PACHAMAMA OVER PEOPLE AND PROFIT: A CASE FOR INDIGENOUS ECOLOGY AND ENVIRONMENTAL PERSONHOOD

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Introduction

If corporations have legal rights, then why not rivers or forests?

We are currently experiencing a global environmental crisis.[1] Human-driven climate change and other global environmental changes are

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generating irreversible impacts to the global ecosystem, nearly beyond our ability to adapt in real-time.[2] This Comment is dedicated to exploring how we got into this mess and how we can move toward a more healthy and sustainable environmental future.

In Part I of this Comment, we explore the depths of the global environmental crisis. Specifically, we examine how population growth, technological innovations, economic expansion, and general beliefs and practices are driving unprecedented global environmental changes. In Part II, we zoom in on the understated impact of beliefs and practices as major drivers for negative environmental changes. As a case study, we comparatively analyze the differences between the Indigenous worldview and the Western worldview with respect to the self and how it relates with nature, practices of use and consumption, and cultural priorities. We suggest that embracing an environmental framework modeled after Indigenous beliefs and practices is critical for moving toward a more healthy and sustainable environmental future.

In Part III, we explore the current state of U.S. environmental law as well as its deficiencies. We argue that embracing the doctrine of environmental personhood, or the Rights of Nature movement, is one practical and promising jurisprudential method for driving positive environmental changes. Analogous to corporate personhood, environmental personhood is a legal doctrine that calls for environmental entities to be granted legal rights, which would empower conservators to advocate for the entity's behalf in court, among other things. Often spearheaded by Indigenous communities or environmental advocacy groups, we survey successful international environmental personhood cases from Ecuador, Bolivia, Colombia, India, New Zealand, Canada, and the United States.

Finally, since the environmental crisis is global, so, too, must be the commitment to solving it. We therefore call for the doctrine of environmental personhood, or the Rights of Nature movement, to rise to the level of customary international law. We also highlight some creative directions for the doctrine of environmental personhood to expand.

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1. *See* IPCC, CLIMATE CHANGE 2022: IMPACTS, ADAPTATION AND VULNERABILITY: WORKING GROUP II CONTRIBUTION TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 5-33 (Hans-Otto Pörtner et al. eds., 2022) ("Summary for Policymakers"), https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf.

2. *Id.* at 9.

I. The Environmental Crisis

The Earth, a complex and dynamic system, experiences natural cycles.[3] Over the past two million years, the Earth has oscillated between glacial and non-glacial periods, of which we are currently experiencing the latter.[4] Scientists project that the next glacial period, originally due in 50,000 years, will likely be postponed for another 100,000 years—"an unusually long time."[5] In fact, the Earth is currently undergoing an unprecedented cycle of "hydrological, climatological, and biological change," both in magnitude and in speed, and it is evident that human activities are the primary drivers of these accelerated environmental changes.[6]

A. The Anthropocene

The impact of human activities on the Earth's systems is so significant that some scientists argue that we have transitioned out of the Holocene, or the 12,000-year geological epoch that followed the last ice age and into the "Anthropocene," the human era.[7] There are at least four human activities that are driving these significant environmental changes to the Earth's systems: population growth, technological innovation, economic expansion, and general beliefs and practices.[8]

Since 1960, the global human population has grown from three billion to nearly eight billion in 2020.[9] By 2100, the population is projected to grow to over eleven billion as a result of increased life expectancy, changes in fertility rates, and accelerated migration and urbanization.[10] As human

3. Peter M. Vitousek, *Global Environmental Change: An Introduction*, 23 ANN. REV. ECOLOGY & SYSTEMATICS 1, 1 (1992).

4. NAT'L OCEANIC & ATMOSPHERIC ADMIN., GLACIAL-INTERGLACIAL CYCLES 1 (2021), https://www.ncei.noaa.gov/sites/default/files/2021-11/1%20Glacial-Interglacial%20Cycles-Final-OCT%202021.pdf.

5. A. Ganopolski et al., *Critical Insolation–CO2 Relation for Diagnosing Past and Future Glacial Inception*, 529 NATURE 200, 200 (2016).

6. NAT'L RSCH. COUNCIL, GLOBAL ENVIRONMENTAL CHANGE: UNDERSTANDING THE HUMAN DIMENSIONS 17 (Paul C. Stern et al. eds., 1992).

7. *Anthropocene*, NAT'L GEOGRAPHIC, https://www.nationalgeographic.org/encyclopedia/anthropocene/ (last updated May 20, 2022); Andreas Rechkemmer & Louise von Falkenhayn, *The Human Dimensions of Global Environmental Change: Ecosystem Services, Resilience, and Governance*, 1 EUR. PHYSICAL J. CONFS. 3, 3 (2009).

8. NAT'L RSCH. COUNCIL, *supra* note 6, at 2–3.

9. *Population, Total*, WORLD BANK, https://data.worldbank.org/indicator/SP.POP.TOTL (last visited June 22, 2023).

10. *Global Issues: Population*, UNITED NATIONS, https://www.un.org/en/global-issues/population (last visited June 22, 2023).

population growth increases, the demand for natural resources—like food, water, power, and shelter—will increase, as well.[11]

To keep up with increasing demand, technological innovations, inter alia, have allowed humans to find new ways to mine natural resources and in larger quantities, often to the detriment of the environment.[12] For example, hydraulic fracturing, or "fracking," involves injecting pressurized liquid into the bedrock to create fractures and extract trapped petroleum and gas.[13] Although fracking produces more fossil fuels to power human activities, research shows that the process can contaminate local water supply[14] and may induce earthquakes.[15]

As a result of human population growth and technological innovations, the global economy is also growing exponentially.[16] Since 1960, the global Gross Domestic Product (GDP)—or the total market value of the goods and services produced globally—has increased from 1.4 trillion USD to nearly 100.6 trillion USD in 2022.[17] These figures encompass the international system of industry and trade, within and across nations, and the lifecycle of extraction, manufacturing, transport, consumption, and disposal.

Finally, the impact of general beliefs and practices on our current environmental trajectory cannot be understated. Our disrupted relationship with nature as well as our negligent and reckless practices—on the micro and macro levels—are driving unprecedented environmental changes.[18] For instance, in international commerce, the "inherent" norms of the international commercial marketplace compel business managers to prioritize profit maximation over morally preferable alternatives, such as environmental sustainability.[19] It is unsurprising to find, then, that 100

11. NAT'L RSCH. COUNCIL, *supra* note 6, at 76.

12. *Id.* at 83.

13. *Hydraulic Fracturing*, U.S. GEOLOGICAL SURV. (USGS) (Mar. 2, 2019), https://www.usgs.gov/mission-areas/water-resources/science/hydraulic-fracturing.

14. *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States (Final Report)*, U.S. ENV'T PROT. AGENCY (EPA), https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990 (last visited June 22, 2023).

15. William L. Ellsworth, *Injection-Induced Earthquakes*, SCIENCE (July 12, 2013), https://www.science.org/doi/abs/10.1126/science.1225942.

16. NAT'L RSCH. COUNCIL, *supra* note 6, at 79; *see GDP (Current US$)*, WORLD BANK, https://data.worldbank.org/indicator/NY.GDP.MKTP.CD (last visited August 1, 2023).

17. *GDP (Current US$)*, *supra* note 16.

18. *See* NAT'L RSCH. COUNCIL, *supra* note 6.

19. John Alexander, *Environmental Sustainability Versus Profit Maximization: Overcoming Systemic Constraints on Implementing Normatively Preferable Alternatives*, 76 J. BUS. ETHICS 155, 155 (2007).

international companies have been responsible for 71% of industrial emissions since 1988.[20] General beliefs and practices are explored in greater detail in Part II of this Comment.

B. Global Environmental Changes

The four human activities discussed in the previous Part—population growth, technological innovation, economic expansion, and general beliefs and practices—are driving both permeating and ubiquitous global environmental changes.[21]

Permeating environmental changes are carried globally via the "well-mixed" and "fluid" nature of the atmosphere and oceans.[22] For example, greenhouse gases, or heat-trapping gases typically produced by industrial activities, are changing the composition of our atmosphere, increasing global temperatures, and disrupting the Earth's ecosystems.[23]

First, while carbon dioxide (CO2) enters the atmosphere through natural processes like volcanic eruptions and respiration, our current atmospheric levels are exaggerated by the regular burning of biological materials like fossil fuels, waste, and trees.[24] Typical atmospheric CO2 levels range between 175 parts per million (ppm) during glacial periods and 250 ppm during non-glacial periods.[25] Currently, CO2 levels are at their highest in over half a million years at about 421 ppm.[26] High levels of atmospheric CO2 are dangerous because CO2 molecules absorb infrared energy and re-release it in all directions, which increases the Earth's overall temperature.[27]

Second, chlorofluorocarbons and halons, and other gases, are released into the atmosphere by human-manufactured chemicals like aerosol

20. PAUL GRIFFIN, CDP, THE CARBON MAJORS DATABASE: CDP CARBON MAJORS REPORT 2017, at 8 (2017), https://cdn.cdp.net/cdp-production/cms/reports/documents/000/002/327/original/Carbon-Majors-Report-2017.pdf.

21. *See* Vitousek, *supra* note 3.

22. *Id.* at 1–2.

23. *Overview of Greenhouse Gases*, U.S. ENV'T PROT. AGENCY (EPA), https://www.epa.gov/ghgemissions/overview-greenhouse-gases (last updated Apr. 13, 2023); *see The Effects of Climate Change*, NAT'L AERONAUTICS & SPACE AGENCY (NASA), https://climate.nasa.gov/effects/ (last visited June 22, 2023).

24. *Overview of Greenhouse Gases*, *supra* note 23.

25. Rebecca Lindsey, *Climate Change: Atmospheric Carbon Dioxide*, NAT'L OCEANIC & ATMOSPHERIC ADMIN.: CLIMATE.GOV (May 12, 2023), https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide.

26. *Understanding Our Planet to Benefit Humankind*, NAT'L AERONAUTICS & SPACE AGENCY (NASA), https://climate.nasa.gov/ [https://perma.cc/295Z-23A3] (last updated June 22, 2023).

27. Lindsey, *supra* note 25.

propellants, refrigeration, and fire suppression devices.[28] Such chemicals are dubbed "ozone-depleting substances" because they destroy ozone molecules when they interact with them.[29] Since ozone molecules concentrated in the Earth's stratosphere act as a "sunscreen" by absorbing harmful solar radiation from penetrating the Earth, their destruction by ozone-depleting substances allows harmful radiation to penetrate the Earth's surface at a higher intensity.[30] One major ozone hole is located above Antarctica,[31] which is melting at an accelerating rate.[32]

Third, power generators, vehicles, and other industrial processes release sulfur dioxide (SO2) and nitrogen oxides (NOX) into the atmosphere.[33] Spread by wind and air, these pollutants mix with water and oxygen in the atmosphere then precipitate back to the Earth's surface as "acid rain."[34] Acid rain contaminates water, increases the pH of oceans, corrodes soil, and is harmful to flora and fauna.[35] Finally, air pollution, whether in the form of smog in cities or smoke in households, contributes to respiratory and cardiovascular diseases and certain cancers in humans.[36] It is estimated that air pollution is associated with 7 million "premature" deaths per year.[37]

Similarly, widespread or large-scale human practices also cause ubiquitous environmental changes.[38] Some examples of widespread human

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28. *Basic Ozone Layer Science*, U.S. ENV'T PROT. AGENCY (EPA), https://www.epa.gov/ozone-layer-protection/basic-ozone-layer-science (last updated Oct. 7, 2021).

29. *Id.*

30. *Id.*

31. *NASA Ozone Watch*, NAT'L AERONAUTICS & SPACE AGENCY (June 20, 2023), https://ozonewatch.gsfc.nasa.gov [https://perma.cc/G3VT-3VWQ]; L. M. Polvani et al., Letter, *Substantial Twentieth-Century Arctic Warming Caused by Ozone-Depleting Substances*, 10 NATURE CLIMATE CHANGE 130 (2020).

32. *Greenland, Antarctica Melting Six Times Faster Than in the 1990s*, NASA JET PROPULSION LAB'Y (Mar. 16, 2020), https://www.jpl.nasa.gov/news/greenland-antarctica-melting-six-times-faster-than-in-the-1990s.

33. *What Is Acid Rain?*, U.S. ENV'T PROT. AGENCY (EPA), https://www.epa.gov/acidrain/what-acid-rain (last updated June 1, 2023).

34. *Id.*

35. *Effects of Acid Rain*, U.S. ENV'T PROT. AGENCY (EPA), https://www.epa.gov/acidrain/effects-acid-rain (last updated June 1, 2023).

36. *Air Pollution*, WORLD HEALTH ORG., https://www.who.int/health-topics/air-pollution (last visited June 22, 2023); Adel Ghorani-Azam et al., *Effects of Air Pollution on Human Health and Practical Measures for Prevention in Iran*, 21 J. RSCH MED. SCIS,, 2016, article no. 65, at 1-2.

37. *Public Health and Environment*, WORLD HEALTH ORG., https://www.who.int/data/gho/data/themes/public-health-and-environment (last visited June 22, 2023).

38. *See* Vitousek, *supra* note 3, at 1–2.

practices include groundwater depletion,[39] over-farming,[40] and overfishing.[41] On the other end of the consumption cycle, an estimated two billion tons of solid waste is produced globally each year, and that number will only increase with population growth and economic expansion.[42]

An example of a large-scale human practice with significant environmental costs is deforestation and the subsequent loss of biodiversity.[43] For example, the Amazon houses an estimated 25% of the world's terrestrial species and accounts for 15% of global photosynthesis.[44] While statistics of the overall loss of the Amazon are difficult to quantify, it is estimated that, since 1970, nearly 20% of the Brazilian Amazon has been destroyed to produce meat, leather, soybeans, wood, and roads.[45] It has also been estimated that, because of deforestation, the Amazon now emits more greenhouse gases than it absorbs[46] and that, based on the sample observed, approximately 95% of the species within the Amazon have been negatively impacted by deforestation, even if to a minor degree.[47]

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39. *See Groundwater Decline and Depletion*, U.S. GEOLOGICAL SURV. (USGS) (June 6, 2018), https://www.usgs.gov/special-topics/water-science-school/science/groundwater-decline-and-depletion.

40. Pasquale Borrelli et al., *Land Use and Climate Change Impacts on Global Soil Erosion by Water (2015-2070)*, 117 PNAS 21994, 21995 (2020); Meetings Coverage, General Assembly, Loss of World's Arable Land Threat to 'Everything We Eat, Drink, Breathe', Speaker Says, as Second Committee Takes Up Sustainable Development, U.N. Press Release GA/EF/3519 (Oct. 14, 2019).

41. Amy McKeever et al., *How Overfishing Threatens the World's Oceans—and Why It Could End in Catastrophe*, NAT'L GEOGRAPHIC (Feb. 7, 2022), https://www.nationalgeographic.com/environment/article/critical-issues-overfishing.

42. *Trends in Solid Waste Management*, WORLD BANK, https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html (last visited June 22, 2023).

43. NAT'L RSCH. COUNCIL, *supra* note 6, at 67–68.

44. Yadvinder Malhi et al., *Climate Change, Deforestation, and the Fate of the Amazon*, 319 SCI. 169, 169 (2008).

45. *Causes of Deforestation: Direct Causes*, NASA EARTH OBSERVATORY (Mar. 30, 2007), https://earthobservatory.nasa.gov/features/Deforestation/deforestation_update3.php; Rhett A. Butler, *Calculating Deforestation Figures for the Amazon*, MONGABAY (Apr. 24, 2018), https://rainforests.mongabay.com/amazon/deforestation_calculations.html.

46. Craig Welch, *First Study of All Amazon Greenhouse Gases Suggests the Damaged Forest Is Now Worsening Climate Change*, NAT'L GEOGRAPHIC (Mar. 11, 2021), https://www.nationalgeographic.com/environment/article/amazon-rainforest-now-appears-to-be-contributing-to-climate-change.

47. Xiao Feng et al., *How Deregulation, Drought and Increasing Fire Impact Amazonian Biodiversity*, 597 NATURE 516, 517 (2021) ("These maps provide conservative estimates of the potential distributions of species . . . . [W]e estimate that . . . up to 93.3–

As these global environmental changes negatively affect the entire ecosystem, one should expect that these changes negatively affect human health as well.[48] The disruption of physical, biological, and ecological systems has been linked to increased levels of respiratory and cardiovascular diseases, increased levels of food and water-borne illnesses and other infectious diseases, premature death, and negative effects on global mental health.[49]

II. A Comparative Analysis of Indigenous and Western Ecology

How did we get into this mess? In this Part, we zoom in on the understated impact of general beliefs and practices on our current environmental crisis. As a case study, we explore the key differences between the Indigenous worldview and the Western worldview with respect to the self and how it relates with nature, practices of use and consumption, and cultural priorities. We suggest that embracing an environmental framework modeled after Indigenous ecology, or beliefs and practices with respect to our relationship with nature, is critical for moving toward a more healthy and sustainable environmental future.

A. Prefaces

Before comparatively analyzing Indigenous and Western ecology, it is important to acknowledge the pitfalls of speaking generally about "Indigenous" and "Western" societies.

First, there is no monolithic Indigenous worldview.[50] It is estimated that "[t]here are 476 million Indigenous people around the world and spread across more than 90 countries. They belong to more than 5,000 different Indigenous [societies] and speak more than 4,000 languages."[51] However, despite their cultural, geographic, and linguistic diversity, there do seem to be some common threads that weave across Indigenous communities.[52] One

95.5% of Amazonian plant and vertebrate species might have been impacted by fires, if only to a minor degree.").

48. *Climate Effects on Health*, CTRS. FOR DISEASE CONTROL & PREVENTION (Apr. 25, 2022), https://www.cdc.gov/climateandhealth/effects/default.htm#print.

49. *Id.*

50. J. Baird Callicott, *Traditional American Indian and Western European Attitudes Toward Nature: An Overview*, 4 ENV'T ETHICS 293, 293–95 (1982).

51. *Indigenous Peoples*, AMNESTY INT'L, https://www.amnesty.org/en/what-we-do/indigenous-peoples/ (last visited June 22, 2023).

52. CALVIN MARTIN, KEEPERS OF THE GAME: INDIAN-ANIMAL RELATIONSHIPS AND THE FUR TRADE 186 (1978).

common thread is a spiritual connection with the environment, other life forms, and nature at large, which we explore in the next section.[53]

The second problem with speaking generally about the Indigenous worldview is that virtually no written records of pre-contact Indigenous peoples exist since Indigenous traditions were passed mainly through a strong oral tradition.[54] Moreover, historical documents, like journal entries, that purported to document Indigenous worldviews were written through European languages and perspectives.[55] Nonetheless, these records are still useful, so long as "disciplined and methodical" ethnographers produce accurate and reliable records.[56]

Additionally, this Comment uses the term "Western" to refer to the United States, Canada, Europe, Australia, and New Zealand, generally.[57] While it is also unnuanced to paint these geographically and culturally distinct regions with a broad brushstroke, they do share a language and an ideological lineage tracing back to Greco-Roman societies, Christianity, and the Enlightenment.[58]

B. Self, Other, and Nature

First, Indigenous and Western worldviews differ with respect to how the individual views oneself in relation to other beings and with nature.

Indigenous ecology begins at the first principle that humans are a part of nature and not separate from it.[59] Paula Gunn Allen, a Laguna Pueblo woman, wrote:

> We are the land. To the best of my understanding, that is the fundamental idea embedded in Native American life . . . . The land is not really the place (separate from ourselves) where we act out the drama of our isolate destinies. It is not a means of survival, a setting for our affairs, a resource on which we draw in order to keep our own act functioning. It is not the ever-present

53. *Id.* at 186–87.

54. Callicott, *supra* note 50, at 294.

55. *Id.* at 294–95.

56. *Id.* at 295.

57. James Kurth, *Western Civilization, Our Tradition*, INTERCOLLEGIATE REV., Fall 2003/Winter 2004, at 5, 5.

58. *Id.*

59. *See* Paula Gunn Allen, *IYANI: It Goes This Way*, *in* THE REMEMBERED EARTH: AN ANTHOLOGY OF CONTEMPORARY NATIVE AMERICAN LITERATURE 191, 191 (Geary Hobson ed., 1979).

> "Other" which supplies us with a sense of "I". It is rather a part of our being, dynamic, significant, real. . . .
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> . . . .
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> . . . It is a matter of fact, one known equably from infancy, remembered and honored at levels of awareness that go beyond consciousness, and that extend long roots deep into primary levels of mind, language, perception and all the basic aspects of being . . . .[60]

This interconnectedness with nature interplays with a second principle, a fundamentally spiritual worldview that "has profound implications for how one chooses to live and interact with others."[61] J. Baird Callicott observed:

> The Ojibwa, the Sioux, and if we may safely generalize, most American Indians, lived in a world which was peopled not only by human persons, but by persons and personalities associated with all natural phenomena. In one's practical dealings in such a world it is necessary to one's well-being and that of one's family and tribe to maintain good social relations not only with proximate human persons, one's immediate tribal neighbors, but also with the nonhuman persons abounding in the immediate environment. . . .
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> . . . [Moreover,] the typical traditional American Indian attitude was to regard all features of the environment as enspirited. These entities possessed a consciousness, reason, and volition, no less intense and complete than a human being's. The Earth itself, the sky, the winds, rocks, streams, trees, insects, birds, and all other animals therefore had personalities and were thus as fully persons as other human beings. . . . We may therefore say that the [American] Indian's social circle, his community, included all the nonhuman natural entities in his locale as well as his fellow clansmen and tribesmen.[62]

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60. *Id.* at 191–92.

61. Annie L. Booth, *We Are the Land: Native American Views of Nature*, *in* NATURE ACROSS CULTURES: VIEWS OF NATURE AND THE ENVIRONMENT IN NON-WESTERN CULTURES 329, 333 (Helaine Selin ed., 2003).

62. Callicott, *supra* note 50, at 305.

With the recognition that humans are but one part of the greater natural community, a third principle follows: self-discipline and respect for all beings. Vine Deloria Jr., Lakota, wrote:

> Respect in the American Indian context . . . involves two attitudes. One attitude is the acceptance of self-discipline by humans and their communities to act responsibly toward other forms of life. The other attitude is to seek to establish communications and covenants with other forms of life on a mutually agreeable basis.[63]

In other words, because we are interconnected with other enspirited life, we should strive to initiate and sustain harmonious relationships with other beings and with nature at large. This involves navigating through the world with care, discipline, and humility.

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By contrast, Western physicalism is the view that everything in the universe is made up of or arises from the physical.[64] Physicalism may be traced back to as early as 465 B.C.E., when ancient Greek philosophers Democritus and Leucippus first postulated that all things in the universe are made up of either atoms or the void.[65] Democritus' atomism eventually developed into modern physics, further establishing a physicalist view of the world that is mechanical and orderly.[66]

Moreover, unlike Indigenous ecology, Western ecology is hierarchical in nature. For example, the ancient Greek philosopher Plato postulated a dualistic universe that consisted of the physical realm and the idealistic realm.[67] The physical realm is the lower world of mortals, where humans are superior to all other beings, and the idealistic realm is the higher world of perfect and eternal forms, which humans have the unique ability to access through our reason.[68] Similarly, Christian metaphysics also posits a

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63. VINE DELORIA, JR., *If You Think About It, You Will See That It Is True*, *in* SPIRIT & REASON: THE VINE DELORIA, JR., READER 40, 51 (Barbara Deloria et al. eds., 1999).

64. Daniel Stoljar, *Physicalism*, STAN. ENCYCLOPEDIA OF PHIL. (Sept. 9, 2009), https://plato.stanford.edu/archives/fall2009/entries/physicalism.

65. Sylvia Berryman, *Democritus*, STAN. ENCYCLOPEDIA OF PHIL. (Jan. 7, 2023), https://plato.stanford.edu/entries/democritus/#2/.

66. *Development of Atomic Theory*, BRITANNICA, https://www.britannica.com/science/atom/The-beginnings-of-modern-atomic-theory (last visited July 31, 2023).

67. *See* Howard Robinson, *Dualism*, STAN. ENCYCLOPEDIA OF PHIL. (Sept. 11, 2020), https://plato.stanford.edu/entries/dualism/.

68. *See* PLATO, *Phaedo*, *in* FIVE DIALOGUES 93 (G. M. A. Grube trans., 2d ed. 2002).

dualistic universe consisting of a physical realm and a spiritual realm, or in other words, heaven, the kingdom of God, and Earth, where man has dominion."[69] Genesis states:

> And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.
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> . . . .
>
> And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.[70]

While some Christian theologians have argued that this passage is not a "license to abuse, spoil, squander or destroy" nature, but rather to steward the Earth "in symbiosis with all creatures," *Genesis* has been scrutinized as "the most important cultural source" for the notion that humans are entitled to mastery over nature.[71] Or, in other words:

> Man is exclusively divine, all other creatures and things occupy lower and generally inconsequential stature; man is given dominion over all creatures and things; he is enjoined to subdue the earth. . . . This environment was created by the man who believes that the cosmos is a pyramid erected to support man on its pinnacle, that reality exists only because man can perceive it, that God is made in the image of man, and that the world consists solely of a dialogue between men.[72]

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69. *Genesis* 1:26–30 (King James); Mike Riches, *One World, Two Realms*, PREACHING TODAY, https://www.preachingtoday.com/sermons/sermons/2012/april/oneworld.html (last visited July 31, 2023).

70. *Id.* at 1:26, 1:28.

71. Matthew Hall, *Do Passages in the Bible Justify Cutting Down Forests?*, CONVERSATION (May 2, 2017, 7:18 AM), https://theconversation.com/do-passages-in-the-bible-justify-cutting-down-forests-76448 (quoting THE ALLIANCE OF RELIGIONS AND CONSERVATION, THE ASSISI DECLARATIONS (1986)).

72. Christopher D. Stone, *Should Trees Have Standing?—Toward Legal Rights for Natural Objects*, 45 S. CAL. L. REV. 450, 493 (1972) (alteration in original) (quoting Ian L. McHarg, *Values, Process and Form*, *in* THE FITNESS OF MAN'S ENVIRONMENT 207, 213-14 (Smithsonian Inst. Press 1968)).

It is evident that Indigenous and Western ecologies began at starkly contrasting beliefs with respect to how the individual relates to other beings and with nature: the former consists of a spiritual egalitarianism, while the latter posits a divinely ordered hierarchy with man at the apex.

C. Use and Consumption

Second, Indigenous and Western worldviews express differing patterns of use and consumption.

For Indigenous peoples, balance is vital.[73] When the individual sees itself as spiritually interconnected with the larger natural community, values like "mutual respect, reciprocity, and caring" follow.[74] Using and consuming resources, then, ought to be done in a way that preserves balance by only taking what one needs and by giving in return.[75] One should also strive to minimize waste.[76] Winona LaDuke, an Ojibwa woman, describes this practice of reciprocity:

> Whether it is wild rice, whether it is fish, whether it is deer or turtles, when you go and take something from the land, you pray before you take it. You offer tobacco, you offer a prayer to that spirit and to the creation of a part of that. You take those things because you have a relationship with all the other parts of the creation. That is why you are allowed to take those things. You take that and you give something back as a reciprocal arrangement, because that is how you maintain your relationship.[77]

The act of hunting exemplifies this principle of balance and reciprocity. For example, there's an old adage about how Plains Indians use all parts of the buffalo—for food, clothing, tools, and medicine—without letting any part go to waste. This adage rings somewhat true for the Lac du Flambeau Band of Lake Superior Chippewa Indians (Lac du Flambeau).[78]

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73. Booth, *supra* note 61, at 332.

74. *Id.* at 331.

75. *Id.* at 332.

76. *See id.*

77. *Id.* at 333 (emphasis omitted) (quoting Winona LaDuke, *Environmentalism, Racism, and the New Age Movement: The Expropriation of Indigenous Cultures*, *in* LEFT GREEN NOTES, Sept./Oct. 1990, at 15-18).

78. *See* Nicholas James Reo & Kyle Powys Whyte, *Hunting and Morality as Elements of Traditional Ecological Knowledge*, 40 HUM. ECOLOGY 15 (2011).

The Lac du Flambeau hunters are taught from an early age to engage in ritual with the deer they are hunting.[79] They traditionally hunt white-tailed deer, which is the meat of choice for both health and cultural reasons.[80] First, the hunter must undertake personal observances as a sign of respect for the hunt, such as only hunting sober.[81] Then, the hunter burns *Semaa* (tobacco) ceremonially.[82] Once the hunter spots the deer during the hunt, the ritual begins with *taagoziwin* (prayerful conversation) and *miigwetchitaagoziwin* (a speech of gratitude for the animal and its spirit).[83] If the deer is particularly stubborn, the hunter might even engage in some *Gaagiizotaagoziwin* (speeches of appeasement).[84] Once caught, the hunter will burn more *Semaa* while harvesting and gutting the deer, all while being mindful about handling the body with care and treating its spirit with respect.[85] The hunter takes what she needs, then gathers all of the unused or unusable parts of the deer, lays it out of plain sight, covers it, and burns more *Semaa* as an offering of thanks and as a respect for the hunt.[86]

Yet another adage seems to ring true here: how you do one thing is how you do everything.

***

Meanwhile, Western practices of use and consumption are guided by different principles, such as the accumulation of private property. British philosopher John Locke, often regarded as the "Father of Liberalism," influenced early American politics and inspired some of the language in the United States Declaration of Independence.[87] In his *Second Treatise of Government*, Locke affirmed the Christian principle that God had given the world, and all creatures within it, for man's "support and comfort."[88] Thus, man is entitled to ownership of anything with which he mixes his labor.[89] Locke wrote:

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79. *Id.* at 20.
80. *Id.* at 18, 22.
81. *Id.* at 20.
82. *See id.*
83. *See id.*
84. *Id.*
85. *Id.*
86. *Id.*
87. NANCY J. HIRSCHMANN, GENDER, CLASS, AND FREEDOM IN MODERN POLITICAL THEORY 79 (2009); CARL L. BECKER, THE DECLARATION OF INDEPENDENCE: A STUDY IN THE HISTORY OF POLITICAL IDEAS 27 (1922).
88. JOHN LOCKE, SECOND TREATISE OF GOVERNMENT 11-12 (2005) (ebook) (1689).
89. *Id.*

> God, who hath given the world to men in common, hath also given them reason to make use of it to the best advantage of life, and convenience. The earth, and all that is therein, is given to men for the support and comfort of their being. . . .
>
> Though the earth, and all inferior creatures, be common to all men, yet every man has a property in his own person: this no body has any right to but himself. The labour of his body, and the work of his hands, we may say, are properly his. Whatsoever then he removes out of the state that nature hath provided, and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property. . . .
>
> . . . And the taking of this or that part, does not depend on the express consent of all the commoners.[90]

Nearly five hundred years later, the theory that capturing a wild animal entitles the hunter to claim it as personal property is still good law in the United States.[91] While Locke also warns against taking too much or creating spoil and waste, one only need look at the practices of industrial livestock production to conclude that this precept of early liberalism has been long forgotten. In 2017, the meat and poultry industry, the largest segment of U.S. agriculture, produced fifty-two billion pounds of meat and forty-eight billion pounds of poultry.[92] Unconscionably, 60% of slaughtered animals are recycled or disposed of[93] and nearly 20% of the meat produced globally is wasted each year.[94]

D. Cultural Priorities

Indigenous and Western worldviews also radically differ with respect to their respective cultural priorities.

It has been shown that land under the stewardship of Indigenous peoples—which is about a quarter of the Earth's land—degrades less

90. *Id.*

91. Pierson v. Post, 3 Cai. 175, 178 (N.Y. Sup. Ct. 1805).

92. *The United States Meat Industry at a Glance,* N. AM. MEAT INST., https://www.meatinstitute.org/index.php?ht=d/sp/i/47465/pid/47465 (last visited June 23, 2023).

93. James McWilliams, *The Deadstock Dilemma: Our Toxic Meat Waste*, ATLANTIC (Aug. 11, 2010), https://www.theatlantic.com/health/archive/2010/08/the-deadstock-dilemma-our-toxic-meat-waste/61191/.

94. *Food Loss and Waste Facts*, U.N. FOOD & AGRIC. ORG., https://www.fao.org/3/i4807e/i4807e.pdf (last visited June 23, 2023).

quickly than land under the stewardship of non-Indigenous peoples.[95] Indigenous communities are considered master conservationists.[96] Their diligent conservation efforts are inspired by at least two sources.

First, Indigenous cultural attitudes and beliefs regarding the spiritual significance of the environment inspires active efforts to manage natural resources, minimize environmental hazards, and maintain biodiversity.[97] Indigenous communities have a "close[] and multifaceted connection to land," as their communities have lived there for "time immemorial."[98]

Second, and most pressing, Indigenous communities are rightfully concerned about the integrity of natural resources and the longevity of their communities.[99] For example, the Standing Rock Indian Nation in North Dakota adamantly protested the construction of an oil and gas pipeline because of the likely possibility that the oil would mar sacred sites and contaminate local water supply—which ultimately did happen.[100]

But Indigenous peoples are also concerned about the bigger picture because Indigenous peoples tend to be the most negatively impacted by environmental changes. M. Alexander Pearl, a Chickasaw Professor of Law, explained:

> These myriad battles across the world between energy companies and indigenous peoples demonstrate the two-pronged nature of this story. First, there is the immediate indigenous concern about protecting their homelands and sacred sites from degradation and disruption. But, second, there is the important overarching concept that the extraction of hydrocarbons furthers the global Climate Crisis, which invariably affects indigenous groups earlier and more significantly than other populations.[101]

In other words, Indigenous peoples are especially vulnerable to becoming "climate refugees" or "environmental migrants" as a result of the climate

95. Annie Sneed, *What Conservation Efforts Can Learn from Indigenous Communities*, SCI. AM. (May 29, 2019), https://www.scientificamerican.com/article/what-conservation-efforts-can-learn-from-indigenous-communities/.

96. *See id.*

97. *See id.*

98. M. Alexander Pearl, *Human Rights, Indigenous Peoples, and the Global Climate Crisis*, 53 WAKE FOREST L. REV. 713, 718 (2018).

99. *Id.* at 727.

100. *Id.* at 724.

101. *Id.* at 727.

crisis.[102] Already forced out of their ancestral lands, Indigenous peoples are more likely to inhabit areas that are vulnerable to environmental changes.[103] Three recent examples of Indigenous climate refugees include Indigenous communities in Louisiana, Alaska, and the Amazon. The Isle de Jean Charles band of the Biloxi-Chitimacha-Choctaw tribe in Louisiana lost 98% of their land due to rising tides near the Gulf of Mexico.[104] The Alaskan Kivalina, who occupy glacial lands, are witnessing the crumbling of their environment as the ice caps melt into the ocean due to rising temperatures.[105] And Indigenous Amazonians are experiencing the degradation of their environment due to deforestation and the loss of biodiversity in the Amazon.[106]

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On the other hand, Western cultural priorities are more geared toward technological innovation and economic expansion, as evident through the progression of the four Industrial Revolutions.

The First Revolution spread throughout Great Britain, Europe, and parts of the United States between the mid-1700s and the mid-1800s.[107] New technology, like the steam engine and the spinning jenny, industrialized the power and textile industries, respectively.[108] Due to the colonial power of Great Britain, this industrial shift rippled throughout the globe.[109] Then, with the Second Industrial Revolution of the mid-1800s, developments in machines, tools, and computers gave rise to the automatic factory.[110] At the same time, laissez-faire economics turned in favor of increased government regulation to address the increasingly complex demands of modern

102. *Climate Change*, U.N. DEP'T OF ECON. & SOC. AFFS.: INDIGENOUS PEOPLES, https://www.un.org/development/desa/indigenouspeoples/climate-change.html (last visited June 23, 2023) ; *Climate Change and Disaster Displacement*, UNHCR: U.N. REFUGEE AGENCY, https://www.unhcr.org/en-us/climate-change-and-disasters.html (last visited June 23, 2023).

103. *Climate Change and Disaster Displacement*, *supra* note 102.

104. Carolyn Van Houten, *The First Official Climate Refugees in the U.S. Race Against Time*, NAT'L GEOGRAPHIC (May 25, 2016), https://www.nationalgeographic.com/science/article/160525-isle-de-jean-charles-louisiana-sinking-climate-change-refugees.

105. Pearl, *supra* note 98, at 722.

106. *Causes of Deforestation: Direct Causes*, *supra* note 45.

107. *The First Industrial Revolution*, BRITANNICA, https://www.britannica.com/event/Industrial-Revolution/The-first-Industrial-Revolution (last visited June 23, 2023).

108. *Id.*

109. *Id.*

110. *The Second Industrial Revolution*, BRITANNICA, https://www.britannica.com/event/Industrial-Revolution/The-first-Industrial-Revolution#ref3504 (last visited June 23, 2023).

society.[111] The Third Industrial Revolution, often coined the "Digital Revolution" or "the Information Era," has already come and passed at the turn of the century with the widespread use of personal computers, mobile devices, and the Internet.[112] Some argue we are currently experiencing the Fourth Industrial Revolution with the convergence of biological and digital systems, as seen in "artificial intelligence, genome editing, augmented reality, . . . and 3-D printing."[113] It is therefore unsurprising that since the 1800s atmospheric CO2 has increased by 48%, positively correlated with the onset of the First Industrial Revolution.[114]

Furthermore, in the West, business and politics are interlinked. For example, U.S. corporations may lobby politicians for votes that align with corporate interests.[115] Even corporations that publicly voice concerns over the climate crisis—e.g., Apple, Amazon, Microsoft, and Disney—nonetheless privately support lobbying efforts to oppose important pro-environment bills in an effort to avoid higher taxes.[116]

As once stated by James W. Frick, former vice president of public relations at the University of Notre Dame: "Don't tell me where your priorities are. Show me where you spend your money and I'll tell you what they are."[117]

III. Law and Personhood

In this Part, we explore the landscape of U.S. environmental policy and where it is deficient. We argue that embracing the doctrine of environmental personhood, or the Rights of Nature movement, is one practical and promising jurisprudential method for driving positive environmental change both domestically and internationally.

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111. *Id.*

112. *Digital Revolution*, TECHOPEDIA, https://www.techopedia.com/definition/23371/digital-revolution (last updated Dec. 12, 2017).

113. *The Fourth Industrial Revolution*, BRITANNICA, https://www.britannica.com/topic/The-Fourth-Industrial-Revolution-2119734 (last visited June 23, 2023).

114. *The Causes of Climate Change*, NASA: GLOB. CLIMATE CHANGE, https://climate.nasa.gov/causes (last visited June 23, 2023).

115. *The Connection Between Corporate Lobbying and Climate Change*, CORP. EXAM'R, Winter 2016, at 10, 10, https://www.iccr.org/sites/default/files/cevol38no6_february2016.pdf.

116. Robinson Meyer, *Big Business Is Bankrolling an Effort to Kill the Democratic Climate Bill*, ATLANTIC (Oct. 1, 2021), https://www.theatlantic.com/science/archive/2021/10/big-companies-are-funding-campaign-kill-climate-bill/620278/.

117. *James W Frick Quotes & Sayings*, SEARCHQUOTE, https://www.searchquotes.com/quotes/author/James_W_Frick/ (last visited Aug. 1, 2023).

A. U.S. Environmental Law

In the United States, a handful of statutes and regulations have been the basis of environmental litigation and administrative proceedings since 1969.[118]

First, the National Environmental Policy Act of 1969 (NEPA),[119] sometimes regarded as the "'Magna Carta' of Federal environmental laws," is a federal statute that "requires Federal agencies to assess the environmental effects of [their] proposed . . . actions prior to making decisions."[120] Further, administered by the Environmental Protection Agency (EPA), NEPA established the Council on Environmental Quality, which advises the President, oversees federal compliance under NEPA, and issues regulations and other guidance.[121] Since the 1980s, NEPA has been the basis of 367 federal lawsuits.[122]

Second, the Clean Air Act of 1970 (CAA)[123] is a federal statute that regulates air emissions nationwide with the objective of reducing and controlling air pollution.[124] Since the 1980s, the CAA has been the basis of 196 federal lawsuits.[125] Similarly, the Clean Water Act of 1972 (CWA)[126] is a federal statute that regulates the quality and pollution of U.S. waters.[127] Since the 1980s, the CWA has been the basis of sixty-five federal lawsuits.[128] The CAA and CWA are both administered by the EPA in coordination with state, local, and tribal governments.[129]

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118. *U.S. Climate Change Litigation*, CLIMATE CHANGE LITIGATION DATABASES, http://climatecasechart.com/us-climate-change-litigation [https://perma.cc/P8UQ-5KDD] (last visited June 23, 2023).

119. 42 U.S.C. §§ 4321-4370.

120. *National Environmental Policy Act*, NEPA.GOV https://ceq.doe.gov/index.html (last visited June 23, 2023).

121. *Council on Environmental Quality*, WHITE HOUSE, https://www.whitehouse.gov/ceq/#:~:text=The%20Council%20on%20Environmental%20Quality,America's%20public%20health%20and%20environment (last visited July 31, 2023).

122. *U.S. Climate Change Litigation*, *supra* note 118.

123. 42 U.S.C. §§ 7401-7671.

124. *Summary of the Clean Air Act*, U.S. ENV'T PROT. AGENCY (EPA), https://www.epa.gov/laws-regulations/summary-clean-air-act (last updated Sept. 12, 2022).

125. *U.S. Climate Change Litigation*, *supra* note 118.

126. 33 U.S.C. §§ 1251-1388.

127. *Summary of the Clean Water Act*, U.S. ENV'T PROT. AGENCY (EPA), https://www.epa.gov/laws-regulations/summary-clean-water-act (July 6, 2022).

128. *U.S. Climate Change Litigation*, *supra* note 118.

129. *Summary of the Clean Air Act*, *supra* note 124.

Third, the Endangered Species Act of 1973 (ESA)[130] is a federal statute that aims to prevent extinction and to recover endangered species.[131] The ESA is administered by the U.S. Fish and Wildlife Service, which monitors terrestrial and freshwater organisms, and the National Marine Fisheries Service, which monitors marine wildlife.[132] Since the 1980s, the ESA and related statutes have been the basis of 201 federal lawsuits.[133]

There are a few other commonly invoked bases of environmental lawsuits. The Freedom of Information Act,[134] which guarantees the right of individuals to request access to certain federal records or information, has been the basis of eighty-eight federal lawsuits.[135] Federal constitutional claims—such as those involving the Commerce Clause and the First, Fifth, and Fourteenth Amendments—have been the basis of 120 federal lawsuits.[136] The public trust doctrine—or the legal theory that certain natural and cultural resources, like lakes and streams, shall be preserved for public use—has been the basis of twenty-eight lawsuits.[137] Miscellaneous state law claims have been the basis of 532 lawsuits.[138] Finally, permits, licenses, insurance, and taxes are other legal mechanisms in place for regulating environmental activities.[139]

Undeniably, the United States has enacted wise and necessary measures for mitigating environmental harms. For example, the EPA reports that the regulations imposed by the CAA will spare hundreds of thousands of lives and that the benefits of the CAA exceed the monetary costs by thirty to one.[140]

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130. 16 U.S.C. §§ 1531-1544.

131. *Endangered Species Act*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/endangered/laws-policies/ (last visited June 23, 2023).

132. *Endangered Species: About Us*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/program/endangered-species/about-us (last visited June 23, 2023).

133. *U.S. Climate Change Litigation*, *supra* note 118.

134. 5 U.S.C. § 552.

135. *U.S. Climate Change Litigation*, *supra* note 118.

136. *Id.*

137. *Id.*

138. *Id.*

139. Paul Tanaka et al., *Environmental Law and Practice in the United States: Overview*, KIRKLAND & ELLIS (May 21, 2021), https://www.kirkland.com/publications/article/2021/05/environmental-law-and-practice-in-the-united-state.

140. *Benefits and Costs of the Clean Air Act 1990-2020, the Second Prospective Study*, U.S. ENV'T PROT. AGENCY (EPA), https://www.epa.gov/clean-air-act-overview/benefits-and-costs-clean-air-act-1990-2020-second-prospective-study (last updated Aug. 10, 2022).

Notwithstanding federal efforts, the harmful effects of environmental change are still steadily increasing.[141] Moreover, measuring the worthiness of environmental policy by means of a cost-benefit analysis perpetuates the same problematic paradigm that got us into this mess.[142]

B. More Is Needed

There are at least three issues with relying on American jurisprudence as is to solve our environmental crisis: the issue of standing, the retroactive and anthropocentric nature of litigation, and the time sensitivity of the environmental crisis.

First, to bring a lawsuit before a federal court, a plaintiff is required to show that she has standing.[143] Standing entails that the plaintiff is suffering from a "concrete and particularized" injury that is "actual or imminent," as opposed to vague and speculative.[144] An injury may be physical or economic, or even "recreational, conservational, and aesthetic."[145] The plaintiff must also show a "causal connection" that is "fairly traceable" between the plaintiff's injury and the defendant's conduct.[146] Finally, the plaintiff must show that the injury is likely to be redressed by a favorable decision in the case.[147] Environmental lawsuits often fail for a lack of standing because a plaintiff cannot sufficiently show that extinct species, polluted rivers, and global warming at large are personally causing the plaintiff a concrete and particularized injury that is redressable.[148] Even if the plaintiff does succeed in establishing standing, she must still also argue the merits of the case.[149]

Additionally, the retroactive and lengthy nature of litigation presupposes that a harm must be imminent or complete in order to recover, which is simply incompatible with the future-looking and time sensitivity of the environmental crisis. In other words, why should we wait for the forest to be burned or for the water to be poisoned before we act? This is like waiting to get sick before taking care of health.

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141. *See supra* Part I.

142. Lisa Heinzerling, *Cost-Nothing Analysis: Environmental Economics in the Age of Trump*, 30 COLO. NAT. RES., ENERGY & ENV'T L. REV. 287 (2019).

143. Marisa Martin & James Landman, *Standing: Who Can Sue to Protect the Environment?*, AM. BAR ASS'N (Oct. 9, 2020), https://perma.cc/CUT3-LMUV.

144. *Id.*

145. *Id.*

146. *Id.*

147. *Id.*

148. *Id.*

149. *Id.*

C. Corporate Personhood

Since as early as the European Middle Ages, courts and colonies have recognized that certain institutions, like churches and universities, are quasi-legal persons that can "hold property, sue and be sued, and enter into contracts in [their] own name."[150] Personhood status eventually applied to corporations, as well—the root "corpus" meaning body in Latin.[151] Since the late 1800s, corporations in the United States have enjoyed many of the same legal rights and obligations as natural persons, where the corporation's board of directors has standing to pursue claims on its behalf in court.[152] Most recently, the U.S. Supreme Court affirmed that corporations enjoy First Amendment rights.[153]

D. Environmental Personhood

If corporations have legal rights, then why not rivers or forests?

Indigenous peoples have believed that environmental entities are owed legal rights for millennia.[154] But the belief was popularized in American jurisprudence by Christopher Stone in his influential essay, *Should Trees Have Standing?—Toward Legal Rights for Natural Objects*.[155] Stone argued that one way to circumvent the problem of standing in environmental litigation was to grant environmental entities personhood status so that conservators could pursue claims on the entity's behalf in court—as is the case for corporations.[156] Moreover, the doctrine of environmental personhood advances the principle that environmental entities are entitled to rights, protection, and relief in-and-of-themselves, not just vis-à-vis the rights of humans.[157]

To illustrate, imagine that Overman Oil Corporation is polluting Blue River. Because Roger Riparian is situated alongside the river and possesses riparian water rights, he may file suit against Overman Oil for harm to himself or his water supply. If the Court determines that Riparian was concretely and particularly injured, the Court might issue an injunction for

150. Margaret M. Blair, *Corporate Personhood and the Corporate Persona*, 2013 U. ILL. L. REV. 785, 788.

151. *Id.* at 788, 794.

152. *Id.* at 798, 803-04.

153. Citizens United v. Fed. Election Comm'n, 558 U.S. 310, 342 (2010) (including the right to donate to political campaigns).

154. *See supra* Part II.

155. Stone, *supra* note 72, at 453.

156. *Id.* at 463-64.

157. *Id.* at 464.

Overman Oil to cease operations or award damages to Riparian. Overman Oil is then entitled to appeal to protect its own interests. In this anthropo-corporate-centric saga, only the human and corporate actors possess legal rights—Roger Riparian and Overman Oil—but not Blue River, which is also harmed by the pollution. An eco-centric saga, on the other hand, would also entitle Blue River, through its conservators, to sue Overman Oil in court for its injuries and to obtain relief.

The problem of standing was the central controversy in the case *Sierra Club v. Morton*.[158] In *Sierra Club*, the Walt Disney Company submitted a successful bid to the U.S. Forest Service to purchase the Mineral King Valley, an undeveloped subalpine glacial valley of "great natural beauty" in the Sequoia National Forest, with plans to build a $35 million complex that included a ski resort, motels, restaurants, pools, parking lots, and other structures to accommodate 14,000 visitors daily.[159] The complex would require the State of California to construct a new twenty-mile highway and a high-voltage power line through the Sequoia National Park.[160] The Sierra Club, an environmental advocacy group, brought suit in federal court to block the development of the ski resort alleging that the construction would violate a host of federal laws and regulations governing the preservation of forests.[161] The district court granted a preliminary injunction against the Walt Disney Company, but the Court of Appeals for the Ninth Circuit reversed on the grounds that the Sierra Club did not have standing to sue—or, in other words, the Sierra Club did not sufficiently demonstrate how it would suffer from personal injuries as a consequence of the ski resort's construction.[162] Injuries to the valley were not considered. The Supreme Court affirmed the judgment of the Ninth Circuit.[163]

Justice William O. Douglas's impactful dissent in *Sierra Club* offered an alternative possibility that echoed Stone's advocacy for environmental personhood.[164] He wrote:

> The critical question of 'standing' would be simplified and also put neatly in focus if we fashioned a federal rule that allowed environmental issues to be litigated before federal agencies or federal courts in the name of the inanimate object

158. 405 U.S. 727 (1972).
159. *Id.* at 728–29.
160. *Id.* at 729.
161. *Id.* at 730.
162. *Id.* at 731.
163. *Id.* at 741.
164. *Id.* (Douglas, J., dissenting).

> about to be despoiled, defaced, or invaded by roads and bulldozers and where injury is the subject of public outrage. Contemporary public concern for protecting nature's ecological equilibrium should lead to the conferral of standing upon environmental objects to sue for their own preservation. This suit would therefore be more properly labeled as Mineral King v. Morton.
>
> Inanimate objects are sometimes parties in litigation. A ship has a legal personality, a fiction found useful for maritime purposes. The corporation sole—a creature of ecclesiastical law—is an acceptable adversary and large fortunes ride on its cases. . . .
>
> So it should be as respects valleys, alpine meadows, rivers, lakes, estuaries, beaches, ridges, groves of trees, swampland, or even air that feels the destructive pressures of modern technology and modern life. The river, for example, is the living symbol of all the life it sustains or nourishes—fish, aquatic insects, water ouzels, otter, fisher, deer, elk, bear, and all other animals, including man, who are dependent on it or who enjoy it for its sight, its sound, or its life. The river as plaintiff speaks for the ecological unit of life that is part of it. Those people who have a meaningful relation to that body of water—whether it be a fisherman, a canoeist, a zoologist, or a logger—must be able to speak for the values which the river represents and which are threatened with destruction.[165]

As Justice Douglas eloquently stated, and aligned with the Indigenous ecological spirit, standing would be a non-issue if environmental entities were granted legal personhood, which would entitle conservators to file lawsuits on their behalf in court—not only for the benefit of the life that the entity sustains but also to protect the entity in-and-of-itself. The doctrine of environmental personhood creates a practical and promising method for better achieving environmental justice, and no significant restructuring of the law is required as courts have recognized the personhood status of non-human entities for centuries.[166]

Moreover, incorporating the doctrine of environmental personhood into the U.S. legal system would be pivotal to transforming our anthropo-

165. *Id.* at 741–43 (Douglas, J., dissenting) (footnotes and citation omitted).

166. *See* Blair, *supra* note 150, at 788.

corporate-centric legal system, as it stands, into an eco-centric one. The plain text of the NEPA, for example, opens with the Congressional declaration of environmental policy, which states:

> The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population. growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances *and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man*, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, *and fulfill the social economic, and other requirements of present and future generations of Americans*.[167]

On the contrary, a statute aligned with the doctrine of environmental personhood or the Rights of Nature movement would include language that recognizes the significance of restoring and maintaining environmental quality not merely for "the welfare and development of man" but also for the welfare and development of *nature at large*. We explore examples of successful environmental personhood cases in the next Part.

Opponents of environmental personhood might raise two objections.

First, an environmental entity cannot communicate its wishes and is not "alive" in the traditional sense of the word. This is a non-issue because corporations share these features and have enjoyed legal rights for centuries.[168] The doctrine of environmental personhood postulates that environmental entities ought to be afforded the same legal privileges as corporations.[169] Thus, conservators or guardians—like the board of directors for a corporation—should also be empowered to look after the entity and advocate on its behalf in court.[170] This would solve the problem of standing because the conservator need only show injury to the entity

167. National Environmental Policy Act of 1969, 42 U.S.C. § 4331(a) (emphasis added).
168. *See* Blair, *supra* note 150, at 788.
169. *Sierra Club*, 405 U.S. at 741–43 (Douglas, J., dissenting).
170. *See id.*

itself, as opposed to the conservator's own concrete and particularized personal injury.[171] Additionally, conservators that are independent from government organizations or businesses are "especially valuable" because such organizations often navigate bureaucratic, economic, and partisan obstacles and conflicts of interest that interfere with their ability to appropriately represent the interests of environmental entities.[172] By contrast, conservators with a stake in the matter—like local communities that interact with the environmental entity regularly or advocacy groups—would likely be more effective conservators.[173]

Second, an opponent of the doctrine of environmental personhood may argue that calculating damages for the environmental entity is problematic as they are too vague and speculative. But the calculation of abstract figures are jurisprudentially commonplace, as determining the monetary value of human "pain and suffering," for example, is routine practice in U.S. courts.[174] Personhood status for an environmental entity would entitle the entity to judicial relief in its own right; the entity might move for an injunction or sue for damages.[175] Stone asks, "Why should the environment be of importance only indirectly, as lost profits to someone else?".[176] Rather, "[w]hy not throw into the balance the *cost to the environment?*"[177] To calculate damages, the conservator would ask the court to consider harms to the entity as well as the life that it sustains—including factors like endangered or extinct species, disrupted ecosystems, and future generations in its calculus.[178] Furthermore, personhood status would entitle the environmental entity to personally claim monetary damages.[179] The conservator could establish a trust, funded by any damages awarded in court, to be used for the benefit and preservation of the entity and to pay legal fees.[180]

E. Successful Personhood Cases

Several environmental personhood cases, sometimes referred to as the Rights of Nature movement, have been successful globally.

171. *See id.*
172. Stone, *supra* note 72, at 472.
173. *See id.*
174. *Id.* at 478.
175. *Id.* at 474.
176. *Id.*
177. *Id.* (emphasis altered).
178. *Id.* at 475–79.
179. *Id.* at 480.
180. *Id.*

First, some countries have recognized environmental personhood generally in their national laws and constitutions. Ecuador, for example, was the first country to recognize the "rights of nature" in chapter 7 of its 2008 constitution.[181] It opens, "Nature, or Pacha Mama, 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."[182] All persons are eligible to act as a legal guardian of Pacha Mama and to raise a legal action in court on her behalf.[183] Moreover, the State has a responsibility to enforce preventative and restrictive measures for Pacha Mama's protection.[184] The constitutional provision has already yielded successful litigation. In 2011, two guardians brought a lawsuit in the Provincial Court of Justice in Loja, Ecuador, on behalf of the Vilcabamba River to halt a highway project.[185] The court ruled in River's favor.[186]

Bolivia also passed a national environmental personhood bill, called *Ley de Derechos de la Madre Tierra* (Law of the Rights of Mother Earth) in 2010.[187] The bill opens, "The present Law has as its objective the recognition of the rights of Mother Earth, as well as the obligations and duties of the Multi-national State and of its Society, to guarantee respect of these rights."[188] The law lays out its objectives, offers a spiritual definition of Mother Earth, and establishes both state and social duties.[189] Bolivia has also been a key international figure in advocating for a Universal Declaration of the Rights of Mother Earth.[190]

Second, other countries have granted legal personhood to specific environmental entities. In Aotearoa New Zealand, the Indigenous Māori

181. CONST. OF THE REPUBLIC OF ECUADOR, Oct. 20, 2008, art. 71, https://pdba.georgetown.edu/Constitutions/Ecuador/english08.html.

182. *Id.*

183. *Id.*

184. *Id.* art. 72.

185. Natalia Greene, *The First Successful Case of the Rights of Nature Implementation in Ecuador*, GLOB. ALL. FOR THE RTS. OF NATURE (GARN) (May 21, 2011), https://www.garn.org/first-ron-case-ecuador/.

186. *Id.*

187. LEY DE DERECHOS DE LA MADRE TIERRA [LAW OF RIGHTS OF MOTHER EARTH] (2010) (Bol.), https://perma.cc/Z78A-XTQH.

188. *Id.* art. 1.

189. *Id.* ch. I, II, IV.

190. Pablo Solón & Comrac Cullinan, *Bolivia: We Must Support a Universal Declaration of the Rights Of Mother Earth*, BOL. RISING (Dec. 30, 2009), http://boliviarising.blogspot.com/2009/12/bolivia-we-must-support-universal.html.

successfully negotiated with the New Zealand Parliament to grant the Whanganui River legal personhood in 2012—the first-ever recognized environmental legal person.[191] Aotearoa New Zealand, pioneered by the advocacy of Indigenous Māori peoples, has since recognized two other environmental entities as legal persons: *Tu Urewera*, a former national park was declared a self-governing legal entity in 2014,[192] and Mount Taranaki in 2017.[193] In India, the High Court in the northern Indian State of Uttarakhand granted the Ganges and Yamuna rivers, sacred Hindu sites, legal personhood in 2017 in an effort to combat pollution.[194] In Colombia, the Colombia Constitutional Court granted the Atrato River legal rights in 2016[195] and the Supreme Court of Colombia granted the Amazon River Ecosystem legal rights in 2018.[196] In Canada, the county municipality of Minganie, Quebec, and the Indigenous Innu Council of Ekuanitshit resolved to grant legal personhood to Magpie River in 2021.[197]

In the United States, the Rights of Nature movement has generated mixed results. On one hand, the Community Environmental Legal Defense Fund (CELDF) has assisted is establishing the legal personhood of the Tamaqua Borough, Pennsylvania, in 2006[198] and legal rights for all the

191. *Agreement Entitles Whanganui River to Legal Identity*, N.Z. HERALD (Aug. 30, 2012), https://www.nzherald.co.nz/kahu/agreement-entitles-whanganui-river-to-legal-identity/VLED2SURDQGJHFREHDBHQZDNHM/?c_id=1&objectid=10830586.

192. Jacinta Ruru, *Tūhoe-Crown Settlement — Te Urewera Act 2014*, MĀORI L. REV. (Oct. 2014), https://maorilawreview.co.nz/2014/10/tuhoe-crown-settlement-te-urewera-act-2014/.

193. Blanton Smith, *Mt. Taranaki to Become Legal Personality Under Agreement Between Iwi and Government*, TARANAKI DAILY NEWS (Dec. 21, 2017, 5:51 PM), https://www.stuff.co.nz/taranaki-daily-news/news/100085814/mt-taranaki-to-become-legal-personality-under-agreement-between-iwi-and-government.

194. Michael Safi, *Ganges and Yamuna Rivers Granted Same Legal Rights as Human Beings*, GUARDIAN (Mar. 21, 2017), https://www.theguardian.com/world/2017/mar/21/ganges-and-yamuna-rivers-granted-same-legal-rights-as-human-beings.

195. Press Release, Cmty. Env't Legal Def. Fund (CELDF), Colombia Constitutional Court Finds Atrato River Possesses Rights (May 4, 2017), https://celdf.org/2017/05/press-release-colombia-constitutional-court-finds-atrato-river-possesses-rights/.

196. Nicholas Bryner, *Colombian Supreme Court Recognizes Rights of the Amazon River Ecosystem*, INT'L UNION FOR CONSERVATION OF NATURE (IUCN) (Apr. 20, 2018), https://www.iucn.org/news/world-commission-environmental-law/201804/colombian-supreme-court-recognizes-rights-amazon-river-ecosystem.

197. Elizabeth Raymer, *Quebec's Magpie River Is Granted Personhood*, CANADIAN LAWYER (Mar. 9, 2021) https://www.canadianlawyermag.com/practice-areas/esg/quebecs-magpie-river-is-granted-personhood/353752.

198. Kate Beale, *Rights for Nature: In PA's Coal Region, A Radical Approach to Conservation Takes Root*, HUFFPOST (Feb. 2, 2009), https://www.huffpost.com/entry/rights-

"natural assets" of Shapleigh, Maine, in 2008.[199] The Yurok Tribe of northern California declared the personhood of the Klamath River in 2019.[200]

On the other hand, other efforts have not been successful. U.S. federal courts have struck down attempts by CELDF to establish personhood for the ecosystem in Little Mahoning Creek, Pennsylvania, in 2014[201] and Lake Erie, Ohio, in 2019.[202] Another environmental advocacy group attempted to establish environmental personhood rights for the Colorado River in 2019, but the local federal court dismissed the case for lack of standing.[203]

IV. Expanding the Doctrine

A. A Call for International Customary Law

Just as the environmental crisis is international, so, too, must be the commitment to solving it. As of 2023, over fifty multi-lateral instruments are deposited with the United Nations on the subject of the environment.[204] Most notably, at the time of writing this Comment, is the 2015 Paris Agreement, of which 195 states are parties.[205] Moreover, the United Nations Environment Programme declared 2022 to be a "seminal year for the environment" due to the large number of high-level conferences held

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for-nature-in-pas_b_154842.

199. Rebecca Tuhus-Dubrow, *Sued By the Forest*, BOSTON GLOBE, July 19, 2009, at C1, https://www.corpwatch.org/article/us-sued-forest.

200. *Tribe Gives Personhood To Klamath River*, NPR (Sept. 29, 2019), https://www.npr.org/2019/09/29/765480451/tribe-gives-personhood-to-klamath-river.

201. Caroline McDonough, Comment, *Will the River Ever Get a Chance To Speak? Standing Up For the Legal Rights Of Nature*, 31 VILL. ENVTL. L.J. 143 (2019), https://digitalcommons.law.villanova.edu/cgi/viewcontent.cgi?article=1431&context=elj

202. Nicole Pallotta, *Federal Judge Strikes Down 'Lake Erie Bill of Rights'*, ANIMAL LEGAL DEF. FUND (May 4, 2020), https://aldf.org/article/federal-judge-strikes-down-lake-erie-bill-of-rights/.

203. *Colorado River Ecosystem v. State of Colorado*, CLIMATE CHANGE LITIG. DATABASES, http://climatecasechart.com/case/colorado-river-ecosystem-v-state-colorado/#:~:text=On%20December%204%2C%202017%2C%20the,of%20the%20State%20of%20Colorado (last visited Aug. 1, 2023).

204. *Multilateral Treaties Deposited with the Secretary-General*, U.N. TREATY COLLECTION, ch. XXVII(1)-(18), https://treaties.un.org/pages/Treaties.aspx?id=27&subid=A&clang=_en (last visited June 23, 2023).

205. Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104, 3156 U.N.T.S. 3; *see Paris Agreement*, U.N. TREATY COLLECTION, https://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XXVII/XXVII-7-d.en.pdf (last visited June 23, 2023).

worldwide, like the UN Climate Change Conference (COP27) in Sharm El-Sheikh, Egypt.[206]

Beyond treaties, we argue that the doctrine of environmental personhood, or the Rights of Nature movement, ought to also rise to the level of customary international law. Customary international law is one of the three recognized primary sources of international law, alongside treaties and general principles.[207] A doctrine rises to the level of customary international law when the following two elements are met: (1) a significant number of states consistently and uniformly *practice* the doctrine and (2) a significant number of states *believe* that practicing the doctrine is *legally compelled*.[208] Once established, customary international law becomes binding on all states unless a state persistently objected to the customary international law from its inception.[209] For example, if a significant number of states consistently and uniformly practice granting environmental entities with legal rights or personhood—whether through their constitutions or national laws or through recognizing specific landmarks—and if the states believe that granting legal rights to environmental entities is legally compelled, the Rights of Nature movement would rise to the level of customary international law, which would become binding on all states sans any persistent objectors.

B. Other Entities

The Rights of Nature movement typically advocates for the legal rights of rivers, forests, plants and animals, or nature at-large. But there are also several adjacent movements seeking to establish and enforce the rights of other entities. For example, some have called for the personhood status of celestial bodies, like the Moon, to protect such bodies from harm caused by the commercial space industry.[210] Further, the Fungi Foundation has proposed that the Fungi kingdom be granted legal rights and protections in

206. *2022: Emergency Mode for the Environment*, UNITED NATIONS ENV'T PROGRAMME (Jan. 6, 2022), https://www.unep.org/news-and-stories/story/2022-emergency-mode-environment.

207. *See* Statute of the International Court of Justice, art. 38, June 26, 1945, 59 Stat. 1055, 33 U.N.T.S. 993.

208. *See Customary International Law*, CORNELL L. SCH.: LEGAL INFO. INST., https://www.law.cornell.edu/wex/customary_international_law (last visited June 23, 2023).

209. *See* Joel P. Trachtman, *Persistent Objectors, Cooperation, and the Utility of Customary International Law*, 21 DUKE J. COMPAR. & INT'L L. 221, 221 (2010).

210. William B. Altabef, *The Legal Man in the Moon: Exploring Environmental Personhood for Celestial Bodies*, 21 CHI. J. INT'L L. 476, 476 (2021).

Chile's new Constitution.[211] The Ammatoan peoples in Indonesia believe in the personhood of air.[212] The possibilities for creativity in the Rights of Nature movement are endless.

V. Conclusion

In sum, our planet is currently facing a global environmental crisis—caused in large part by human activities, like population growth, technological innovation, economic expansion, and general beliefs and practices. Just as the environmental crisis is international, so, too, must be the commitment to solving it. Throughout this Comment, we have suggested that embracing an environmental framework modeled after Indigenous beliefs and practices with respect to our relationship with nature—such as a sense of interconnectedness with nature; values like balance and reciprocity; and collective conservation—are critical for moving toward a more healthy and sustainable environmental future. The doctrine of environmental personhood, or the Rights of Nature movement, is one practical and promising jurisprudential method for driving positive environmental changes, domestically and internationally. As the Rights of Nature movement is arising globally in a handful of countries, the hope is that the doctrine will rise to the level of customary international law, which would be binding on all states.

Only together may we reverse the global environmental crisis. The future of our planet depends on it.

211. Press Release, Fungi Found., Fungi Foundation Proposes the Recognition and Management of the Funga of Chile in the New Constitution (Feb. 3, 2022), https://assets.website-files.com/621ccb89bd94da64b585efcd/626fd7a6d7e73b3a562f48e4_Press-release-CC-FUNGA-2-feb-2022.docx.pdf.

212. Samsul Maarif, *The Personhood of Air: The Ammatoans' Indigenous Perspective*, *in* THE BLOOMSBURY HANDBOOK OF RELIGION AND NATURE: THE ELEMENTS 81 (Laura Hobgood & Whitney Bauman eds., 2018), https://www.researchgate.net/publication/332622678_The_Personhood_of_Air_The_Ammatoans'_indigenous_Perspective.