. Legal frameworks must evolve to protect ecosystems while recognizing the dignity of all peoples and cultures, balancing ecological integrity with human well-being. By embracing a pluralistic jurisprudence, we can build legal systems that not only conserve biodiversity but also promote justice and sustainability for present and future generations.

[57] *Katiba Institute and another v National Land Commission and others* [2017] eKLR (Kenya HC).
[58] Community Land Act 2016 (Kenya), ss 4–9