

Wasting the Planet: What a Storied Doctrine of Property Brings to Bear on Environmental Law and Climate Change

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* J.D. 2012, Yale Law School. Law clerk to the Honorable F. Dennis Saylor IV on the United States District Court for the District of Massachusetts. For valuable discussion and thoughtful comments on earlier drafts, the author is grateful to Douglas Kysar and Gerald Torres. The author would also like to thank Alek Wipperman and the editing team at the Journal of Environmental Law & Litigation for their diligent work. Any errors are the author's alone.

I INTRODUCTION

From the time of the Roman emperor Justinian in the sixth century, when usufructuary rights were constrained by a prohibition on “poison[ing] the atmosphere,”¹ understanding the limits posed by our use of the natural environment has been a critical component of the regulation of our social life. Now, moving into the twenty-first century, climate change poses possibly the largest environmental policy challenge in human history. The debate concerning this complicated and novel issue has been hotly contested, but largely fruitless, since the initial formal acknowledgment of the climate problem at Rio in 1992.²

In the United States, the climate policy debate has been an extraordinarily unproductive partisan affair, despite the enormous implications for the health of the planet and future generations of human beings.³ Political leaders cannot even reach consensus on the existence of the climate change threat,⁴ let alone agree on who ought to have jurisdictional control or which tool we ought to use to address the problem. Much of the discussion in recent years has focused on the stated goal of “sustainable development” among the majority of those who have accepted the prevailing science.⁵

¹ THE DIGEST OF JUSTINIAN, Vol. 2, Book VII, 10 (CHARLES HENRY MONRO, trans., Cambridge 1909). The original Latin reads, “aut caelum corrumpant agri” literally translating to “corrupt the air of the farm.” *Id.*

² See United Nations Conference on Environment and Development: Framework Convention on Climate Change, May 9, 1992, 31 I.L.M. 849, available at unfccc.int/resource/docs/convkp/conveng.pdf (imposing international cooperative obligations on the signatory parties in response to climate change) [hereinafter United Nations].

³ See Riley E. Dunlap & Aaron M. McCright, *A Widening Gap: Republican and Democratic Views on Climate Change*, ENVIRONMENT (Sept. 2008), <http://www.environmentmagazine.org/Archives/Back%20Issues/September-October%202008/dunlap-full.html>.

⁴ See Sahil Kapur, *GOP to Investigate ‘Scientific Fraud’ of Global Warming: Report*, THE RAW STORY (Nov. 2010), <http://www.rawstory.com/rs/2010/11/gop-investigate-scientific-fraud-global-warming-report/> (reporting that “Ninety-seven percent of climate scientists—and just about every accredited international scientific institution in the world—unequivocally agree that global warming is occurring and is fueled by human activity,” but that the GOP-controlled house of representatives will hold hearings probing the “scientific fraud” of global warming).

⁵ United Nations, *supra* note 2, at 5.

Unfortunately, “sustainability” as a broad-based policy standard or legal doctrine has no widely accepted definition.⁶ Most perceive it as a relatively modern concept, dating it to the oft-cited United Nations General Assembly Resolution of 1987.⁷ That definition’s vagueness and modernity has invited constant criticism and reworking from various perspectives.⁸ This article will use the legal lens of the waste doctrine to illuminate the differences and inform the choice between two prominent conceptions of sustainability—referred to in the discipline as “weak” sustainability and “strong” sustainability.

The goal of this article is to provide a new framework for analyzing sustainability, and climate policy in general, through the use of an old framework: the property law waste doctrine. Although numerous scholars have scrutinized the legal implications of climate change in tort, especially public nuisance, none yet have attempted to ground a legal obligation of sustainability in the traditional property law concept of waste. Premising the climate change policy decision on an old, non-contentious doctrine will perhaps cut through the partisan bickering surrounding the policy debate and the use of tort law in the climate change context.⁹

The doctrine of waste in Anglo-American property law has long been a vehicle for those with an interest in the future to restrict resource-depleting activities in the present,¹⁰ serving as the manifestation of sustainability as a concrete legal obligation. Put

⁶ See W. Kip Viscusi, *Rational Discounting for Regulatory Analysis*, 74 U. CHI. L. REV. 209, 236 (claiming sustainability is an “ill-defined environmentalist battle cry”). Admittedly “sustained yield” standards have been promulgated in the regulation of very specific industries, for example forestry on Bureau of Land Management lands in the Multiple Use-Sustained Yield Act of 1960, but such standards have little or no application beyond the targeted resource. Multiple Use-Sustainable Yield Act of 1960, 16 U.S.C.A. §§ 528–31.

⁷ G.A. Res. 42/187, ¶ 2, U.N. Doc. A/RES/42/187 (Dec. 11, 1987) (“meeting the needs of the present without compromising the ability of future generations to meet their own needs”).

⁸ See Andrew D. Basiago, *Methods of Defining ‘Sustainability,’* 3 SUSTAINABLE DEV. 109, 111 (1995) (noting that varying definitions of sustainability have evolved to suit various disciplines, such as biology, economics, sociology, urban planning, and ethics); see, e.g., DAVID A. MUNRO ET. AL., CARING FOR THE EARTH: A STRATEGY FOR SUSTAINABLE LIVING, 10 (1991) (defining sustainability as “improving the quality of human life while living within the carrying capacity of supporting eco-systems”).

⁹ Cf. Eduardo M. Peñalver, *Acts of God or Toxic Torts? Applying Tort Principles to the Problem of Climate Change*, 38 NAT. RESOURCES J. 563 (1998) (arguing that an analysis of global warming based on the model of tort liability can contribute to the policy debate).

¹⁰ RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 73 (6th ed. 2003).

another way, the doctrine of waste protects future interest holders from detrimental acts of present interest holders. Specifically, the doctrine of waste governs the competing interests of life tenants and remaindermen, attempting to incentivize the life tenant to not exploit the natural resources exclusively for his own present benefit and leave the future interest worthless.¹¹ This core concept should help to determine the nature of the current generation's obligations as holder of the present interest in the earth's resources.

Part II will survey the discourse concerning equitable obligations to future generations in moral philosophy as it interacts with the waste doctrine and contemporary notions of sustainability.

Part III will examine in depth the doctrine of waste, analyzing its roots and establishing its relevant connection to the current environmental crisis. The doctrine of waste has a long and rich history in the common law systems of the United States and England.¹² Studying the birth and evolution of the doctrine will help shed light on how its core purpose aligns with sustainability as an obligation to future generations.

Part IV will connect the historical with the contemporary, aligning the tests applied by common law courts in the United States and England hundreds of years ago with the competing approaches to sustainability that could provide the basis for policy in the near future.

Part V will bring the final piece of analysis by drawing on the judicial determination of appropriate remedy in the waste context to provide unbiased and reasoned guidance for decision-making of policymakers confronting the climate change problem. This Part will suggest how trends in the former can help to break the partisan gridlock currently holding up the latter, providing a useful practical application of the theories espoused herein.

II

INTERGENERATIONAL EQUITY

The underlying moral philosophy concerning intergenerational resource allocation provides the ethical foundation for both the legal obligations of the waste doctrine and modern sustainability theories.¹³

¹¹ *Id.*

¹² See generally, Jedediah Purdy, *The American Transformation of Waste Doctrine: A Pluralist Interpretation*, 91 CORNELL L. REV. 653 (2005–2006).

¹³ See Maite Cabeza Gutiérrez, *The Concept of Weak Sustainability*, 17 ECOLOGICAL ECON. 147, 150 (1996) (noting that “the concept of sustainability arose from a much

The philosophical discussion concerning intergenerational equity has existed for literally thousands of years, preceding by many generations the development of the waste doctrine and any notion of sustainability.

A. Sustainability as a Problem of Equity

The starting point for modern policy formation must be the *ethical* roots of sustainability, which establish obligations toward future generations and presuppose some type of intergenerational equity.¹⁴ At the core of the policy debate is a theoretical disagreement over the extent, and perhaps even the existence, of intergenerational obligations.

Bald economic conceptions of sustainability, based on the growth theory, express intergenerational equity as nothing more than a constant stream of consumption per capita for an infinite amount of time.¹⁵ Perhaps the founding father of this line of thinking, Robert Solow, advanced a model that was premised on finding an intertemporally efficient allocation of environmental resources through price corrections based on individual preference values.¹⁶ This view acknowledges some obligation not to deplete total capital stock, but makes no generation accountable for the depletion of specific resources and entitles no future generation to those resources. The issue is less about equity and more about best business practices, ensuring a constant stream of non-declining returns.

Some economists have strayed from this standard position and argued that sustainability is more a matter of ethical, rather than fiscal, obligations. These critics assert that the obligation to act sustainably does indeed flow from rights of future generations as well

broader concern about the conflicts between economic activity and the environment, with special emphasis on inter- and intra-generational equity.”); *see also* EDITH BROWN WEISS, IN FAIRNESS TO FUTURE GENERATIONS 21 (1989) (suggesting that each generation is both a custodian and user of common planetary resources, and flowing from that custodial role are certain moral obligations that can translate into legally enforceable norms).

¹⁴ Konrad Ott, *The Case for Strong Sustainability*, in GREIFSWALD’S ENVIRONMENTAL ETHICS at 59, 60 (Konrad Ott & Philipp Pratap Thapa eds., 2003).

¹⁵ Gutés, *supra* note 13, at 149.

¹⁶ *See* Robert Solow, *Intergenerational Equity and Exhaustible Resources*, REV. ECON. STUD. 29–46 (1974); Robert Solow, *On the Intergenerational Allocation of Natural Resources*, 88 SCANDINAVIAN J. ECON. 141 (1986).

as from sound economic practice.¹⁷ Sustainability cannot simply be a matter of economic efficiency. Because sustainable development seeks to ensure that future generations are at least as well off, on a welfare basis, as current generations, it is, even in economic terms, a matter of intergenerational equity.¹⁸ Advocates of this position view sustainability policy as a form of intergenerational social contract.¹⁹

The idea that intergenerational resource allocation is a question of morality, rather than economic efficiency, can be traced to the teachings of the world's major religions.²⁰ In the Judeo-Christian tradition, according to Genesis, "God gave the earth to [H]is people and their offspring as an everlasting possession, to be cared for and passed on to each generation."²¹ Edith Brown Weiss argues that this passage is understood by Christian and Jewish morality as an obligation on each generation not to use more than necessary and to pass the earth on to the next generation in equal or better condition.²² Though some biblical scholars have cited practice to contest this interpretation,²³ Weiss's reading is textually sound and so should warrant consideration in the larger debate over the existence of a universal moral principle of intergenerational equity.

Furthermore, under Islamic law, the earth is considered "ni'amah" (God's bounty), and is to be held in trust for future generations and Allah.²⁴ Indeed, the Qur'an repeatedly preaches intergenerational equity in natural resource use, and the Prophet Muhammad is believed to have encouraged sustainable use of scarce fertile lands as well as active management of unused parcels.²⁵ Edith Brown Weiss's retelling of Islamic teaching even more closely echoes the principles

¹⁷ See, e.g., Richard Howarth & Richard Norgaard, R.B., *Intergenerational Resource Rights, Efficiency and Social Optimality*, 66 LAND ECON. 1 (1990).

¹⁸ R. KERRY TURNER, SPECULATIONS ON WEAK AND STRONG SUSTAINABILITY 6 (1992).

¹⁹ *Id.*

²⁰ See WEISS, *supra* note 13, at 18–21.

²¹ *Id.* at 19 (citing *Genesis* 1:1–31, 17:7–8).

²² *Id.* at 19.

²³ See Paul A. Barresi, *Beyond Fairness to Future Generations: An Intragenerational Alternative to Intergenerational Equity in the International Environmental Arena*, 11 TUL. ENVTL. L.J. 59, 65–66 (1997) (citing Lynn White, Jr., *The Historical Roots of Our Ecological Crisis*, 155 SCI. 1203 (1967) (contending that the relationship of the Judeo-Christian tradition to the environment has been antipathetic at best, and hostile at worst, both in theory and in practice; therefore, Weiss has misinterpreted the cited Biblical passage by reading it out of context with the implicated religious traditions)).

²⁴ See SIRAJ SAIT & HILARY LIM, LAND, LAW & ISLAM 25 (2006).

²⁵ *Id.*

of sustainability in the doctrine of waste; the present generation is entitled to the use of earth's resources to meet its needs, but must not prejudice the ability of future generations to use it to meet their needs.²⁶

African tribal customs also operated much like the later developed doctrine of waste, often treating the members of the present generation as mere tenants on the land, with obligations to both future and past generations.²⁷ The oft-cited nontheistic religions of Asia have for centuries invoked related principles, such as respect for the natural world and the needs of future generations. It has even been argued that intergenerational equity stands as a universal concept that bridges the philosophical gap between individualism in Western religions and traditions and communitarianism in their Eastern counterparts.²⁸ Regardless of whether or not this lofty claim of universality holds fully true, there can be no doubt that some semblance of regard for future generations exists at the core of the moral teachings of a preponderance of the world's major religions.

Others still have pointed to an even more ancient source of intergenerational equity—biology. Biology provides a basis for the obligation from one generation of a species to the next because of the evolutionary relationship between those groups. The contention is that the human brain is hardwired with respect to preservation of the species, particularly of close family lineage, and people have no choice but to care about future generations; it is in our nature. This natural inclination results from the Darwinian dynamic, which, while often misconstrued as a struggle for mere existence, is really a struggle for reproductive success. In this struggle, each subgroup of the human race strives to prolong the continued existence of particular genes.²⁹ Actions taken in concern for future generations then become an essential part of success in natural selection. This biological conception of such obligations has the advantage of appealing to the very essence of our being and avoiding any taint from affiliation with a particular religious tenet or attitude towards nature. The challenge of relying on this reasoning is substantial. Primarily, there is the

²⁶ WEISS, *supra* note 13, at 18.

²⁷ *Id.* at 20.

²⁸ See Richard P. Hiskes, *The Right to a Green Future: Human Rights, Environmentalism, and Intergenerational Justice*, 27 HUM. RTS. Q. 1346, 1359–61 (2005).

²⁹ Barresi, *supra* note 23, at 69–70.

necessary premise that moral obligations flow from biological inclinations rather than an attempt to combat or mitigate such instincts. Accepting this controversial premise, and taking it to its logical conclusion, leads to some very uneasy results. Take, for example, the situation of overpopulation. Under this biological moral reasoning, not only would it be acceptable for one subgroup to eliminate the offspring of another in the interest of long-term preservation; it would be morally *required* for them to do so. Because dealing with this difficult issue is beyond the scope of this article, it is important to simply note that our natural inclination supports the positive moral theory advanced by the aforementioned religions and the subsequently referenced philosophers; whether the natural inclination alone carries moral weight need not be decided here.

There have also existed, for quite some time, writings that rely on philosophical reasoning, rather than biology or religion, to support the proposition that intergenerational moral obligations exist. In John Locke's *The Second Treatise of Government*, he reasoned that when a man labors to extract common resources, labor is the property of the laborer and so the laborer alone is entitled to its fruits; however, he wrote, because he has taken from the commons, this principle applies only where at least there is *enough* (quantity), and *as good* (quality), left for others (presumably to use in the future).³⁰ Locke's approach to shared resource use has exactly the intergenerational backstop argued for in this work. The reasoning is sound; if a resource is meant to be shared and used by each who is entitled to some, it should not be morally permissible for one actor (a generation in this case) to take so much as to deprive the others of the same resource in terms of quantity and quality. No one generation's entitlement trumps the other. This reasoning closely parallels Social Contract Theory, which was echoed by Bruce Ackerman when he helped to rekindle philosophical discussion of intergenerational equity in the 1970s.³¹

³⁰ JOHN LOCKE, *THE SECOND TREATISE OF GOVERNMENT* 27 (J.W. Gough ed., 3d ed. 1966).

It being by him removed from the common state nature hath placed it in, it hath by this labour something annexed to it, that excludes the common right of other men: for this labour being the unquestionable property of the labourer, no man but he can have a right to what that is once joined to, at least where there is enough, and as good, left in common for others.

Id.

³¹ Scholars attribute the resurgence of academic discourse concerning intergenerational equity to chapters in two influential works around the 1970s: BRUCE A. ACKERMAN, *SOCIAL JUSTICE IN THE LIBERAL STATE* 107–221, 203 (1980) (Part II entitled “Justice

Ackerman wrote “all citizens are at least as good as one another regardless of their date of birth.”³² If one accepts this rather uncontroversial premise, it follows that no generation has rights superior to others, past or future, and the reasoning above concerning each entitlement holds. A few years prior to Ackerman’s work, John Rawls propounded a similar theory of intergenerational justice based on capital accumulation. Rawls contended that no generation should be placed in a worse position than the preceding generation. He saw this principle as involving the maintenance and preservation of both specific cultural resources and undefined “capital.” He wrote that “[e]ach generation must not only preserve the gains of culture and civilization, and maintain intact those just institutions that they have established, but it must also put aside in each period of time a suitable amount of real capital accumulation.”³³ These conceptions of intergenerational equity fit neatly with the aforementioned biblical and biological arguments, as well as with the existence of a legal doctrine that recognizes concrete obligations to future generations.

B. Intergenerational Rights and Duties

As the discussion above makes clear, operationalizing the concept of intergenerational equity requires relying on the existence of some duties, or obligations, and rights. The duties owed by each generation to the next are what sustainability theory seeks to define, often through the use of economic models. In simple terms, the obligations on the current generation are most commonly summarized as: (1) a duty to pass on the earth and its natural resources to the next generation in the same or equivalent condition as it was when that generation first received it and (2) a duty to repair any damage caused by a failure of any previous generation to do the same.³⁴ These obligations would fall on each successive generation, in turn, as a class or group rather than on particular individuals.

If the present generation has the above-described duties, corresponding rights may vest in future generations. The most elementary of such rights is the right to demand that the present

Over Time”) and J. RAWLS, A THEORY OF JUSTICE 284–93 (1971) (chapter entitled “The Problem of Justice Between Generations”).

³² ACKERMAN, *supra* note 31.

³³ RAWLS, *supra* note 31, at 285.

³⁴ See WEISS, *supra* note 13, at 23–26; *see also* Barresi, *supra* note 23.

generation use the earth and its resources sustainably;³⁵ or, couching the right not in terms of the claim against persons but in terms of the property or the environment itself, a right to inherit the earth and natural resources in a state comparable to the previous generation.³⁶ Regardless of the precise conception, the mere contention that a right exists raises several difficult questions. The logically first query is whether this right necessarily flows only from the existence of a corresponding obligation. If not, there is no reason to discuss the difficulties of to whom precisely the right attaches. A conception that avoids such a simplistic logical out instead argues that the rights arise out of a contract between generations, presumably providing adequate consideration to the present for carrying out the aforementioned obligations.³⁷

One need not delve into the difficulties of intergenerational contract law to find the conclusion that duties must be accompanied by rights. In the early twentieth century, the esteemed jurist Wesley Newcomb Hohfeld succinctly reasoned that in order to ascribe a “definite and appropriate meaning” to an asserted right, a “correlative ‘duty’” must exist.³⁸ Conversely, this logic suggests that without the actionable claim of rights, duties are hollowed out to the point of moral irrelevance. Put another way, if no one has a right to demand some specific thing (a “claim” to it), no one has a real obligation to provide that thing.³⁹ In the intergenerational context, it is thus argued that no obligations exist because justice intrinsically requires this type of reciprocity with other individuals, and the whole idea of having reciprocal relations with persons who do not yet exist is illogical.⁴⁰ There are two ways to dispel this flawed conclusion. The first is to dispose of the notion that obligations or duties cannot exist without corresponding rights. Second, even if one cannot be persuaded by the first premise, the presumption that rights attach only to individuals can be soundly rejected.

³⁵ Barresi, *supra* note 23, at 77–78.

³⁶ See, e.g., Hiskes, *supra* note 28. For a comprehensive list of rights see the Cousteau Society’s proposed *Bill of Rights for Future Generations*, which gathered more than 1.5 million signatures worldwide. (cited in Edith Brown Weiss, *A Reply to Barresi’s “Beyond Fairness to Future Generations,”* 11 TUL. ENVTL. L.J. 89, 97 (1997)).

³⁷ WEISS, *supra* note 13, at 17, 21, 24–25, 47, 95.

³⁸ WESLEY NEWCOMB HOHFELD, *FUNDAMENTAL LEGAL CONCEPTIONS AS APPLIED IN JUDICIAL REASONING AND OTHER LEGAL ESSAYS* 38 (1923).

³⁹ See *id.*

⁴⁰ Terence Ball, *The Incoherence of Intergenerational Justice*, 28 INQUIRY 321 (1985).

Obligations without reciprocal rights have been part of our social construct for hundreds, if not thousands, of years. John Austin identified a class of absolute duties, which prescribe actions toward parties who are not determinate persons, such as members generally of society and of humankind at large; he envisioned no correlative rights attaching to these obligations.⁴¹ This is a perfectly logical way to describe the type of obligation that exists between generations, where the duty is also to indeterminate persons. The problem persists, however, with regards to where the responsibility, or even the power, to enforce these obligations lies. Traditionally the answer has been with the state—specifically the liability and property rules of the legal system.⁴² Without a legal rule protecting their interests, future generations would fall victim to the flawed decision principle of “might makes right,”⁴³ as present generations are necessarily stronger and hence their interests would always win preference.⁴⁴ Fortunately, society has wisely chosen to adopt legal rules that modify the default principle, so even the weaker physical or political interest will at times prevail.⁴⁵ The waste doctrine embodies such a situation.

Outside the context of actions towards indeterminate persons, one can also find examples in practice of legally recognized obligations without corresponding rights in the beneficiary. One such example is the execution of a person’s last wishes or a will. The rights in this case would necessarily be in a past person, which is just as “illogical” as rights vesting in a future person. Assuming that a past person can him or herself take no action to assert an alleged right, if society still recognizes the obligation to carry out the deceased’s wishes, which it certainly does,⁴⁶ it must also then accept that those obligations can exist without reciprocal rights.

⁴¹ See 1 JOHN AUSTIN, LECTURES ON JURISPRUDENCE 412–15 (Robert Campbell ed. 4th ed., London, John Murray 1875).

⁴² See Guido Calabresi & A Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1090 (1972) (explaining that the state, through its legal system, must decide which side to favor when confronted with conflicting interests).

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ As has been the practice for centuries, the legal system continues to give effect to a testator’s wishes even when circumstances change such that a bequest becomes impossible, impracticable, or illegal to carry out. In such a situation, the cy-près doctrine dictates that a court should amend the bequest so it is executed as nearly as possible according to the testator’s expressed intent. *Jackson v. Phillips*, 14 Allen 539, 540 (1867).

Perhaps more compelling still is the notion that reciprocity between generations as groups is much less problematic than on an individual scale. Reciprocity in the group context means only that each generation is afforded the same protection from environmental harms so long as each fulfills its duty. This reciprocity comes from the fact that by respecting, or neglecting, future generation's environmental rights, the present generation strengthens, or weakens, its own claim to those same rights. Even if the rights of future generations burden the present, they nevertheless strengthen current rights to a safe environment by offering support for environmentally conscious policies.⁴⁷ Because each generation necessarily feels the effects of how it treats its obligations to the next, reciprocity is maintained. Although this may not be the precise type of reciprocity imagined by critics, it serves the function of preserving justice nonetheless. Perhaps no one specific future person can, practically speaking, hold one current person accountable for neglect of his duty, but the next generation as a group does compel the present generation's actions morally and should also have the ability to do so legally, relying on the doctrine of waste.

In sum, although the philosophical debate is far from settled, claims of a moral obligation to future generations have ancient roots and are supported by sound reason. This counsels against denying the existence of a moral component to contemporary sustainability analyses. Furthermore, the very existence of historical equitable claims supports the proposition that intergenerational considerations were not ignored in the formation of the law, especially the doctrine of waste, which explicitly focused on intertemporal resource allocation.

III THE DOCTRINE OF WASTE

A. Roots of the Doctrine

Most legal reference texts simply define the doctrine of waste as the principle that the present owner should not be able to use property in a manner that unreasonably interferes with the expectations of the

⁴⁷ Hiskes, *supra* note 28, at 1355–56.

future owner.⁴⁸ However, the doctrine's rich history must inform one's reading of such contemporary definitions.

The English doctrine of waste predates, and in fact formed the basis for, the American version. Despite its common roots, there exists a distinguishing philosophical conception at the heart of the English doctrine that did not survive the transplant to the New World. English law conceived the protected interest of the future owner to have a normative social component as well as an economic one. This almost certainly results from the influence of the feudal system on the formation of the legal rule.

The English rule dates to the year 1267 (if not earlier), when the first reference to waste was penned in the Statute of Marlborough, which proclaimed, “[farmers], during their terms, shall not make [w]aste”⁴⁹ Over time, as landlords invoked the doctrine, the common law surrounding it evolved in a uniquely European way. The rich law became a set of prerogatives, proscribing certain actions as waste *per se*.⁵⁰ Courts held that, as a matter of law, present interest holders were strictly forbidden from specific activities, regardless of their effect on the value of the estate. In this way, the nature and character of the estate were preserved, not simply the profits generated therefrom. William Blackstone described the rule as forbidding “a spoil and destruction of the estate . . . by demolishing not the temporary profits only, but the very substance of the thing”⁵¹

When the colonies began to assimilate the common law of England, doctrines were frequently adapted to suit the needs of the new country. The doctrine of waste was one such legal principle, and so the American version was born. The American doctrine of waste represented a transformation from a British rule that emphasized the present interest holder's subordinate position in a feudal hierarchy and inferior social status to a new rule that embraced the republican

⁴⁸ See, e.g., JESSE DUKEMINIER, JAMES E. KRIER, GREGORY S. ALEXANDER & MICHAEL H. SCHILL, *PROPERTY* 201 (6th ed. 2006).

⁴⁹ Statute of Marlborough, 1267, 52 Hen. 3, c. 23, § 2 (Eng.).

⁵⁰ See 2 WILLIAM BLACKSTONE, *COMMENTARIES ON THE LAWS OF ENGLAND* 281–82 (1765); see generally 1 EDWARD COKE, *A COMMENTARY UPON LITTLETON* 53a–b (18th ed. 1823) (noting that tenants could take from the land only the timber that was necessary for maintaining buildings, making tools, and warming themselves in winter, called respectively “house bote,” “tool bote,” and “fire bote”).

⁵¹ BLACKSTONE, *supra* note 50, at 281.

theme in American property law, which conceived of landholding without the strict caste structure of feudal European empires.⁵²

There were two common components to the law of waste in nineteenth century America, which were sometimes read as separate definitions.⁵³ The first held the present interest holder to the standard of husbandry, deeming an action not to be waste if it were consistent with the actions a prudent owner would take; the second, and more commonly cited idea, was based on the standard of material injury, which forbid a permanent injury to the inheritance.⁵⁴ Many states formulated their own variations on these general doctrinal themes.⁵⁵

The instrumental case in interpreting the new American standard was *Jackson v. Brownson*,⁵⁶ decided in 1810. In that case, the plaintiffs contended that the clearing of forest constituted waste under the English rule, while the defendant denied that clearing timber to make way for cultivation could count as waste.⁵⁷ A majority of the New York Supreme Court⁵⁸ ruled that the action did constitute waste, but relied upon the defendant's interpretation of the doctrine to reach their conclusion, holding that actions that did "a permanent injury to the inheritance" constituted waste.⁵⁹ This ruling solidified a stark operational difference between the English and American rules; while the English doctrine of waste evolved as a set of definite prerogatives, the American version would be defined only by adaptable standards.

Jedediah Purdy contends that the American courts created a distinct law of waste for three primary reasons,⁶⁰ which all help in understanding how the doctrine should govern our present-day interactions with the environment and natural resources. First, the

⁵² See John A. Lovett, *Doctrines of Waste in a Landscape of Waste*, 72 MO. L. REV. 1209, 1231 (2007); see also Purdy, *supra* note 12, at 661, 667.

⁵³ Purdy, *supra* note 12, at 660.

⁵⁴ *Id.*

⁵⁵ See, e.g., *Clemence v. Steere*, 1 R.I. 272, 274 (1850) ("it [was] necessary to show that the change [was] detrimental to the inheritance . . ."); *Shine v. Wilcox*, 21 N.C. (1 Dev. & Bat.) 631 (1837) ("the cutting down of timber [was] not waste, unless it [did] a lasting damage to the inheritance, and deteriorate[d] its value; and not then, if no more was cut down than was necessary for the ordinary enjoyment of the land . . ."); *Keeler v. Eastman*, 11 Vt. 293, 294 (1839) (holding that the tenant could act freely, but "not so as to cause damage to the inheritance").

⁵⁶ *Jackson v. Brownson*, 7 Johns. 227 (N.Y. Sup. Ct. 1810).

⁵⁷ *Id.*

⁵⁸ At the time the New York Supreme Court was the highest court in the state.

⁵⁹ *Jackson v. Brownson*, 7 Johns. at 232.

⁶⁰ Purdy, *supra* note 12, at 662.

American judiciary wanted to promote efficient use of resources that the English rule would have inhibited,⁶¹ chiefly ameliorative waste—actions that changed the character of the land but increased the value of the estate.⁶² Secondly, the newly interpreted doctrine aimed to advance an idea of American landholding as a republican enterprise.⁶³ Thirdly, American courts were attempting to advance the belief that a natural duty to cultivate wild land underlay the Anglo-American claim to North America.⁶⁴ For these reasons, and undoubtedly unexplored others, the American doctrine began as a standard rich in the language of economic preservation and purposely devoid of any indication of normative social preservation.

As the history of the doctrine indicates, there exists a very real tension between a purely economic understanding of what constitutes waste—one that looks for a diminution in the market value of the property—and an understanding founded on the normative prerogative of the future interest holder to dictate what changes can or cannot be made to the property.⁶⁵ Put another way, the distinction runs deeper than American versus English; it is a philosophical choice between a purely utilitarian model of waste and a social formulation of waste.⁶⁶ This philosophical debate manifested itself in the distinct rules on each side of the Atlantic: the United States courts put future and present estates on equal footing with respect to use decisions while the courts in England protected the wishes of the “superior” future estate.⁶⁷

Because the Americans adapted the rule from the British, however, the tension between economic and social value preservation remained when the courts interpreted the American doctrine. The *First Restatement of Property* reflected this tension by adopting two seemingly conflicting definitions of actions that could constitute voluntary waste: section 138 stated that a life tenant has a duty not to diminish the ‘market value’ of the subsequent interests, and section

⁶¹ *Id.*; see also MORTON J. HORWITZ, *THE TRANSFORMATION OF AMERICAN LAW* 54–55 (1977) (citing similar reasons related to economic development).

⁶² See *DUKEMINIER ET. AL.*, *supra* note 48 (a more refined definition of this concept).

⁶³ Purdy, *supra* note 12, at 662.

⁶⁴ *Id.*; see also *Van Ness v. Pacard*, 27 U.S. 137, 145 (1829) (“The country was a wilderness, and the universal policy was to procure its cultivation and improvement.”).

⁶⁵ Lovett, *supra* note 52, at 1212.

⁶⁶ *Id.*

⁶⁷ Purdy, *supra* note 12, at 687.

140 held a life tenant to “a duty not to change the premises . . . in such a manner that the owners of the interests limited after the estate for life *have reasonable ground for objection* thereto.”⁶⁸ Because the doctrine of waste exists at common law, the degree to which American courts recognize the dual motivations for the original doctrine can shift, and has shifted, depending on the historical context and specific rationale.

From a purely economic perspective, waste law addresses the problem of inefficient incentives faced by present interest holders.⁶⁹ Under this reasoning, the law should dictate an efficient management strategy that will maximize the present discounted value of the estate’s entire expected earnings stream rather than just the earnings for the length of the tenancy.⁷⁰ Without such a coordinating rule, the present interest holder’s perverse incentive will lead to premature harvesting of natural resources and to neglect of both manmade and natural resources, the incremental decay of which has no effect on present earnings prospects but diminishes the long-term value of the estate.⁷¹ Facing this inefficiency, a coordinating rule is preferable to a free market solution because efficiency-seeking, Coasian bargaining is unlikely to occur between parties who are typically locked into bilateral monopolies laden with high transaction costs.⁷²

The coordinating rule most staunchly advocated for by economists is actually a standard that would hold the tenant to an obligation to act as if he or she were the owner in fee simple.⁷³ This is essentially the American definition of waste in its most extreme form. This standard is guided purely by the market value of the land and thus treats land as nothing more than a commodity with a monetary value that must be preserved.⁷⁴

As noted, the original English doctrine, and consequently the common law basis for the American rule, not only served an economic goal but also performed a normative status-confirming role. And despite the best efforts of some “manifest destiny” era judges

⁶⁸ RESTATEMENT (FIRST) OF PROP. §§ 138, 140 (1936) (emphasis added).

⁶⁹ See POSNER, *supra* note 10, at § 3.11, at 73.

⁷⁰ Purdy, *supra* note 12, at 659.

⁷¹ *Id.* at 659–60.

⁷² Lovett, *supra* note 52, at 1229.

⁷³ See POSNER, *supra* note 10, at 71–74.

⁷⁴ Purdy, *supra* note 12, at 688.

and economists,⁷⁵ a social value-preserving component did exist even in American courts. Distinguishing between similar cases with opposite holdings illuminates judicial hesitation to permit a tenant to impose a qualitative change in land use on a future interest holder, even when the change arguably improved the overall value of the estate.⁷⁶ In at least one respected property law treatise, the influence of the English normative rule still rears its head in the form of the “intention approach.”⁷⁷ These interpretations of the American law suggest that the doctrine of waste protects more than a quantitative economic interest; it must protect some qualitative components of the estate as well.

B. Sustainability

Despite the different motivations behind the English and American waste doctrines with respect to social hierarchy, both have long had a secondary motivation that very closely resembles the “modern” concept of sustainability.⁷⁸ These doctrines, as attempts to preserve an estate for future use and prevent deterioration, are in essence concrete legal rules of sustainability.

The most telling example of the concrete law of sustainability in practice comes from the English courts, which held that tenants could take from the land only the timber that was necessary for maintaining buildings, making tools, and warming themselves in winter.⁷⁹ Notice that the courts had no problem limiting the present interest holder’s

⁷⁵ See, e.g., *Jackson v. Brownson*, 7 Johns. 227, 237 (Spencer, J. dissenting) (“The doctrine of waste, as understood in England, is inapplicable to a new, unsettled country.”).

⁷⁶ Compare *Pyncheon v. Stearns*, 52 Mass. 304, 310 (1846) (holding no waste in the activity of a tenant who had cut drainage ditches, dug cellars, and filled in wetlands) with *Livingston v. Reynolds*, 26 Wend. 115 (N.Y. 1841) (finding of waste for tenant to build a brick kiln and cut all but eight or ten of one hundred and eighty acres of forest to fire it. If the Chancellor considered brick-making compatible with good husbandry, the court contended, the peculiar ideas of the Chancellor of good husbandry “must differ materially from the generally received opinion of the world,” as must his idea of waste).

⁷⁷ 5 AMERICAN LAW OF PROPERTY §§ 20.1–20.23 (James Casner ed., 1952). This approach dictates that the grantor must have intended for the subsequent interest holder to receive his or her land at the end of the life estate, not in an unaltered state, or even in a state with equivalent or enhanced market value, but *substantially undamaged* by the use and of the life tenant. Lovett, *supra* note 52, at 1212.

⁷⁸ It should be noted, however, that much stronger ties to sustainability exist in the English doctrine because of its emphasis on preserving normative, as well as economic, values.

⁷⁹ BLACKSTONE, *supra* note 50, at 281–82; COKE, *supra* note 50, at 53a–b.

ability to grow the estate or make excessive profits; he or she was to take only what was truly needed to sustain a way of life. This sounds remarkably similar to modern advocates of no-growth or steady-state economics in the interest of resource preservation.⁸⁰ Perhaps counterintuitively, American courts even more directly advocated for no-growth economics: the Supreme Court of North Carolina wrote in 1888 dicta that “it may be proper to fix a limit to the denudation, that it do not exceed the annual increase from natural growth which replaces that portion of the trees removed.”⁸¹

Notwithstanding these and other prominent references, Purdy notes that historically the principle of sustainable use tended in practice to remain fairly abstract, with courts resolving most waste cases by a conventional American standard analogous to “permanent injury” or “material prejudice.”⁸² Furthermore, John Sprankling and other natural resource scholars contend that an instrumentalist view of nature, together with a perceived imperative to bring the new continent under the axe and plough, drove the early American law of waste to develop not fully along the lines of sustainable use, but rather towards a supposed good husbandry standard, which allowed clearing and developing land in the interest of advancing cultivation.⁸³ Because of this observation, Sprankling sees in traditional American waste doctrine a lack of proper regard for the land’s intrinsic worth in an unspoiled state.⁸⁴

As a constantly transforming doctrine, American waste law has been influenced over time by the sustainability principles at its core. Indicating this influence, the study of the American transformation of waste law reveals three classes of values shaping the doctrine. Alongside economic efficiency and republican ideals, one finds the idea of an appropriate relationship to the natural world at the heart of the waste doctrine’s evolution, which in the nineteenth century may have encouraged productivity and improvement, but in the modern

⁸⁰ See, e.g., MEINHARD MIEGEL, *EXIT: PROSPERITY WITHOUT GROWTH* (translation) (2010); PETER G. BROWN & GEOFFREY GARVER, *RIGHT RELATIONSHIP: BUILDING A WHOLE EARTH ECONOMY* (2009).

⁸¹ *King v. Miller*, 6 S.E. 660, 666 (N.C. 1888); see also *Smith v. Smith*, 31 S.E. 135, 136 (Ga. 1898).

⁸² Purdy, *supra* note 12, at 674.

⁸³ See John G. Sprankling, *The Antiwilderness Bias in American Property Law*, 63 U. CHI. L. REV. 519, 533–36 (1996).

⁸⁴ *Id.*

era is perhaps founded on an ethos of conservation or stewardship.⁸⁵ As the country and the world move forward in dealing with an increasingly complex human/nature relationship, particularly in the context of climate change, this important doctrine must have something to say about the way to proceed.

C. The Modern Doctrine

Undoubtedly, the American doctrine of waste has some role to play in confronting contemporary environmental issues, and defining that role should become the task of modern jurists and scholars. With the historical roots of the doctrine fully exposed, the missing component for such analysis lies in understanding the modern operation of the doctrine. Unfortunately, relatively little contemporary academic scholarship has addressed the waste doctrine in depth,⁸⁶ leaving the legal technician to peruse the traditional treatises and the meager case law.

According to the *Second Restatement of Property*, it is now generally said that in the United States a present interest holder may “make changes in the physical condition of the . . . property which are *reasonably necessary* in order for the tenant to use the . . . property in a manner that is *reasonable under all the circumstances*.”⁸⁷ The doctrine of waste has taken on the all-too-familiar amorphous “reasonableness” standard that has become the poster child of American common law courts. The “reasonable use” standard in the waste context has been interpreted to require the judge, when considering whether an action constitutes waste, to consider not only the resulting changed market value of the property, but also standards of conduct imposed under the instrument creating the estate, community customs, public policy requirements, and new conditions and circumstances surrounding the proposed use.⁸⁸ This suggests that environmental public policy and the drastically changed conditions as

⁸⁵ Purdy, *supra* note 12, at 697. For conservationist perspectives on the relationship of humans to the natural world, *see generally* WENDELL BERRY, *THE UNSETTLING OF AMERICA: CULTURE & AGRICULTURE* (1977); ALDO LEOPOLD, *A SAND COUNTY ALMANAC* (1949); GARY SNYDER, *THE PRACTICE OF THE WILD* (1990).

⁸⁶ Lovett, *supra* note 52, at 1209.

⁸⁷ RESTATEMENT (SECOND) OF PROPERTY: LANDLORDS & TENANTS § 12.2(1) (1977) (emphasis added).

⁸⁸ Lovett, *supra* note 52, at 1215.

a result of climate change not only could, but *must*, inform the determination of actions constituting waste.

In the face of changed circumstances, courts and commentators generally claim that the possessory interest holder can make improvements, repairs, and alterations in the property, as long as these actions do not cause long-term harms or *risks* to the future interest holder.⁸⁹ With the tendency of courts and legislators to abandon bright line versions of waste doctrine and muddy it in spasms of doctrinal transformation when facing moments of rapid and profound change, it is rather likely that the effects of climate change on the ability to use the property will weigh heavily in contemporary waste determinations.⁹⁰ However, recent decisions regarding the use of timber demonstrate that American courts have not yet fully embraced the preservationist-oriented view of the doctrine, subrogating future interest holders' pleas for selective cutting or no cutting at all in favor of the interests of short-term possessory estate holders who wish to engage in significant commercial tree farming activity.⁹¹

Development of property and contract law with respect to uses tied to other environmental concerns beyond climate change has been encouraging. The most promising example comes in the context of water law, where the doctrine of waste has long been utilized as a tool for controlling common resources.⁹² It would be quite reasonable to import a similar approach for the management of other important natural resources, particularly those that are threatened by or contribute to climate change.

⁸⁹ *Id.* at 1226–27.

⁹⁰ *Cf. id.* at 1212.

⁹¹ *See, e.g.,* *Robinson v. Hunter*, 562 S.E.2d 189, 190–91 (Ga. Ct. App. 2002) (holding that life tenant may cut timber and keep all of the proceeds as long as harvesting is in conformity with “good husbandry” and not “solely” for profit); *White v. Watts*, 812 So. 2d 328, 332 (Ala. 2001) (permitting life tenant to harvest timber between 42% and 70% of trees on a tree farm because she had set upon a proper “management program” designed to produce steady income); *Kennedy v. Kennedy*, 699 So. 2d 351, 357–60 (La. 1996) (on rehearing) (rejecting “open mines” approach and holding that ninety-one-year-old usufructuary is entitled to clear cut 143 acre tract of “timberlands” that had never been professionally harvested in the past, over the objection of seventy-year-old naked owner who sought to limit harvest to selective cutting, on the basis that a clear cut and replanting with genetically modified seedlings would commence a plan of prudent timber administration of the tract).

⁹² *See* JOSEPH L. SAX ET AL., *LEGAL CONTROL OF WATER RESOURCES* 124–26 (3d ed. 2000) (for an analogous discussion of the law of waste as it applies to shared water resources).

Another environmentally progressive example comes from a long line of Louisiana mineral lease cases. The problem that has arisen in recent years is whether a mineral lessee has a duty to restore the surface of the land to its pre-lease condition at the termination of the mineral lease and, if such a duty exists, whether there are economic limits to the liability of a mineral lessee who breaches this duty.⁹³ Before Louisiana had adopted a specific Mineral Code, one decision had clearly recognized that the mineral lessee had a duty to restore the land's surface, even if the lease was silent on this subject,⁹⁴ but another had imposed a reasonableness limitation on the extent of those damages.⁹⁵ A much more recent case came down even stronger in support of landowners and environmental restoration, resulting in a \$33 million restoration award with no constraint for reasonableness when the estimated market value of the land was less than \$110,000.⁹⁶

What the state of the law in these contexts demonstrates is that courts, legislators, law reformers, and scholars have increasingly felt compelled to create waste standards that hold both parties to some external standards of reasonableness that are grounded, at least in part, in concern for ameliorating the external spillover effects of the parties' behavior on the larger community.⁹⁷ Considering the degree of potential harm, the most significant externality that must be considered in modern waste determinations is contribution to climate change.⁹⁸

D. Climate Waste Litigation

It is a useful exercise to consider the range of potential litigation involving waste law and climate change not because success is likely through the most innovative uses of the doctrine, but instead because such uses of the law, even in a hypothetical academic context, help to

⁹³ Lovett, *supra* note 52, at 1234–35.

⁹⁴ Smith v. Schuster, 66 So. 2d 430, 431–32 (La. Ct. App. 1953).

⁹⁵ Rohner v. Austral Oil Exploration Co., 104 So. 2d 253, 255 (La. Ct. App. 1958).

⁹⁶ Corbello v. Iowa Prod., 850 So. 2d 686 (La. 2003). *see also* Terrebonne Parish Sch. Bd. v. Castex Energy, Inc., 893 So. 2d 789 (La. 2005) (holding even more recently that “where the mineral lease expressly grants the lessee the right to alter the surface” and “is silent regarding restoration,” then “article 122 [of the LA Mineral Code] only imposes a duty to restore the surface to its original condition where there is evidence of unreasonable or excessive use”).

⁹⁷ Lovett, *supra* note 52, at 1257.

⁹⁸ Cf. JEDEDIAH PURDY, THE MEANING OF PROPERTY 138 (2010) (“Climate change threatens to be the externality that ate the world.”).

inform the policy discussion.⁹⁹ In order to articulate a claim, one needs to conceive of property interests in an unprecedented, but not unheard of, way. Margaret Thatcher phrased the relevant interests nicely in her 1988 Conservative Party Conference address, claiming that “[n]o generation has a freehold on this [e]arth. All we (as the current generation) have is a life tenancy, with a full repairing lease.”¹⁰⁰ With this conception of property interests in the earth, or at least its natural resources, the next generation holds the future interest and should therefore be entitled to a waste-free tenancy on our part. This may seem far removed from the traditional notion of interests in land at property law, but conceiving the present generations’ interests as life tenancies actually closely aligns with reality. Because no deceased person can hold real property, all property currently owned must necessarily pass to someone of the next or at least continuing generation.¹⁰¹ However, one must acknowledge that even considering the practical argument just articulated, the rewriting of property interests in line with Thatcher’s theory would require more than legal pragmatism; it would require deeper philosophical changes regarding society’s notion of private property.¹⁰²

Although the theoretical approach just articulated seems far-fetched at first glance, in fact, similar doctrine already exists to facilitate the appropriate management of lands held in trust for public use;¹⁰³ the hypothesized approach would simply utilize the waste

⁹⁹ See generally Benjamin Ewing & Douglas A. Kysar, *Prods and Pleas: Limited Government in an Era of Unlimited Harm*, 121 YALE L.J. 350 (2011).

¹⁰⁰ Jonathon Porritt, *A Full Repairing Lease on Planet Earth*, in THE IDEA OF PROPERTY IN HISTORY AND MODERN TIMES 49 (Colin Kolbert ed.) (1997); see also National Environmental Policy Act of 1969 § 101, 42 U.S.C. § 4331(b)(1) (2000) (framing “each generation as trustee of the environment for succeeding generations”); WEISS, *supra* note 13, at 17 (“We, as a species, hold the natural and cultural environment of our planet in common, both with members of the present generation and with other generations, past and future.”).

¹⁰¹ This is further supported by the strong legal reform movement against “dead hand control,” which severely limited a landholder’s ability to dictate the uses perpetuated on his property after his death, regardless of the specific interest (freehold, life estate, etc.) that said person held while living. For a concrete example on this in action, look to the development of the rule against perpetuities. See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 394 (6th ed. 2003) for a detailed explanation of this rule and the rationale behind it.

¹⁰² See WEISS, *supra* note 13, at 61 (noting the challenge of creating such an interest is “as much spiritual as it is political. A full repairing lease could not be maintained without a philosophical revolution at least as dramatic as that of the seventeenth century.”).

¹⁰³ See Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 485–89 (1970).

doctrine to include future generations as “trustees.”¹⁰⁴ Furthermore, one could imagine expanding the category of lands legally said to be “held in public trust” to all those lands not currently held in fee simple. Admittedly, this requires some careful manipulation of property law concepts; however, it avoids the very difficult problem of reclassifying previously fee simple interests as life estates.

As the roots of the doctrine of waste demonstrate, sustainability, as a regard for future interest holders in the use of an estate’s resources, has long been a concrete legal concept. Whether preserving economic or normative values, the doctrine of waste establishes legal obligations relating to human interactions with the environment. The question that this brief study of American and English waste law purports to answer in the affirmative is whether such obligations exist with respect to the mitigation of threatening climate change harms.

IV

ANALOGS OF VARIOUS TESTS FROM THE DOCTRINE OF WASTE IN SUSTAINABILITY THEORY

The traditional American and English iterations of the waste doctrine provide a natural and tested tool for fashioning sustainability rules on a local scale. As the case law demonstrates, the problem of intertemporal resource allocation has always been central to the application of the waste doctrine in specific situations. The age-old question of what precisely must be left to remaindermen is directly analogous to the modern questions concerning sustainable development and depletion of non-renewable resources. For this reason, the tests and rules applied in the courts of the early United States and United Kingdom have a particularly useful and novel application to the modern policy discussion.

In addition to the natural fit of the waste doctrine reasoning with questions of sustainability, a deeper level of analytical significance exists because the choice between the extreme American and English versions of the waste doctrine maps quite nicely onto the debate between the concepts of “weak” and “strong” sustainability. Weak

¹⁰⁴ See Mary Wood & Susan O’Toole, *How to Sue for Climate Change: The Public Trust Doctrine*, 10 OUTLOOK: ENVIRONMENTAL AND NATURAL RESOURCES SECTION (Or. State Bar Ass’n), Winter 2009, at 1–2 (advocating a very similar approach); see also Gerald Torres, *Who Owns the Sky?*, 18 PACE ENVTL. L. REV. 227, 244–46 (2001) (explaining how the public trust doctrine applies to the atmosphere).

sustainability, like the American waste doctrine, focuses on the total aggregate value of capital available to successors in interest. Weak sustainability assumes complete substitutability between man-made and natural capital and therefore permits depletion of resources so long as the overall value of capital stock, including new man-made capital, is not diminishing over time.¹⁰⁵ The American version of the doctrine of waste takes a similar approach with regards to the value of the estate.¹⁰⁶ In contrast, strong sustainability takes the position that at least some natural capital is non-substitutable and, therefore, certain actions that deprive successors in interest of this natural capital should be strictly avoided.¹⁰⁷ The English version of the waste doctrine holds a similar firm line against changing the nature of an estate, even if the action purportedly increases the economic value of said estate.¹⁰⁸

This part will explore these sets of parallel reasoning further and demonstrate why something closer to the English model, and the accompanying modern concept of strong sustainability, should be preferred in law and policy. This will be accomplished through applications of the aforementioned early precedential cases and rules in the United States and England to the environmental problems presented by climate change.

A. The American Doctrine and Weak Sustainability

The historical treatment of the doctrine of waste in American common law provides a rather elementary, but strikingly applicable, test to evaluate the sustainability of a particular practice. As noted previously, the two-part test dictates that an action is waste (or unsustainable in this new context) when said action does permanent injury to the inheritance,¹⁰⁹ and it is contrary to the ordinary course of

¹⁰⁵ ERIC NEUMAYER, *WEAK VERSUS STRONG SUSTAINABILITY* 1 (3d ed., 2010).

¹⁰⁶ See *supra* Part III.

¹⁰⁷ See TURNER, *supra* note 18, at 14.

¹⁰⁸ See *supra* Part III.

¹⁰⁹ Jackson v. Brownson, 7 Johns. 227, 232 (N.Y. Sup.Ct. 1810); Keeler v. Eastman, 11 Vt. 293 (1839); Davis v. Clark, 40 Mo. App. 515 (1890); THOMAS M. COOLEY, *A TREATISE ON THE LAW OF TORTS OR THE WRONGS WHICH ARISE INDEPENDENTLY OF CONTRACT* 335 (1907) (“[A]n injury done or suffered by the owner of the present estate which tends to destroy or lessen the value of the inheritance.”); 1 JOHN NEILSON TAYLOR, *THE AMERICAN LAW OF LANDLORD & TENANT* 430–31 (1904) (“[A] spoil or destruction in houses, lands or tenements, to the damage of him who is in reversion or remainder . . . it is a general principle that the law considers everything to be waste which does a permanent injury to the inheritance.”).

good husbandry.¹¹⁰ As a survey of the early precedent indicates,¹¹¹ this test focuses on the *economic* detriment to the estate rather than the physical nature of the estate. Settlers in the new world were encouraged, in fact, to clear land upon which they were tenants because cultivated land increased the value of the fee simple estate.¹¹² The future owner then enjoyed increased wealth, and utility, because of the tenant's actions that depleted one type of natural resource, usually timber.¹¹³ The logic that underlies this eighteenth to nineteenth century expansion and conversion land ethic is the very same logic that supports the modern day notion of weak sustainability. Weak sustainability is premised on the idea that actions are "sustainable" so long as they do not diminish the overall value of capital stock over time ("damage the inheritance").¹¹⁴

Whether the actions of the current generation have damaged the inheritance of the next in economic terms is the question posed by both the American doctrine of waste and weak sustainability theory. With respect to climate change, this requires looking at the projected diminution in property values that will result from continued rising temperatures. Persisting in activity that intensifies, rather than mitigates, climate change would constitute waste and be unsustainable in this weak model if said activity does not provide an equal or greater increase in capital that will be available to future generations.

The potential harm to future generations in terms of pure loss of land interest just in the coastal states is enormous. The IPCC projects sea level rise of twenty centimeters by 2050, which combined with ongoing post-glacial subsidence, could result in a forty centimeter rise along the coasts of New Jersey, Delaware, and Maryland.¹¹⁵ Sea level rise of this magnitude will result in almost sixty meters of erosion on

¹¹⁰ *Clemence v. Steere*, 1 R.I. 272, 272 (1850).

¹¹¹ *See supra* Part III.

¹¹² *See Sprankling*, *supra* note 83, at 533–36.

¹¹³ To test this supposed waste, by considering the reversioner injured by the acts done, is not warranted by law; and, in point of fact, when the premises were cleared of the timber, cleared land was more valuable than wooded land. (*Jackson v. Brownson* 7 Johns. at 236 (Spencer J., dissenting)).

¹¹⁴ NEUMAYER, *supra* note 105, at 1.

¹¹⁵ EPA, Recent Study Suggests Sea Level Rise Could Threaten Beaches Along U.S. East Coast, http://water.epa.gov/type/oceb/nep/upload/2008_07_31_estuaries_coastlines_00jun.pdf (June 16, 2004, 2:00 PM) (referring to Stephen P. Leatherman et al., *Sea Level Rise Shown to Drive Coastal Erosion*, 81 *Eos Trans. AGU* 55 (2000)).

average in these mid-Atlantic states, which constitutes about two times the average beach width, necessarily decimating beachfront property interests.¹¹⁶ Such a significant loss of land, if nothing else, represents a serious devaluation of the future property interests. Estimates of the cumulative financial effect of a fifty centimeter rise in sea level on U.S. coastal property by 2100 range from roughly \$20 billion to \$150 billion.¹¹⁷ Extensive thawing of the permafrost as a result of climate change also adversely affects property interests in some Northern states. Most notably, the permafrost that underlies most of Alaska has already begun melting significantly, causing, and threatening to cause, increased erosion, landslides, sinking of the ground surface, and disruption to forests, buildings, and infrastructure.¹¹⁸ In some parts of the state, the erosion from this thawing has resulted in coastlines retreating more than 1500 feet over the past few decades, which will force several Alaskan coastal villages to either fortify or relocate.¹¹⁹ When property becomes uninhabitable, the future interest in it becomes intensely, if not completely, devalued.

As the above indicates, this determination of what is sustainable and what constitutes waste largely depends on the scale at which the policymaking calculation is made. On a local scale, the above consequences in terms of lost capital likely overshadow the additional capital generated by climate change-contributing activities in the coastal and extreme Northern regions.¹²⁰ However, if the policy is examined at a national level, some significant carbon emitters could be acting “sustainably” in capital contribution terms. The American courts, in adjudicating claims of waste, have long dealt with a similar dilemma, even though interests in land are much more strictly

¹¹⁶ See *id.*; see also Env'tl. Prot. Agency, *Climate Change Indicators in the United States*, <http://www.epa.gov/climatechange/science/indicators/oceans/sea-level.html> (last visited Sept. 26, 2012) (estimating that a two-foot rise in sea level would eliminate approximately 10,000 square miles of coastal land).

¹¹⁷ JAMES W. NEUMANN ET AL., PEW CENTER ON GLOBAL CLIMATE CHANGE, SEA LEVEL RISE & GLOBAL CLIMATE CHANGE: A REVIEW OF IMPACTS TO U.S. COASTS (Feb. 2000), available at http://www.c2es.org/docUploads/env_sealevel.pdf.

¹¹⁸ *Id.* at 76; see also David A. Grossman, *Warming Up to a Not-so-Radical Idea: Tort-Based Climate Change Litigation*, 28 COLUM. J. ENVTL. L. 1, 18 (2003) (discussing the property, buildings, and infrastructure harmed by thawing permafrost).

¹¹⁹ Grossman, *supra* note 118, at 15.

¹²⁰ But see J.B. Ruhl, *What Should We Do About the Climate Change Winners* 22–26 (Vanderbilt Univ. Law Sch. Pub. Law & Legal Theory, Working Paper No. 11-30, 2012) (noting the definition and existence of “climate change winners” in economic terms).

defined. It has often been held that what might constitute waste, as applied to a piece of land in one place, might not, when applied to another, in a different place.¹²¹ The American system, and consequently weak sustainability, functions much better on a local scale because the necessary assumption of complete fungibility of capital resources with low transaction costs falls apart as the market it describes becomes larger and more complex.

Weak sustainability theory, like the American doctrine of waste, must recognize that there is some extreme lower boundary of natural capital that must be preserved, regardless of the effect depletion of that resource would have on net overall capital stock. Ever since the landmark case of *Jackson v. Brownson*, American courts have held that a tenant cannot fully deplete a natural resource and, instead, require that the tenant should preserve so much of the resource as is indispensably necessary to keep structures on the land in proper repair.¹²² A similar qualifier added on to the principle of weak sustainability would forbid the current generation from completely disregarding climate change and recklessly spewing massive quantities of carbon into the atmosphere. It would not matter if the technology produced as a result would be infinitely economically valuable to the next generation if the atmosphere were so depleted that they could not live and breathe freely. Unfortunately, weak sustainability seems not to acknowledge such a backstop level of natural capital, which is a significant and dangerous flaw.

The arguments of those who defended the American change to the ancient doctrine of waste are almost indistinguishable from those of modern advocates who support weak sustainability. It had been said that if the English version of the waste doctrine were universally adopted in this country, it would greatly impede the progress of improvement without any compensating benefit. In order to achieve a net benefit to society, it was argued, the rules of law must be accommodated to the situation of the new country.¹²³ These are the very same arguments used by developing countries today in an

¹²¹ *Keeler v. Eastman*, 11 Vt. 293, 295 (1839); *Paris v. Vasconcellos et al.*, 14 Haw. 590, 594 (1903) (“Whatever the definition given by each, all the authorities seem to agree that the law of waste accommodates itself to the varying wants, conditions and usages of different countries, and that there is no absolute rule as to what shall constitute waste under all circumstances . . .”).

¹²² See *Jackson v. Brownson*, 7 Johns. 227, 233 (N.Y. Sup. Ct. 1810).

¹²³ See *Winship v. Pitts*, 3 Paige Ch. 259 (N.Y. Ch. 1832).

attempt to shirk any kind of commitment to climate change mitigation. But policymakers in the United States rely on strains of this reasoning as well. In an environmental policy regime that now has cost-benefit analysis as a core component of almost every decision, the economic growth (increase in man-made capital) versus environmental degradation (decrease in natural capital) is an all-too-familiar and all-too-comfortable tradeoff.

B. The English Doctrine and Strong Sustainability

In England, the doctrine of waste operated to preserve specific resources on a particular estate rather than the overall value of said estate. This is in direct contrast to the American doctrine and the concept of weak sustainability described above. To determine if a tenant's action constituted waste in England, the test was simply whether said action changed the nature of the property, and courts established rather lengthy lists of activities that were *per se* prohibited, such as converting arable land into wood, or a meadow into plough or pasture land.¹²⁴ Particularly apropos to the modern sustainability discussion, courts deemed mining for coal as waste where the mines were not open when the tenant came in.¹²⁵

As the test and examples illustrate, the English iteration of the waste doctrine aligns theoretically with the concept of strong sustainability. Strong sustainability requires leaving the subsequent generation a stock of critical natural capital not smaller than the one enjoyed by the present generation.¹²⁶ At its core, strong sustainability is essentially a “non-substitutability paradigm,”¹²⁷ which is best described as the idea that there are certain functions that the environment performs that cannot be duplicated by humans. The ozone layer, for example, is an ecosystem service that would be extremely difficult for humans to duplicate. The central idea of preserving natural capital is precisely the same as the one motivating much of the age-old common law of waste in England. Actions were classified as waste (now unsustainable) if, when the subsequent

¹²⁴ *Maleverer v. Spinke*, (1537) 73 Eng. Rep. 79 (K.B.) 82 (holding that the tenant “cannot convert land into wood, or wood into arable land, or convert meadow into arable land, and if he do it is waste”); see also COKE, *supra* note 50, at 53a–b (providing a more complete list of offenses that constituted waste).

¹²⁵ COKE, *supra* note 50, at 53b.

¹²⁶ Gutés, *supra* note 13, at 147.

¹²⁷ NEUMAYER, *supra* note 105, at 1–2.

possessor in interest took ownership, the fundamental natural resources of the land were no longer available to him.

In contrast to the American doctrine of waste and weak sustainability theory, the question posed by the English courts and the strong sustainability advocates is not primarily economic, but rather ecological. The focus is on determining the fundamental nature of the estate and assessing the impact of specific actions on the continuing existence of said nature for succeeding generations. With respect to the big picture of climate change, this requires maintaining a level of emissions that will not result in continuously increasing global temperatures, which are already decimating, and will continue to decimate, irreplaceable natural capital stocks. This analysis further requires classifying resources as renewable and non-renewable, as well as determining the rates at which renewable resources replenish. Persisting in activity that significantly contributes to, rather than mitigates, global warming and/or measurably depletes nonrenewable resources would constitute waste and be unsustainable under the strong model.

Just like with the application of the American test for waste to modern sustainability issues, much depends on the scale of the analysis even when using the English test as a proxy for strong sustainability. Although the difficulty with regards to economic calculation of man-made capital gain against natural capital loss falls off when using the strong sustainability model, the problem of having no instrument to define the scope of the property interests persists, as one still must assess the depletion of natural resources and determine sustainable levels of utilization. Adopting a model of strong sustainability need not require shifting to a steady-state, stationary economy, but rather only changing economic resource allocations over time at levels which will not alter the overall ecosystem beyond the point where the stability (resilience) of the system is threatened.¹²⁸

The English doctrine and strong sustainability theory would forbid many climate change-inducing activities that would be potentially permissible under the American doctrine of waste and weak sustainability on most, if not all, scales of analysis. The extensive mining and use of fossil fuels presents an example of a situation where the theories diverge. If current levels of mining and resource depletion persist, future generations will be deprived of the access to

¹²⁸ TURNER, *supra* note 18, at 14–15.

those natural resources and the landscape that had to be decimated to harvest them. Under the stricter strong sustainability test, it matters not what was produced using the depleted resources, but rather what makes the activity unsustainable is the fact that it so changes the earth that future generations will not have any real ability to utilize certain types of natural resources for themselves. In the words of the English waste doctrine, the nature of the estate that the future generations inherit will be fundamentally different. This stricter test provides a similarly clear answer with respect to activities that cause sea-level rise and loss of permafrost at the levels discussed in the previous section.¹²⁹ By persisting in these activities, the current generation is altering the land so significantly that it will be completely unavailable, or at the very least uninhabitable, to future generations.

Experience of the English courts with regards to waste teaches us that an obligation exists in the equitable sense even if it cannot be established at law, and even if the first generation harmed is not the immediately subsequent one. The party entitled to maintain the old common law action of waste was the person who held the immediate estate of inheritance in remainder or reversion, but courts of equity found grounds to interpose when there was an intermediate estate, and consequently there was no such remedy at law.¹³⁰ Although one need not go so far as to demand a court judgment with regards to climate harms, a similar equitable situation has arisen with regards to damaging the future interest holders. All of this is to say that strong sustainability theory and the English doctrine of waste establish a firm duty on the part of the current generation to mitigate the effects of climate change by reducing emissions and other contributions to it immediately.

C. Why Sensible Policy Must Acknowledge Some Notion of Critical Natural Capital

It is certainly the case that many advocates remain on both sides of the philosophical Atlantic with regards to the sustainability debate. Weak sustainability is championed by many an economist and those who have unbridled faith in the power of technology and human ingenuity. However, the history of the waste doctrine in the United States and England demonstrates that it is unwise to deny the

¹²⁹ See *supra* Part IV.A.

¹³⁰ Perrot v. Perrot, (1744), 26 Eng. Rep. 857; Vane v. Barnard, (1716), 23 Eng. Rep. 1082; Dennett v. Dennett, 43 N.H. 499, 501–02 (1862).

existence of non-substitutable natural capital. This is evidenced by a United States waste case that, in addition to providing the most applicable precedent for climate change harms, also acknowledges that some level of natural capital must be maintained, even when applying a strictly economic model for waste (or sustainability).

In the 1841 court of errors case of *Livingston v. Reynolds*,¹³¹ the object of the bill was to obtain an injunction against *future waste*,¹³² which is precisely what many policymakers wish to do with respect to capping carbon emissions moving forward. The court held that:

the claim of such a right, and the threat of exercising it, were of themselves, even without any overt act, sufficient to constitute a case of equitable cognizance; but when the sincerity of such claim of right, and the good will of such threat of its exercise were verified by aggravated acts of waste already committed, these were quite sufficient, not merely to justify, but to require the prompt and effective interference of equity.¹³³

The court further held that the test of waste is not injury, but dishersion of the remainderman; the actions contested therein constituted waste because the tenant had destroyed timber, which he could not reproduce, and had carried off the demised premises soil, which he could not restore.¹³⁴

The court took into account the substitutability of the resources depleted by the tenant in making its waste calculation. The holding suggests that complete depletion of such non-substitutable resources is an incalculable injury that cannot be offset. Policymakers, when considering whether and how to mitigate global warming, should similarly acknowledge that the aforementioned effects of continued high levels of greenhouse gas emissions are irreparable, and the value of the continued availability of a menu of natural resources is also at present incalculable. This simple acknowledgement would be a substantial commitment to maintain some baseline level of natural capital and not adopt a weak sustainability platform.

In addition to the waste doctrine case law, one prime example of weak sustainability actually effectuated in policy cautions strongly against taking such a course again. The government of the Pacific island of Nauru permitted increased heavy phosphate mining in order

¹³¹ *Livingston v. Reynolds*, 26 Wend. 115 (N.Y. 1841).

¹³² *Id.* at 123.

¹³³ *Id.*

¹³⁴ *Id.* at 122.

to bring businesses and jobs to the small island, but, in the process, has almost completely destroyed the island's natural environment. As a result, the inhabitants can afford a high standard of living from the interests of their accumulated capital; however, the *quality* of life has not increased. In fact, many people suffer from poor health and the life expectancy of male citizens is decreasing.¹³⁵ The results on Nauru provide a much-needed experimental microcosm of how global well-being might be impacted by a policy of weak sustainability.

Fortunately, things may be headed down a more sensible path. It has been reported that a significant number of economists worldwide now accept that a minimum stock of natural capital is critical for human survival and well-being.¹³⁶ If economists, who were once the staunchest advocates of weak sustainability, can be convinced that some level of natural capital must be preserved for future generations, then policy may inch closer towards the strong sustainability end of the spectrum.

V

THE JUDICIAL TREATMENT OF WASTE AS A THEORETICAL LENS

A. Why a Class Action on Behalf of Future Generations Should Not Yet Be the Preferred Tool

Despite the reliance on a common law doctrine, the aim of this work is not necessarily to convince the reader that the courts are the proper venue for determining the course of sustainability policy. Though the merits of a class action waste claim on behalf of future generations would indeed be compelling, and a state court *could* conceivably adjudicate such a case, the barriers to such adjudication and the impracticalities those barriers illuminate counsel against such a course of action. Despite this, the policy debate still stands to benefit from the years of judicial reasoning and the common law waste doctrine tests surveyed in this work. Though the problem of sustainability is a relatively modern conundrum for policymakers, intergenerational resource allocation has long been a question the courts have tackled through the application of the waste doctrine, and their learned wisdom should not fall on deaf ears.

The primary reason that a cause of action based on the waste doctrine should not be the preferred method for imposing

¹³⁵ Konrad Ott, *supra* note 14, at 63.

¹³⁶ *Id.*

intergenerational obligations is that the waste doctrine operates on an individual rather than collective scale. The waste doctrine was originally conceived to negotiate the interests of succeeding parties on one particular piece of property rather than the aggregated interests of a social class or generation. The doctrine, in fact, has a corollary that operates on a larger scale. Under the public trust doctrine, citizen groups have long had the right to bring claims of waste with regards to lands held in public trust.¹³⁷ The case of *Marks v. Whitney* settled this question, holding that any member of the public has standing to bring suit on behalf of a class of fellow citizens with regards to lands held in public trust.¹³⁸ In *National Audubon Society v. Superior Court*, the Supreme Court of California recognized the affirmative duty of the state to plan and allocate the limited resources in a public trust for the benefit of *all* citizens.¹³⁹ A climate change suit on behalf of a future generation class would much more closely resemble these public trust suits than a traditional landlord-tenant waste dispute. This strategy is in fact already being pursued by some of the most progressive environmental lawyers.¹⁴⁰

Related to the issue of scale is the fact that any climate waste case of an impactful size would require a court to recognize property interests that do not necessarily comport with written instruments. As mentioned above, to operate on claims between intergenerational classes, the waste doctrine must treat the present generation, regardless of their individual interests in estates, as life tenants and the future generations as the remaindermen. The court would have to acknowledge that the formal interests created by conveyances are merely symbolic and strive to serve a more sophisticated goal of rights allocation. Though there are compelling arguments for adopting this position in the policymaking context, as defining the interests in this way is quite logical and descriptive of reality,¹⁴¹ it would at present be impossibly difficult to persuade a court of law to adopt such a drastic approach.

¹³⁷ See JOSEPH L. SAX ET AL., *supra* note 92, at 460–61 for a discussion of public trusts and public rights in the context of water resources.

¹³⁸ *Marks v. Whitney*, 491 P.2d 374, 381–82 (Cal. 1971).

¹³⁹ See *Nat'l Audubon Soc'y v. Superior Court*, 658 P.2d 709, 728 (Cal. 1983).

¹⁴⁰ See Wood & O'Toole, *supra* note 104, at 1–2 (advocating for such an approach to be taken); see also *Legal Action, OUR CHILDREN'S TRUST*, <http://ourchildrenstrust.org/Legal> (last visited Feb. 26, 2013) (detailing atmospheric trust litigation).

¹⁴¹ See *supra* Part II.

In addition to a new conception of property interests, any court adjudicating a claim premised on the waste doctrine would have to afford standing to a class of future persons, some, if not all, of whom are not yet even living. Although there is precedent for adjudicating the rights of future generations in international courts,¹⁴² no domestic court has yet to expand standing doctrine in this way. Until at least one jurisdiction affirmatively adopts Christopher Stone's approach to appointing guardians in contexts outside of incapacity, such as for the representation of natural entities themselves (trees, wildlife, etc.), bringing suit on behalf of future generations in any context will be an uphill battle.¹⁴³ The public trust doctrine approach avoids this novel area of standing doctrine because unborn future generations are not the only trustees. For this reason, from a litigation-strategy, rather than policy-analysis standpoint, the waste doctrine should at present remain disfavored.

Furthermore, although it is true that state common law courts have not developed a uniform political question doctrine resembling the rule that exists in the federal system, there is some parallelism in refusing to adjudicate certain political issues.¹⁴⁴ The political question doctrine has provided the basis for the notable dismissals of climate change tort and nuisance actions in federal courts and could likely do the same for a climate waste case.¹⁴⁵ Most recently, the United States District Court for the Northern District of California relied on the political question doctrine to dismiss the claims of the Native Village of Kivalina, Alaska, against the ExxonMobil Corporation and others,¹⁴⁶ which alleged that the defendants' contribution to global warming constituted public and private nuisance, conspiracy, and

¹⁴² See *Minors Oposa v. Sec'y of the Dep't of Env't and Natural Res.*, 33 I.L.M. 173, 185 (Phil. High Ct. 1994) (finding that forty-two children and their legal guardians had "personality to sue in behalf of the succeeding generations").

¹⁴³ See generally Christopher D. Stone, *Should Trees Have Standing?—Toward Legal Rights for Natural Objects*, 45 S. CAL. L. REV. 450 (1972). See also *Sierra Club v. Morton*, 405 U.S. 727, 741–44 (1972) (Douglas, J., dissenting).

¹⁴⁴ See Nat Stern, *The Political Question Doctrine in State Courts*, 35 S.C. L. REV. 405, 407 (1984). "[S]tate courts have avoided dictating to the executive and legislative branches how government should be structured and how decisions should be made." *Id.* at 412.

¹⁴⁵ *Contra* Am. Elec. Power Co. v. Connecticut, 131 S. Ct. 2527 (2011) (affirming, by an equally divided Court, the Second Circuit's exercise of jurisdiction, which overturned the Southern District of New York's holding that public nuisance actions against utilities "present non-justiciable political questions that are consigned to the political branches, not the Judiciary." 406 F. Supp. 265, 274 (S.D.N.Y. 2005)).

¹⁴⁶ See *Native Vill. of Kivalina v. ExxonMobil Corp.*, 663 F. Supp. 2d 863, 871–77 (N.D. Cal. 2009).

concerted action causing harm to their village.¹⁴⁷ The court ultimately dismissed the claim, on political question analysis, for lack of judicially manageable standards¹⁴⁸ and the requirement of an initial important policy decision.¹⁴⁹ Although standards of the waste doctrine, like the ones proposed herein, are arguably judicially manageable, there has still not been an initial policy determination by the legislative or executive branches, which leaves open the distinct possibility that a court would not extend common law doctrine into what is arguably the province of the legislature on the basis of separation of powers doctrine. Indeed, it is in this much needed legislative and/or executive policy decision, rather than a potential lawsuit, that this work hopes to advance.

B. How the Potential and Historical Choice of Remedy Informs the Policy Debate

Even if issues of justiciability would bar courts from adjudicating a climate change waste doctrine claim, treating the current generation's actions as a breach of its legal duty to not use the land in a way that interferes with the future generations' interest remains extraordinarily useful in the policy sphere, allowing policymakers to frame the choice between policy instruments as a determination of the type of relief that should be granted. The two general forms of relief available in property law cases, injunction and money damages, implicate different considerations and correspond to opposite theories of sustainability. Like a judiciary deciding a potential waste case, policymakers have a difficult choice to make between these distinct options or some hybrid of the two. For this reason, insights from judicial preferences for one remedy or the other have the ability to provide sound reasoning for climate change policy preferences that is uniquely grounded in concrete historical disputes concerning intertemporal resource allocation.

Injunctive relief would require imposing an absolute cap on emissions by the current generation, or members named as defendants, in a state. Justice concerns may require that the cap be

¹⁴⁷ *Id.* at 869.

¹⁴⁸ *Id.* at 873–76.

¹⁴⁹ *Id.* at 876–77. This concept, as famously articulated by Alexander Bickel, is the belief the courts should declare an issue non-justiciable because of its “sheer momentousness.” ALEXANDER BICKEL, *THE LEAST DANGEROUS BRANCH* 184 (1962).

allocated so that one geographic area does not suffer disproportionately. Regardless of how it is divided, the cap would be absolute and the current generation would be enjoined from exceeding the cap. This option corresponds with direct command and control regulation and is in accord with the theory of strong sustainability.

The more flexible option would dictate the payment of economic damages by the current generation, presumably through some type of escrow account, for any harm caused by their continued greenhouse gas emissions. Naturally, the amount of damages will be directly dependent on the amount of emissions in the past and the amount going forward. This option corresponds with a carbon tax or pollution penalty, and is in accord with the theory of weak sustainability.

Practical difficulties exist with both general options for relief. An emissions cap could potentially stifle current production and profitability as well as require significant monitoring to ensure compliance. Courts are generally extremely hesitant to issue injunctions when they require extended and complicated oversight, and perhaps this should be a lesson to the regulatory regime. However, the doctrine of waste is one of the few common law doctrines that has historically commanded injunctive relief, particularly in England. Like any other equitable remedy, injunctions against waste required a showing that a remedy at law was not adequate. In this context, though, that showing was not particularly challenging because of the irreversible nature of most harms to real property. Irreversibility certainly describes many of the aforementioned harms resulting from climate change.¹⁵⁰ The control afforded by the injunction approach is perhaps the only way to ensure that the nature of the future interest is appropriately preserved, which is the goal of strong sustainability. Returning to the English preference for preservation of the nature of estates in land without returning to the accompanying feudal social class structure, perhaps even on a nation-state-level scale, might be the biggest challenge of this approach from a legal theory perspective.

Technology-forcing or emissions-capping regulations avoid the problem of environmental quality becoming commodified.¹⁵¹ Policymakers can consider all factors, including the equitable rights of the parties to particular forms of natural capital, in setting the

¹⁵⁰ See *supra* Part IV.

¹⁵¹ *Id.*

appropriate level of emissions to achieve partial or complete mitigation. Despite these advantages and this type of regulation's current widespread use in the United States, critics point out that the necessary centralization makes the system inefficient.¹⁵² Also, in the case of property, there is legitimate concern about the control afforded to the unborn over the current generation's liberty.

Despite the strong historical precedent, many courts, particularly in the United States, have become increasingly fond of money damages awards in property law cases. Generally, monetary obligations are much simpler to administrate. This would also be true in the climate change regulatory context. However, the distribution of funds collected presents unique difficulties and requires more oversight than a typical transaction. Those who have argued for intergenerational transfers of this type frequently suggest a trust managed by a government-appointed trustee.¹⁵³ Future persons could collect from the trust upon some type of showing that their inherited property has been damaged by climate change. Such a system requires oversight in appointing the trustee and in evaluating claims. Compensation funds of a similar sort are commonplace as a result of class action lawsuits, and so this solution could still impose less of an administrative burden than command and control injunctive relief. The larger problem with such a system is determining how to define the beneficiaries of such a trust because a broad conception of those aggrieved could make the group potentially indefinite. An option that avoids this difficulty but requires more administration in the short-term is putting the funds towards public mitigation and adaptation projects rather than distributing them to individual claimants. Regardless of the distribution option chosen, money damages may never be equivalent to the actual resources and land interests they are meant to compensate for.

The preference for money damages in suits concerning harm to interests in real property grew, like the concept of weak sustainability, out of the law and economics movement.¹⁵⁴ The absolute right of one

¹⁵² See TERRY L. ANDERSON & DONALD R. LEAL, *FREE MARKET ENVIRONMENTALISM* 7–8 (rev. ed. 2001).

¹⁵³ See DOUGLAS KYSAR, *REGULATING FROM NOWHERE* 148, 152–53 (2010).

¹⁵⁴ See Jeff L. Lewin, *Compensated Injunctions and the Evolution of Nuisance Law*, 71 *IOWA L. REV.* 775, 775–76 (1986) (noting that, in the analogous field of nuisance law, the twenty-five years preceding his article saw the emergence of an “entirely new approach

property interest-holder to essentially hold hostage an otherwise economically-efficient development project troubled the courts, especially during the mid-twentieth century period of growth and expansion in America. Damage awards in property law nuisance and waste cases allow a court to set the economically efficient price for continuing the harmful activity. This generally results in a judgment amount that reflects market value rather than the subjective value of the holder of the property interest. Such a result runs the risk of not adequately protecting the interest in land; in the case of environmental harm, any effects beyond those economically quantifiable, such as aesthetics, might go unprotected. On the other hand, the calibrated precision of this model removes the potential for unreasonable holdout by the future interest holder.

Environmentalists and economists that subscribe to weak sustainability theory advocate for a shift to a corrective tax system to control pollution for the same reasons the courts came to prefer money damages awards. Such a system neatly translates intergenerational environmental harm into economic terms and incentivizes rather than compels mitigation, avoiding the much-maligned problem of “unborn hand” control that comes with injunctive-type relief and frustrates the policy of free alienability of property. This more efficient approach would allow the polluters to decide whether it makes economic sense to reduce output or pay more to continue polluting.¹⁵⁵ Environmentalists have also maintained that taxes may be the most effective control.¹⁵⁶ However, significant challenges exist to adopting such an approach. Political pressure from environmentalists concerned with commodification, coupled with the stigma of taxation, makes it difficult for this policy to garner support from either political party. Also, if the penalties are not calibrated properly, which requires anticipating the future profits of thousands of corporations, overall capital may not even be preserved by such a system.

The choice between these options will continue to be a difficult one both in property law and in climate change policy. Which interest should be given legal preference, present or future? A twentieth century trend in property law has carefully struck a balance between

. . . in which land use conflicts are analyzed in economic terms, with an emphasis on the goal of efficiency in resource allocation”).

¹⁵⁵ ANDERSON & LEAL, *supra* note 152.

¹⁵⁶ *Id.*

the two remedies that may serve as a useful illustration for the policy discussion. Beginning with the landmark case, *Boomer v. Atlantic Cement*, courts have begun to order injunctions that can be bought out for a pre-determined amount.¹⁵⁷ An analogous scheme in the regulatory context would resemble the cap-and-trade system that many policymakers have advocated for. It acknowledges that some baseline level of natural capital must be preserved by imposing strict caps on *total* emissions, but then allows the creation and purchase of emissions credits, which are made available on a free market, to determine the *local* levels of emissions. Such a hybrid plan would help to ensure the economically efficient output of pollution by compelling firms to make sound investments in pollution reducing technology, but leaving them a potential way out if the costs of mitigation prove to be astronomical. Drawbacks obviously exist, and it is essential that the system be properly calibrated through an objective scientific analysis that is free of corruption.

Setting aside the above middle position and considering the extremes described earlier of direct intervention a la injunctive relief versus economic incentives through taxation a la money damages, common law property jurisprudence could provide at least a rough guide for determining which end of the spectrum is preferable. If the legislature finds the economically-grounded reasoning of the courts in property law cases compelling and fears the subjective valuation of the next generation overly restricting this generation's productivity, the clear policy fit would be the adoption of a weak sustainability definition and a tax or market-based solution to implement it. On the other hand, if legislators find the historical grounding of the waste doctrine in the preservation of specific natural capital resources more persuasive, strong sustainability becomes the brand of choice and a command and control regulatory option should be utilized. Assuming both political parties ultimately agree that something must be done about climate change, which is admittedly a bold assumption at this point, framing the choice of policy options at either end of the spectrum in property law terms could stir up productive conversation by creating internal conflict. Traditionally conservative property rights values, to the extent that they protect future interests, potentially clash with fiscally conservative preferences for deregulation and economically-calibrated solutions. Adding another

¹⁵⁷ See *Boomer v. Atlantic Cement*, 257 N.E.2d 870 (N.Y. 1970).

layer to this internal conflict, the conservative aversion to taxation clashes with the most economically sound policy option.¹⁵⁸ Perhaps these internal conflicts simply bring to light the underlying reasons, besides a general animosity towards environmental regulation, that conservatives have been so reluctant to accept any climate change policy option. Even that seemingly small and cynical observation may provide the reframing necessary to debate the real underlying issues and move beyond the shallow posturing that has crippled policy discussions thus far.

VI CONCLUSION

Imagining a series of climate change suits based on the doctrine of waste may be more an exercise in theoretical postulation than a grounded suggestion for contemporary litigation. For this reason, this work instead sought out to productively use the ancient traditions of a storied doctrine and the philosophical underpinnings of ethical obligations to future generations to ground and inform the policy debate. If such an exercise does nothing else but provide a new lens and fresh language with which to change the framing of a now-stale political debate, it will have achieved its primary objective.

Looking toward the application of this theory to the legislative debate, one could imagine an empirical study of property law remedies carefully examining trends and translating conclusions from that data into climate policy suggestions. This endeavor would be a productive undertaking for legal researchers in either body of the United States Congress. To that extent this work serves a prescriptive function with regards to the adoption of climate change policy that is it—to follow, or at least consider, the analogous trends in waste law, which have been developed over hundreds of years by learned judges and scholars divorced from the petty political debate of contemporary environmental policymaking. If nothing else, those trends point towards a formal recognition that there exists some non-substitutable natural capital that must be preserved. That core concept is part of our legal tradition, too.

¹⁵⁸ See *What is the Taxpayer Protection Pledge?*, AMERICANS FOR TAX REFORM, <http://www.atr.org/taxpayer-protection-pledge> (last visited Jan. 25, 2013) (a pledge to oppose any tax increases, currently signed by 236 members of the House of Representatives and 41 Senators).