

CONFRONTING REMOTE OWNERSHIP PROBLEMS WITH ECOLOGICAL LAW

Geoffrey Garver*

ABSTRACT

Thomas Berry's powerful appeal for a mutually enhancing human-Earth relationship faces many challenges due to the ecological crisis that is co-identified with dominant growth-insistent economic, political, and legal systems across the world. The domains of environmental history, ecological restoration, and eco-cultural restoration, as well as studies by Elinor Ostrom and others of sustainable use of common pool resources, provide insights on the necessary conditions for a mutually enhancing human-Earth relationship. A theme common to these domains is the need for intimate knowledge of and connection to place that requires a long-standing commitment of people to the ecosystems that sustain them. Remote private ownership—often by large and politically powerful multinational corporations financed by investors seeking the highest possible returns and lacking knowledge or interest in the places and people they harm—is deeply engrained in the global economic system. The historical roots of remote ownership and control go back to territorial extensification associated with the sharp rise of colonialism and long-distance trade in the early modern era. Yet remote owners' and investors' detachment from place poses an enormous challenge in the quest for a mutually enhancing human-Earth relationship. This Essay presents an analysis of how contemporary environmental law undergirds the remote ownership problem and of how limits-insistent ecological law could provide solutions.

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* Dr. Geoffrey Garver, Ph.D., J.D., L.L.M., coordinates research on law and governance for the Economics for the Anthropocene Partnership (e4a-net.org) and teaches environmental courses at McGill University and Concordia University. He is on the steering committee of the Ecological Law and Governance Association, ELGA (elga.world).

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INTRODUCTION

The growing tension between the globally dominant socio-political narrative, based on insistence on economic growth, and the alternative limits-based narrative in which the emerging field of ecological law is grounded, creates an urgently needed opening for transformation of law.¹ Contemporary legal systems co-evolved with other socially constructed normative systems that characterize the growth-insistent narrative.² Therefore, the radical transformation that ecological law calls for necessarily involves concomitant transformation of the social, political, economic, and cultural systems with which law interacts across temporal and spatial scales.³

1. Kathryn Gwiazdon, *We Cannot Fail: The Promise and Principles of Ecological Law and Governance*, 11 MINDING NATURE 36, 36 (2018) (highlighting the creation of the Ecological Law and Governance Association (ELGA) as one response to the need to structure principles of law and governance around the foundations of life).

2. PANARCHY: UNDERSTANDING TRANSFORMATIONS IN HUMAN AND NATURAL SYSTEMS 5 (Lance H. Gunderson & C.S. Holling eds., 2002) (explaining that co-evolution involves a constant “interplay between change and persistence, between the predictable and unpredictable”).

3. See *id.* (“The cross-scale, interdisciplinary, and dynamic nature of the theory has [led] us to coin the term *panarchy* for it.”); RICHARD O. BROOKS ET AL., LAW AND ECOLOGY 36 (2002) (suggesting that “both ecology and environmental law are undergoing transformations to better adapt to each other and to the environmental problems they are seeking to resolve”); Donald T. Hornstein, *Complexity Theory, Adaptation, and Administrative Law*, 54 DUKE L. REV. 913, 932, 944 (2005) (demonstrating how transformations that transcend our routine political and social systems may come from a “republican moment[.]”); J.B. Ruhl, *Law’s Complexity: A Primer*, 24 GA. ST. U. L. REV. 885, 896–97, 901 (2008) (“[I]n social systems, change very often is the specific intent of human intervention, in which case knowing how the system responds to change should be an important factor in the design of the instrument of change.”); J.B. Ruhl, *Panarchy and the Law*, 17 ECOLOGY & SOC’Y, no. 3, 2012, art. no. 31, <https://www.ecologyandsociety.org/vol17/iss3/art31/> (demonstrating that adaptive systems theory has already spread to economics, ecology, and sociology); Robin Kundis Craig, *Learning to Think About Complex Environmental Systems in Environmental and Natural Resource Law and Legal Scholarship: A Twenty-Year Retrospective*, 24 FORDHAM ENVTL. L. REV. 87, 92 (2013) (“How do we transform environmental and natural resources law into governance systems that can cope with continual change, ever-present uncertainty, and the potential for catastrophic . . . threshold crossings in socio-ecological systems?”); Ahjond S. Garmestani & Melinda Harm Benson, *A Framework for Resilience-Based Governance of Social-Ecological Systems*, 18 ECOLOGY & SOC’Y, no. 1, 2013, art. no. 9, <http://www.ecologyandsociety.org/vol18/iss1/art9/> (“The primary problems with our current framework for environmental law are that it does not often account for scale and tends to lock-in ‘fixes’

Property regimes and state sovereignty are two of the main normative constructs that will need profound rethinking and regrounding in any transition from contemporary law to ecological law.⁴ Deeply entrenched protections of private property rights and strong resistance to stringent supranational legal regimes for environmental protection and other matters act—often in concert—to impede meaningful, widespread achievement of an ecologically sustainable balance between societal development and ecological integrity.⁵ In particular, remote private ownership and absentee landlords associated with land and resource grabbing often lodge prevailing power over land use decisions in decision makers who are geographically far removed from the effected ecological systems and lacking in the knowledge needed for managing them in an ecologically sustainable manner.⁶

Thomas Berry’s conception of a mutually enhancing human-Earth relationship provides a compelling core objective for ecological law and the

because of the need for certainty in the legal process.”); Rakhyun E. Kim & Klaus Bosselmann, *International Environmental Law in the Anthropocene: Towards a Purposive System of Multilateral Environmental Agreements*, 2 *TRANSNAT’L ENVTL. L.* 285, 307 (2013) (“[T]he ultimate purpose of international environmental law should be about safeguarding the integrity of Earth’s life-support system, or all identified and potential planetary boundaries, as the non-negotiable biophysical preconditions for human existence and development.”); Olivia Odom Green et al., *Barriers and Bridges to the Integration of Social–Ecological Resilience and Law*, 13 *FRONTIERS ECOLOGY & ENV’T* 332, 332, 335 (2015) (demonstrating that adaptive governance may be a part of the transformation to ecological law).

4. See Geoffrey Garver, *A Systems-Based Tool for Transitioning to Law for a Mutually Enhancing Human-Earth Relationship*, 157 *ECOLOGICAL ECON.* 165, 166 [hereinafter Garver, *A Systems-Based Tool for Transitioning to Law*] (explaining that “the dominant anthropocentric narrative . . . [is] reinforced by legal systems built around strong notions of state sovereignty and private property rights”); Geoffrey Garver, *The Rule of Ecological Law: The Legal Complement to Degrowth Economics*, 5 *SUSTAINABILITY* 316, 319, 321 (2013) [hereinafter Garver, *The Rule of Ecological Law*] (contending that a flow of environmental law and economics is the favoring of monetization, leading to primary economic rather than ecological constraints on land).

5. See Garver, *A Systems-Based Tool for Transitioning to Law*, *supra* note 4 (“Prevailing legal systems . . . assume[] non-human nature is subject to human dominance . . .”).

6. See FRED PEARCE, *THE LAND GRABBERS: THE NEW FIGHT OVER WHO OWNS THE EARTH* viii, 5–6 (2012) (explaining the first example of the global “land grabs” he explored, including Al Amoudi, who recruited a former Zenawi minister—Hail Assegdie—who plans to dig a canal through villagers’ land without their knowledge); Jampel Dell’Angelo et al., *The Tragedy of the Grabbed Commons: Coercion and Dispossession in the Global Land Rush*, 92 *WORLD DEV.* 1, 9 (2017) (demonstrating that the “broader dynamics of land grabbing cannot be prevented by acting only on property regimes without addressing power dynamics and systems of production”); Marc Edelman, Carlos Oya & Saturnino M. Borras Jr., *Global Land Grabs: Historical Processes, Theoretical and Methodological Implication and Current Trajectories*, 34 *THIRD WORLD Q.*, 1517, 1528 (2013) (connecting changes in agrarian economy, capitalism, and other drivers of development with solutions in environmental law).

related field of ecological economics.⁷ This Essay is a systems-based examination of how ecological law that supports an ongoing quest for a mutually enhancing human-Earth relationship provides ecologically sound and socially just answers to problems of remote ownership as well as land and resource grabbing. Part I explains and justifies a mutually enhancing human-Earth relationship as a foundational goal of ecological law. Part II provides a more detailed description of remote ownership and absentee landlords and how they are intricately tied to a global economic system that gives hierarchical normative priority to: private property and wealth; strong state sovereignty; and commodification of non-market values for the sake of perpetual economic growth. Part III explains how the radical reordering of normative priorities inherent in ecological law would severely restrict or eliminate remote ownership or absentee landlordism that impedes progress toward a mutually enhancing human-Earth relationship. Although ecological law remains largely conceptual and socio-politically elusive, it warrants detailed development now in order to be ready when its time comes. Fortunately, ecological law is gaining ground with the emergence of rights of nature and other developments in law and related normative domains that will play a determinative role in the human prospect in these ecologically perilous times.⁸

I. A MUTUALLY ENHANCING HUMAN-EARTH RELATIONSHIP: A MORAL GROUNDING FOR ECOLOGICAL LAW

Berry described a mutually enhancing human-Earth relationship as one that reflects that “[i]n reality there is a single integral community of the Earth that includes all its component members whether human or other than human . . . [each of which] has its own role to fulfill, its own dignity, its inner spontaneity.”⁹ It is a relationship in which “[e]very being enters into communion with other beings.”¹⁰ Berry aligns the transition to a mutually enhancing human-Earth relationship with the emergence of the Ecozoic

7. See THOMAS BERRY, *THE GREAT WORK: OUR WAY INTO THE FUTURE* 2–3 (1999) (explaining that European occupation of North America has been unbroken since colonization and even with new achievements such as science, technology, industry, finance, and commerce, environmental devastation resulted, and consequently, a new transition of human-Earth mutual benefit is necessary).

8. See Oliver A. Houck, *Noah's Second Voyage: The Rights of Nature as Law*, 31 TUL. ENV'T L.J. 1, 2–4 (2017) (listing grants of natural rights to glaciers, rivers, and animals and stating how these grants have changed the views of other countries or jurisdictions).

9. BERRY, *supra* note 7, at 4.

10. *Id.*

Era, “the period when humans will be present to the planet as participating members of the comprehensive Earth community.”¹¹

With regard to law, Berry wrote that “[e]cology is not a part of law; law is an extension of ecology.”¹² In other words, law should reflect and maintain a human role within the broader community of life that is life-enhancing and respectful of the ecological roles of other members of that community.¹³ He argued that “[t]o achieve a viable human-Earth situation a new jurisprudence must envisage its primary task as that of articulating the conditions for the integral functioning of the Earth process, with special reference to a mutually enhancing human-Earth relationship.”¹⁴ The law he envisioned “would provide for the legal rights of geological and biological as well as human components of the Earth community.”¹⁵ Each component of the Earth community would have the right “for habitat and the opportunity . . . to fulfill its role in the natural systems to which it belongs.”¹⁶ Humans and all other components of the Earth system would be mutually responsible to respect each other’s rights, and “[j]ustice would consist in carrying out this complex of creative relationships.”¹⁷

Several jurists have further developed Berry’s proposal for legal systems with co-equal rights among all members of the Earth community with detailed elaborations and arguments for “wild law,”¹⁸ “Earth jurisprudence,”¹⁹ “Earth law,”²⁰ and “ecological law.”²¹ These related, or

11. *Id.* at 8.

12. *Id.* at 84.

13. *See id.* (explaining that ecology is not just a single course of study, but rather the basis for cross-subject studies, including law).

14. *Id.* at 61.

15. *Id.* at 161.

16. *Id.* at 80.

17. *Id.* at 61–62.

18. *See* CORMAC CULLINAN, *WILD LAW: A MANIFESTO FOR EARTH JUSTICE* 30–31 (2d ed. 2011) (explaining that wild law is more of an “approach to human governance” than a sector of law, and further, that wild law attempts to encourage a human-nature relationship, with focus on strengthening that relationship to safeguard wilderness and self-regulation of communities).

19. PETER D. BURDON, *EARTH JURISPRUDENCE: PRIVATE PROPERTY AND THE ENVIRONMENT* 1 (2015) (“[Thomas Berry’s] observation that law is central to the present environmental crisis is the motivation behind a growing movement in law called Earth jurisprudence.”).

20. Earth law was a term associated with environmental protection laws as far back as the 1970s, but its more recent use is more closely associated with more radical notions of law, such as rights of nature, that explicitly or implicitly contain a strong critique of conventional environmental law. *See* Homer G. Angelo, *Journal Review, ENVTL. CONSERVATION*, Winter 1975, at 315 (providing a review of *Earth Law Journal: Journal of International and Comparative Environmental Law*, a new journal “[c]ombining interests in comparative and international law” highlighting issues of environmental protection); Michelle Maloney, *Building an Alternative Jurisprudence for the Earth: The International Rights of Nature Tribunal*, 41 *VT. L. REV.* 129, 131–35 (2016) (asserting that Earth law’s more recent use is closely associated with more radical notions of law).

perhaps equivalent, legal concepts all make reference to rights of non-human components of nature.²² Indeed, the increasing constitutional, legislative, or judicial recognition of rights of nature in legal systems at local and national scales is likely the most concrete trend in actual adoption of concepts associated with these broader legal framings, which remain largely conceptual.²³

Paramount emphasis on the primacy of ecological limits, not rights of nature, is nonetheless the most essential and deep-rooted feature of ecological law that seeks to perpetuate a mutually enhancing human-Earth relationship.²⁴ Other key conceptual features include: treatment of humans as a part of nature, and not apart from it; intergenerational, intragenerational, and inter-species fairness; precaution about transgressing planetary boundaries and other systemic ecological and socio-ecological thresholds; and adaptiveness in the adoption and evolution of norms over time, based on appropriate monitoring.²⁵ Including humans in the understanding of nature embeds ecological law in a human-inclusive ecocentric worldview, which is distinct from both a purely anthropocentric worldview that places humanity in a position superior to nature and a purely ecocentric worldview that may be indifferent to the human prospect.²⁶

21. See Garver, *The Rule of Ecological Law*, *supra* note 4, at 328 (“Under the rule of ecological law, individual humans and artificial entities like corporations would be considered interrelational beings in a shared ecological context, and not as free agents whose quest to maximize abstract monetary wealth that can be converted into consumptive and waste-producing activities is given priority.”).

22. CULLINAN, *supra* note 18, at 30; BURDON, *supra* note 19; Maloney, *supra* note 20, at 130; Garver, *The Rule of Ecological Law*, *supra* note 4, at 319.

23. See MIHNEA TANASESCU, ENVIRONMENT, POLITICAL REPRESENTATION, AND THE CHALLENGE OF RIGHTS: SPEAKING FOR NATURE 107, 117 (2016) (providing examples of legislative and judicial recognition of rights of nature at a local and national level).

24. See Garver, *The Rule of Ecological Law*, *supra* note 4, at 319 (outlining that ecological law emphasizes the notion of ecological integrity by stressing the ecological limits on the economy and society in the form of sustainability).

25. *Id.* at 327, 329; see Johan Rockström et al., *A Safe Operating Space for Humanity*, 461 NATURE 472, 472 (2009) (exploring the idea of “planetary boundaries” that define the safe operating space for humanity, and that some of the Earth-system processes have already transgressed their boundaries: climate change, rate of biodiversity loss, and the nitrogen cycle); Will Steffen et al., *Planetary Boundaries: Guiding Human Development on a Changing Planet*, SCIENCE, Feb. 13, 2015, at 738 (explaining that applying the precautionary principle means that the planetary boundary is set at the “safe” end of a spectrum of uncertainty, which means that the further society transgresses from the boundary, the higher the risk of drastic environmental changes); KATE RAWORTH, DOUGHNUT ECONOMICS: SEVEN WAYS TO THINK LIKE A 21ST CENTURY ECONOMIST 95 (2017) (detailing the social influences that impact peoples’ consumptive habits).

26. See CAROLYN MERCHANT, REINVENTING EDEN: THE FATE OF NATURE IN WESTERN CULTURE 4 (2d ed. 2013) (citing historian Lynn White Jr.’s article, *The Historical Roots of our Ecologic Crisis*, to explain that one can blame “Christian arrogance toward nature” for environmental disruption, in that Christianity is the most anthropocentric religion that contributes to a worsening ecological crisis).

Table 1 summarizes how these and other features distinguish ecological law from contemporary environmental law.

Feature	Environmental law	Ecological law
Human-nature relationship	Humans are separate from and superior to nature; goal is perpetual progress in human control of nature, with strong reliance on technological solutions (e.g. geo-engineering to mitigate climate change)	Humans are a part of nature; goal is a mutually enhancing human-Earth relationship, with humility as to prospects for technology to solve complex ecological challenges
Enforceable environmental or ecological limits	Enforceable limits on pollution and development are mostly reductionist, end-of-pipe, subordinate to economic growth, and subordinate to property rights	Ecological limits have primacy over social and economic spheres, and are based on a holistic, integrated, systems-based understanding of the human-Earth relationship; open to de-growth/steady state economics
Use of materials and energy	Promotes efficiency, with a core faith in perpetual decoupling of energy and material throughput and consequent impacts from perpetual economic growth	Promotes sufficiency and drastic reduction in material and energy throughput to keep economy within ecological bounds
Scale	Strong commitment to state sovereignty; weak international/global regimes to address ecological challenges; global and regional trade rules encourage competition and impede strong domestic regimes for environmental protection	Core commitment to subsidiarity principle: global regime with enforceable supranational rules for global ecological issues, with preference for local regulation and respect for local regimes per Ostrom's criteria
Fairness	Core belief in fairness of markets, with some need for correction (e.g. polluter pays principle, internalization of environmental externalities, etc.); tendency to monetize values in decision making, e.g. monetary valuation of "ecosystem services"	Strong limits on market mechanisms as needed to respect ecological limits; bigger role for non-market decision-making; focus on ensuring interhuman, interspecies and intergenerational fairness; multi-criteria valuation methods preferred for decision making involving incommensurate values
Research, monitoring and adaptation	Effects on human health paramount; environmental effects studied but not determinative; weak precautionary approach; few mechanisms to adjust rules based on monitoring	Planetary boundaries and "safe operating space" are key basis of research, monitoring and adaptation; strong precautionary approach

Table 1. Distinguishing Ecological Law from Environmental Law²⁷

27. LAURA WESTRA ET. AL, *ECOLOGICAL INTEGRITY, LAW AND GOVERNANCE* 144 (2018) (internal citations omitted).

As noted above, rights of nature resonate strongly with core elements of ecological law.²⁸ However, while promising for those seeking law grounded in a mutually enhancing human-Earth relationship, rights of nature raise concerns that have not yet been resolved.²⁹ Resolving conflicts between rights of nature and human rights, including private property rights, requires criteria that inevitably will reflect a hierarchy of normative principles and values.³⁰ Particularly troubling is the risk that implementing and giving meaning to rights of nature in a globalized world still operating according to a growth-insistent narrative and worldview will lead to their erosion and dilution, rather than to the radical transformation that rights of nature advocates hope for.³¹ Without fundamental shifts in narrative away from growth insistence, commodification, anthropocentrism, and human exceptionalism—where ever-increasing creation of wealth in human societies is assumed to provide for the common good—conflicts will likely be resolved so as to give priority to economic interests and private property rights.³² That has been the case with the human right to a healthy environment enshrined in Pennsylvania’s state constitution,³³ and in several

28. See *supra* Part I (explaining that the argument for ecological law makes reference to the rights of nature, which is trending through legal systems).

29. See DAVID R. BOYD, *THE RIGHTS OF NATURE: A LEGAL REVOLUTION THAT COULD SAVE THE WORLD* 104 (Susan Renouf ed., 2017) (suggesting that ecological law conflicts with different ideas such as the “inanimate object[s]” in the *Sierra Club v. Morton (Mineral King)* case).

30. See *id.* at 178 (describing examples of the rights of nature conflicting with property rights such as shrimp farming in coastal mangrove forests that causes conflict between an ecological reserve and the farm owner’s property rights).

31. See *id.* at 196 (providing evidence that erosion and dilution exists in both Ecuador and Bolivia); Peter Burdon & Claire Williams, *Rights of Nature: A Constructive Analysis*, in *RESEARCH HANDBOOK ON FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL LAW* 196, 210 (Douglas Fisher ed., 2016) (stressing the difficulty of extending a legal right to nature in the confines of capitalist economics); Garver, *The Rule of Ecological Law*, *supra* note 4, at 326 (“[E]cological law must permeate legal regimes and other disciplines like economics in a systemic, integrated way, and not be seen as a specialty area of the law that applies to isolated problems.”).

32. See BOYD, *supra* note 29, at 230–31 (arguing that rights of nature cannot coexist with issues like economic growth, consumerism, and limitless globalization and that we cannot continue to prioritize property and corporate rights if the rights of nature are going to persist).

33. In Pennsylvania, the state supreme court has held that the State’s constitutional right to a healthy environment (a more anthropocentric right regarding the human-Earth relationship), must be balanced against other constitutional and social and economic rights. *Payne v. Kassab*, 312 A.2d 86, 94 (Pa. Commw. Ct. 1973), *aff’d*, 361 A.2d 263 (Pa. 1976), *abrogated by* Pa. Env’tl. Def. Found. v. Commonwealth, 161 A.3d 911 (Pa. 2017)). As a result, that state constitutional right has had little impact on decisions affecting the human-Earth relationship in Pennsylvania. Mary Ellen Cussack, *Judicial Interpretation of State Constitutional Rights to a Healthful Environment*, 20 B.C. ENVTL. AFF. L. REV. 173, 192–93 (1993). These examples, along with others, suggest that if rights of nature or similar rights are adopted within the dominant global paradigm of growth insistence, without clear criteria for when ecological limits must be accorded primacy, or how to interpret them in light of competing social objectives, the risk is high that the growth-insistent paradigm will overwhelm or at least dilute those rights. *Id.*; see Mary Elizabeth Whittemore, *The Problem of Enforcing Nature’s Rights*

instances involving the constitutional rights of nature in Bolivia and Ecuador.³⁴ Counterexamples can be found but are less prevalent.³⁵ For justice to carry out the “complex of creative relationships” that Berry envisioned,³⁶ simply resorting to conventional balancing tests that subordinate environmental concerns and ecological integrity to economic factors will not do.³⁷ Ecological law requires ecological limits to have primacy throughout the legal system, and criteria must be identified to reflect this primacy in decision making and resolution of conflicts.³⁸

Another concern is that without clearer criteria, according rights to all components of the Earth community, or to “nature” generally, risks creating a system in which nothing and nobody has meaningful rights.³⁹ Also, the rights of nature may have different weight at different scales. For example, building a hydroelectric dam may appear to violate the rights of nature because of harm to local ecosystems, but favor the rights of nature at the global scale because it would reduce greenhouse gas emissions.⁴⁰ With such vagueness, conflicts might be decided by power and force rather than by law, or according to interpretations of law that end up eroding the long-term rights of nature in view of conflicting rights grounded in short-term social or economic interests.⁴¹

Emphasis on place, and on the needs of the intricately linked local components of socio-ecological systems that must be met in order to maintain a mutually enhancing human-Earth relationship, is also part of the

Under Ecuador’s Constitution: Why the 2008 Environmental Amendments Have No Bite, 20 PAC. RIM L. & POL’Y J. 659, 659–67 (2011) (pointing out that Ecuador’s constitutional provision is unclear and provides no guidance as to which living organism prevails in court).

34. Nathalie Rühs & Aled Jones, *The Implementation of Earth Jurisprudence Through Substantive Constitutional Rights of Nature*, 8 SUSTAINABILITY 174, 182 (2016).

35. See Paola Andrea Acosta Alvarado & Daniel Rivas-Ramirez, *A Milestone in Environmental and Future Generations’ Rights Protection: Recent Legal Developments Before the Colombian Supreme Court*, 30 J. ENVTL. L. 519, 519–26 (2018) (analyzing the Colombian Supreme Court’s historic decision to protect the Colombian Rainforest from deforestation, specifically that it was a restrictive approach in applying constitutional rights, and that international environmental law influenced the Court’s decision).

36. BERRY, *supra* note 7, at 62.

37. *Payne*, 312 A.2d at 94.

38. See Garver, *The Rule of Ecological Law*, *supra* note 4, at 326 (“[L]egal regimes must be constrained by ecological considerations . . .”). Developing decision making criteria that reflect this primacy should be a focus of research in the emerging community of scholars of ecological law and governance and organizations like the ELGA.

39. See LYNTON KEITH CALDWELL & KRISTIN SHRADER-FRECHETTE, *POLICY FOR LAND: LAW AND ETHICS* 224 (1993) (“If everything [is] said to have rights, and if there is no way to adjudicate among conflicting rights claims, then (practically speaking) nothing has rights.”).

40. Rühs & Jones, *supra* note 34, at 184.

41. See BURDON, *supra* note 19, at 79 (demonstrating the possible challenges to using earth jurisprudence as a tool for change).

bedrock of rights of nature and other concepts in ecological law.⁴² As applied in practice, rights of nature will only make sense if they are defined, recognized, and enforced with reference to the specific ecosystems and historical trajectories in which they are embedded.⁴³ Theory and experience related to ecological restoration, eco-cultural restoration, and sustainable management of common pool resources (CPRs) will be particularly relevant as this emphasis on place is incorporated into the meaning and application of ecological law.⁴⁴

Ecological and eco-cultural restoration involve a “process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed,”⁴⁵ taking into account criteria such as ecological integrity, historical fidelity, and community engagement.⁴⁶ Of the two, eco-cultural restoration places more emphasis on recovery of mutually supportive cultural practices and ecosystem structure and functioning.⁴⁷ Perhaps the most appealing expression that captures the mutually enhancing interplay between human societies and the ecosystems that support them is the notion of reciprocal restoration.⁴⁸ Reciprocal restoration is “the mutually reinforcing restoration of land and culture such that repair of ecosystem services contributes to cultural revitalization, and renewal of culture promotes restoration of ecological integrity.”⁴⁹ In other words, any notion of ecosystem services to humans must be counterbalanced with a notion of human services to ecosystems.⁵⁰

For ecological, eco-cultural, or reciprocal restoration, human inclusion and intention are key.⁵¹ These human dimensions encapsulate not only the reality of historical human impacts on ecosystems from the local to the

42. Garver, *A Systems-Based Tool for Transitioning to Law*, *supra* note 4.

43. Garver, *The Rule of Ecological Law*, *supra* note 4, at 326.

44. ERIC HIGGS, NATURE BY DESIGN: PEOPLE, NATURAL PROCESS, AND ECOLOGICAL RESTORATION 1, 4 (2003).

45. SOC’Y FOR ECOLOGICAL RESTORATION, THE SER INTERNATIONAL PRIMER ON ECOLOGICAL RESTORATION 3 (Oct. 2004), https://www.ctahr.hawaii.edu/littonC/PDFs/682_SERPrimer.pdf.

46. HIGGS, *supra* note 44, at 4.

47. *See id.* at 236–37 (explaining that ecocultural restoration combines both community activism and the restoration of ecological integrity).

48. *See* Cathy Geist & Susan M. Galatowitsch, *Reciprocal Model for Meeting Ecological and Human Needs in Restoration Projects*, 13 CONSERVATION BIOLOGY 970, 974–75 (1999) (diagraming the reciprocal restoration model).

49. SOC’Y FOR ECOLOGICAL RESTORATION, HUMAN DIMENSION OF ECOLOGICAL RESTORATION: INTEGRATING SCIENCE, NATURE, AND CULTURE 255 (Dave Egan et al. eds., 2011) [hereinafter HUMAN DIMENSION].

50. Garver, *A Systems-Based Tool for Transitioning to Law*, *supra* note 4, at 165–74.

51. HUMAN DIMENSION, *supra* note 49, at 73.

global level, but also the deliberate choice involved in pursuing “a vision of a better relationship between humans and the rest of the world.”⁵² Flexibility in the range of possible choices that will foster or maintain a mutually enhancing human-Earth relationship can be incorporated into the selection of reference ecosystems that are used to establish objectives for restoration.⁵³ The most appropriate are “*locally-tailored* historical references, using all the available and appropriate conceptual tools, so as to integrate both latent and on-going ecological and socio cultural processes and values.”⁵⁴ The element of intentional choice renders ecological and eco-cultural restoration “inherently (1) value laden, (2) context driven, (3) prone to be immersed in disagreement and compromise, and (4) experiential.”⁵⁵

The essential role of choice and intention provides a foundation for incorporating principles from restoration theory and practice into the legal domain.⁵⁶ A key challenge will be to scale up these principles from the mostly local or landscape scales at which restoration takes place to broader regional, national, or transnational scales.⁵⁷

The notion of a mutually enhancing human-Earth relationship also resonates with studies of social systems that have maintained sustainable, enduring use of at least some CPRs in supporting ecosystems.⁵⁸ Based on numerous case studies, Elinor Ostrom identified eight essential features of sustainable use of CPRs:⁵⁹ (1) clear boundaries in regards to the limits of the CPRs and who can access them; (2) locally-tailored rules regarding use and management of the CPRs; (3) participatory rulemaking processes that include those affected by the rules; (4) monitoring systems that are accountable to the community of CPR users; (5) graduated and effective sanctions appropriate for local conditions; (6) lost-cost mechanisms to resolve conflicts; (7) non-interference with government authorities external to the CPR; and (8) governance organized in “multiple layers of nested

52. *Id.* at 1.

53. *Id.* at 156.

54. Luis Balaguer et al., *The Historical Reference in Restoration Ecology: Re-Defining a Cornerstone Concept*, 176 *BIOLOGICAL CONSERVATION* 12, 13 (2014).

55. HUMAN DIMENSION, *supra* note 49, at 1–2.

56. *See id.* at 139–40 (explaining that ecological restoration, especially because it is value-laden, requires questioning political power relations).

57. *See id.* at 142 (describing that restoration takes place in communities, or fields of interaction between different investments, and specifically that “*communities of interest*” involve shared concerns, but may need to converge or dissipate as issues appear).

58. *See* ELINOR OSTROM, *GOVERNING THE COMMONS* 89 (James E. Alt & Douglas C. North eds., 1990) (noting that the resource systems in long-enduring CPRs “clearly meet the criterion of sustainability”).

59. *Id.* at 90.

enterprises.”⁶⁰ A common theme in these features of sustainable governance of CPRs is the importance of a strong communal attachment to place and the local community, and to intergenerational continuity.⁶¹ These place-based and intergenerational commitments imply a need to adapt legal and governance structures and rules for sustainable and shared human use of supportive ecosystems in response to information from monitoring of relevant social and ecological indicators at a local scale.⁶²

Ostrom’s conclusions about sustainable use of CPRs can be expanded to the broader notion of commons in general.⁶³ Although it is generally agreed that the commons “are neither private nor public,”⁶⁴ defining the commons in general terms is elusive because the concept of the commons incorporates the notion that they are defined by the communities in which they are recognized.⁶⁵ Yet the commons can be juxtaposed broadly to both private property, where rights to exclusion and control are paramount, and to government forces, which impose rules from afar.⁶⁶ In a commons, the community places limits on “[excessive property] accumulation and [excessive] concentration of power.”⁶⁷ The role of the commons in resolving remote ownership problems under ecological law will be revisited in Part III.

II. THE REMOTE OWNERSHIP PROBLEM

Remote ownership problems arise when people, corporations, or governments exercise property rights over places with which they have

60. *Id.* By nested enterprises, Ostrom means different levels of governance within a layered system of governance, at which rules are tailored to the conditions at each level. *Id.* at 101–02.

61. *Id.*

62. *See id.* at 92 (stressing the need for local rules that satisfy the unique issues presented in different communities or geographical regions); Dell’Angelo et al., *supra* note 6 (expressing the need for policies to “take into account the multiple and diverging values of different societies”).

63. *See* OSTROM, *supra* note 58, at 90 (listing the eight design principles illustrated by long-enduring CPR institutions); FRITJOF CAPRA & UGO MATTEI, *THE ECOLOGY OF LAW: TOWARD A LEGAL SYSTEM IN TUNE WITH NATURE AND COMMUNITY* 46 (2015) (explaining the Ancient Greek contribution to the notion of the commons in that they are “things belonging to nobody,” but also belonging to everyone).

64. *See* CAPRA & MATTEI, *supra* note 63, at 46, 106 (explaining the Roman principle of *res communis omnium*, which stands for “things belonging to everyone”).

65. *See id.* at 52 (“Life in such common-based organic communities was difficult for an outside authority to organize, discipline, or rationalize.”).

66. *See id.* at 44 (contrasting the commons with private ownership, which “divid[es] the whole into individualistic components”).

67. *See id.* at 52 (explaining the goals of the commons “were inclusion and community rather than exclusion and individualization; and traditional[ly] promoted the diffusion of responsibility . . . rather than the accumulation and concentration of power”).

little or no attachment and about which they have little or no ecological knowledge.⁶⁸ Although remote ownership, or absentee landlordism, can arise in a wide variety of situations and take myriad forms, the focus here is on remote ownership in the context of land and resource grabbing for agricultural purposes.⁶⁹ Land and resource grabbing occurs when remote owners or investors drive conversion of land and resources from generally small-scale, traditional, locally controlled uses or relatively undeveloped wilderness to massive holdings devoted to industrial agriculture or resource extraction serving global markets of finance, goods, and services.⁷⁰ A focus on land and resource grabbing for agriculture shines a spotlight on most, if not all, of the main problems associated with remote ownership.⁷¹

A. Ecological Disruption from Agriculture

Since the Neolithic transition, agriculture has been the root of many forms of ecologically disruptive human behavior that strains scarce resources (renewable and non-renewable) or overwhelms the capacity of ecosystems to handle the outputs of human transformations of material and energy.⁷² Agriculture is a form of simplification and intensification of land use⁷³ that, even in its most primitive forms, alters the ecosystems it

68. See PEARCE, *supra* note 6, at vii–x (explaining the purpose for the author’s global travel and that different people and corporations are acquiring large-scale land rights, while simultaneously staying disconnected to the grabbed land and contributing to world starvation, water scarcity, and over exploitation of resources in the grabbed lands areas).

69. See *id.* at 3–16, 29–42 (describing different examples of land grabs for agricultural reasons such as a Saudi billionaire grabbing land in Ethiopia for agricultural reasons, the Tabuk Agriculture Development Company over-irrigating in Saudi Arabia, and Philippe Heilberg’s ties to a mega land deal with notorious warlords, General Paulino Matip and his son).

70. See *Agriculture at a Crossroads: Findings and Recommendations for Future Farming: Land Grabbing*, GLOB. AGRIC., <https://www.globalagriculture.org/report-topics/land-grabbing.html> (last visited Apr. 14, 2019) (explaining that international investors engage in large-scale land acquisitions for agriculture production).

71. See Mercedes Stickler & Alisa Zomer, *Agricultural Land Grabs Threaten Local Property Rights and Sustainable Development*, WORLD RES. INST., <https://www.wri.org/blog/2011/04/agricultural-land-grabs-threaten-local-property-rights-and-sustainable-development> (last visited Apr. 14, 2019) (explaining that land grabs have intense negative effects on the environment and rural living, specifically that it affects customary and traditional lands rights and impacts local ecosystems that natives rely on for their livelihood).

72. See VACLAV SMIL, *ENERGY IN NATURE AND SOCIETY: GENERAL ENERGETICS OF COMPLEX* 148, 308 (2008) (noting that preindustrial agriculture caused great environmental consequences).

73. See JAMES C. SCOTT, *SEEING LIKE A STATE: HOW CERTAIN SCHEMES TO IMPROVE THE HUMAN CONDITION HAVE FAILED* 165, 262, 264 (1998) (discussing detailed studies showing that industrialization resulted in less economic returns than intensification of agriculture did, which focusses on manuring and attentive breeding, and further, that “high-modernist agriculture” succeeds in farm

occupies.⁷⁴ For example, farming tends inherently to reduce biodiversity because, typically, its aim is to focus on a smaller range of species than would otherwise be present and harvest reduces the overall amount of energy available for life support.⁷⁵ Furthermore, strategies for meeting the basic challenge of finding, creating, or maintaining suitable soil and moisture conditions for agriculture include: swidden agriculture, fallow periods, crop rotation, multi-cropping, no-till cultivation, irrigation, and nutrient addition.⁷⁶ All have ecological implications, which may include: loss or degradation of habitat for terrestrial and freshwater species; reduced capacity for carbon storage; erosion and salinization of soil; desertification; and water and air pollution from nutrient and pesticide run-off and drift, along with climate and other ecological impacts associated with the energy source used.⁷⁷

The environmental history of agriculture during the early modern period (roughly 1400–1800 C.E.) in different parts of the world is replete with accounts of its significant ecological impacts.⁷⁸ Reliance on energy from biomass, wind, and water placed a strong demand on agriculture, not only for food and fiber for human survival, but also the energy needed to extract work from humans and animals that powered much of the ever-

simplification, which is the “process of simplifying the floral profusion of nature” to coax specific species of flora instead of others).

74. SMIL, *supra* note 72, at 308.

75. Helmut Haberl et al., *A Socio-Metabolic Transition Towards Sustainability? Challenges for Another Great Transformation*, 19 SUSTAINABLE DEV. 4, 5–7 (2009) (detailing the growing use of natural resources, such as land and water, and its effect on biodiversity loss and energy reductions).

76. See JOHN F. RICHARDS, *THE UNENDING FRONTIER: AN ENVIRONMENTAL HISTORY OF THE EARLY MODERN WORLD* 152 (2003) (demonstrating that Japan intensified cultivation through the use of crop rotation, multi-cropping, and fallow periods); see also SMIL, *supra* note 72, at 162, 164, 292 (detailing different agriculture strategies).

77. See Thorkild Jacobsen & Robert M. Adams, *Salt and Silt in Ancient Mesopotamian Agriculture: Progressive Changes in Soil Salinity and Sedimentation Contributed to the Breakup of Past Civilizations*, SCIENCE, Nov. 21, 1958, at 1251 (explaining that Iraq’s semi-arid climate and low permeability of the soils subjected land to salt accumulation that was likely due to irrigation); J.R. MCNEILL, *AN ENVIRONMENTAL HISTORY OF THE TWENTIETH-CENTURY WORLD* 35 (2000) (asserting that agriculture has caused soil erosion since its inception, and that soil erosion first occurred with new agriculture practices in the Middle East, China, and India and continued as the population grew); Pichu Rengasamy, *World Salinization with Emphasis on Australia*, 57 J. EXPERIMENTAL BOTANY 1017, 1019 (2006) (discussing how irrigation causes the salinization of soil); SMIL, *supra* note 72, at 308 (considering the implications of different agricultural strategies).

78. See Kenneth Pomeranz, *Political Economy and Ecology on the Eve of Industrialization: Europe, China, and the Global Conjunction*, AM. HIST. REV. 425, 440, 445 (2002) (stating that from around 1400 to 1800 C.E., Europeans almost experienced similar environmental ruin to that which China experienced in the Yangtze Delta).

expanding economy.⁷⁹ The basic strategies were to intensify agricultural production locally with increased inputs of labor or other types of energy, irrigation, or modified production methods; or to augment production extensively by moving to or relying on (through trade or conquest) external areas, either nearby (e.g., drained wetlands) or remote (e.g., the Baltics, Eastern Europe, Scandinavia, the Americas, Northern China, Taiwan, and South Africa).⁸⁰

Modern agriculture contributes significantly to climate change, disruption of global nutrient cycles, biodiversity loss, land use change, and other pressures on planetary boundaries.⁸¹ Since 1800, cropland has tripled; it now takes up about 12% of the Earth's ice-free land surface, and pastures another 22%—a vast transformation since the Neolithic transition.⁸² Irrigated land increased from 75 million hectares at the end of World War II to over 275 million hectares in 2000, mostly in Asia.⁸³ Agriculture globally places significant pressure on accessible freshwater supplies.⁸⁴ Crop farming uses about 5% of total primary energy supply globally, requiring fossil-fuel inputs at every stage.⁸⁵ Methane from rice paddies and livestock, nitrous oxide emissions from nitrogen fertilization and nitrification

79. See ROLF PETER SIEFERLE, *THE SUBTERRANEAN FOREST: ENERGY SYSTEMS IN THE INDUSTRIAL REVOLUTION* 23–26 (2001) (arguing that advances in agrarian technology result in human intensive energy centers); SMIL, *supra* note 72, at 155, 164 (noting that humans and animals expended enormous energy for irrigation); CLIVE PONTING, *A NEW GREEN HISTORY OF THE WORLD: THE ENVIRONMENT AND THE COLLAPSE OF GREAT CIVILIZATIONS* 40 (2007) (providing reasoning for the evolution and proliferation of agriculture).

80. Richard C. Hoffmann, *Frontier Foods for Late Medieval Consumers: Culture, Economy, Ecology*, 7 *ENV'T & HIST.* 131, 136–37 (2001); see Pomeranz, *supra* note 78, at 441–43 (providing examples of how Europe greatly benefited from imports from America); ERIC LIONEL JONES, *THE EUROPEAN MIRACLE: ENVIRONMENTS, ECONOMIES, AND GEOPOLITICS IN THE HISTORY OF EUROPE AND ASIA* 81–82 (2003) (discussing how widespread extraction economies created an advantageous position for European colonial powers); RICHARDS, *supra* note 76, at 106 (2003) (stating that China expanded into Taiwan to cultivate its “unused” land); SMIL, *supra* note 72, at 164, 166 (showing that many countries adopted crop rotation to increase agricultural productivity).

81. SMIL, *supra* note 72, at 308.

82. See MCNEILL, *supra* note 77, at 212–14 (describing how the world's cropland has grown, paralleling that of population growth, and that this growth continued throughout the centuries due to colonization, the international grain market, and chemical fertilizers); Navin Ramankutty et al., *Farming the Planet: 1. Geographic Distribution of Global Agricultural Lands in the Year 2000*, 22 *GLOBAL BIOGEOCHEMICAL CYCLES* 1, 14 (2008); Rockström et al., *supra* note 25, at 473 (showing that “change in land use” is one of the Earth-system processes that has converted 11.7% of total land cover to cropland use).

83. SMIL, *supra* note 72, at 294.

84. See Ramankutty et al., *supra* note 82, at 1 (expressing that “[h]uman land use activities are a force of global significance,” and affect freshwater resources); Rockström et al., *supra* note 25, at 473 (stating that humanity is likely to soon approach the boundaries of freshwater use).

85. See SMIL, *supra* note 72, at 291–92, 303 (showing that the total energy cost of farming is less than 5% and that farmers around the world have mechanized their farming practices).

processes, and basic loss of carbon storage capacity also contribute to climate change.⁸⁶ Anthropogenic conversions of atmospheric nitrogen to reactive forms that enter ecosystems were virtually non-existent before the industrial era, but are now equal to natural conversions, doubling the global load.⁸⁷ Phosphorus, which (unlike nitrogen) derives from exhaustible fossil minerals, is also heavily used as an agricultural fertilizer.⁸⁸ Anthropogenic phosphorus and nitrogen loads contribute to eutrophication of freshwater ecosystems and oxygen-depleted dead zones where surface run-off enters ocean waters.⁸⁹

B. Metabolic Rift and the Rise of Global Trade

Around 4,000 years ago, domestication of animals capable of transporting heavy loads over long distances (especially camels) led to the development of extensive networks in Asia for trading salt, spices, silk, gems, and other valued goods.⁹⁰ Regional trade networks gradually expanded in similar patterns in other parts of the world.⁹¹ In Europe, for example, regional trade of grains, fur, stockfish, and other goods in the 12th and 13th centuries solidified into the Hanseatic League.⁹² The Hanseatic League was a sophisticated network for facilitating trade and protecting the

86. See Ramankutty et al., *supra* note 82, at 1 (finding agriculture at least partially responsible for the emissions of greenhouse gases and changing regional climates); Rockström et al., *supra* note 25, at 474 (explaining that modern agriculture, specifically manufacturing fertilizer, results in additional nitrous oxide in the atmosphere, which causes environmental changes).

87. See Rockström et al., *supra* note 25, at 473 (comparing the pre-industrial levels of nitrogen “removed from the atmosphere for human use” at zero tonnes per year, with the current status at 121 million tonnes per year and the proposed boundary of 35 million tonnes); Steffen et al., *supra* note 25 (arguing that it is important to place boundaries on changes in biochemical flows, such as nitrogen, because these changes affect the Earth’s capacity for resilience).

88. See SMIL, *supra* note 72, at 294 (providing that phosphorus is found in potash, which when diluted with H₂SO₄ creates a superphosphate fertilizer).

89. See Rockström et al., *supra* note 25, at 474 (emphasizing that anthropogenic changes in the nitrogen and phosphorus flows have altered marine ecosystems, which justifies the need for planetary boundaries for nitrogen and phosphorous flows); Stephen Carpenter & Elena Bennett, *Reconsideration of the Planetary Boundary for Phosphorus*, 6 ENVTL RES. LETTERS 1, 8 (2011) (“Human release of [phosphorus] to the environment is causing widespread eutrophication of surface freshwaters.”); Steffen et al., *supra* note 25, at 742 (noting that there is increasing evidence that biochemical flows, such as nitrogen and phosphorus, may have impacts on sea biodiversity, and further that the analysis revealed a need for another boundary to avert eutrophication of freshwater).

90. Eric C. Ellis et al., *Used Plant: A Global History*, 110 PROC. NAT’L ACAD. SCI. U.S. 7978, 7981–82 (2013).

91. See Donald Worster, *The Vulnerable Earth: Toward a Planetary History*, 11 ENVTL. REV. 87, 94 (1987) (“[M]arkets and trade had existed in pre-modern times . . .”).

92. See Hoffmann, *supra* note 80, at 148 (narrating how the herring industry created a trade revolution establishing the Hanseatic League).

interests of merchants in Northern Europe from the 13th to the 17th century.⁹³

Beginning in the late 15th century, the long-distance oceanic voyages of Europeans to East Asia, Africa, and the Americas initiated a period of significant expansion in trade.⁹⁴ European countries brought new forms of intensive agricultural land use to the Americas and elsewhere.⁹⁵ For example, export-oriented Caribbean sugar plantations in the 17th and 18th centuries stood out as a new agricultural form, with massive local ecosystemic consequences, as well as the social consequences associated with the African slave trade.⁹⁶ Europeans brought Old World domesticated plants and animals to the Americas (e.g., wheat, sheep, horses, and cattle) and introduced New World domesticated plants (e.g., maize, tomatoes, and potatoes) to the Old World.⁹⁷ They also brought Old World diseases, most notably smallpox, which killed off 50% or more of indigenous populations, thereby temporarily reducing the ecosystemic impacts of indigenous agriculture.⁹⁸

Another feature of this era is the privateers acting on behalf of European monarchs through official charters that evolved into the first corporations—essentially, legally recognized artificial entities that allowed investors to reap vast material returns from conquest of new territory and resources in Asia, Africa, and the Americas.⁹⁹ The imprimatur of divinely-rooted royal right infused the violent European invasions and conquests of the early modern era with moral and legal authority. This authority implicitly persists in the modern societies that emerged from conquered lands in the Americas and elsewhere—in the sense that the legitimacy of

93. GEORGE CAWSTON, *THE EARLY CHARTERED COMPANIES* 4 (W.S. Hein 2008) (1896).

94. See Hoffmann, *supra* note 80, at 135–39 (discussing trade expansion such as the grain trade expansion of the 1460s and line cattle trades).

95. See *id.* at 131 (“A continual western history of feeding beyond the bounds of natural local ecosystems goes back to Europe’s high and later Middle Ages.”).

96. See Richards, *supra* note 76, at 460 (stating that sugar planting caused ecological and social stresses in the Caribbean).

97. *Id.* at 311–12; see ALFRED W. CROSBY, *THE COLUMBIAN VOYAGES, THE COLUMBIAN EXCHANGE, AND THEIR HISTORIANS* 8 (Michael Adas ed., 1987) (discussing the exchange of agricultural and livestock species between the Old and New World).

98. See CROSBY, *supra* note 97 (“The decisive advantage of the human invaders of America was not their plants or animals—and certainly not their muskets and rifles, which Amerindians eventually obtained in quantity—but their diseases.”); Richards, *supra* note 76, at 314 (reviewing how the sudden onset of new diseases, like smallpox, devastated indigenous peoples); PONTING, *supra* note 79, at 215 (describing the variety of diseases brought from the Old World to the New World).

99. DAVID C. KORTEN, *THE GREAT TURNING: FROM EMPIRE TO EARTH COMMUNITY* 129–30 (1st ed. 2006) (“Over time, the ruling monarchs turned from swashbuckling adventurers and chartered pirates to chartered corporations as their favored instruments of colonial expansion, administration, and pillage.”).

those colonial conquests rarely has been comprehensively or effectively questioned or redressed on the basis of contemporary notions of the rule of law, human rights, and justice.¹⁰⁰ This is true not only in regard to those societies domestically, but also in regard to global patterns of material and energy flows through trade channels that have roots in the power imbalances and legal orders of the early modern era.¹⁰¹ Notably, the privateers of the early modern era evolved into modern corporations. Corporations continue to play a role in land and resource grabbing that transfers wealth from relatively powerless indigenous peoples and smallholders to remote owners—often, investors in corporate schemes package land and resources into financial instruments that reap high returns on investment.¹⁰²

Thus, the early modern period began a global trade and investment regime, in which increasingly wealthy population centers in Europe,¹⁰³ and eventually elsewhere, became increasingly dependent on provisioning from remote parts of the world—in other words, a period of rising metabolic rift (i.e., the removal of some portion of bioregional metabolism to remote areas) and reliance on “ghost acre[s]” (i.e., the amount of land spared from agricultural or other uses by using remote lands or new energy regimes).¹⁰⁴ Ever since, through expanding trade, people—especially in wealthy industrial societies—have become increasingly detached from the ecosystems that maintain them; based on consumption, individual

100. Michael M’Gonigle, *Green Legal Theory: A New Approach to the Concept of Environmental Law*, 4 NEUE KONZEPTE 34, 36 (2008).

101. See JUAN MARTINEZ-ALIER, ECOLOGICAL ECONOMICS: ENERGY, ENVIRONMENT AND SOCIETY 102 (1987) (explaining that the study of the flow of material and energy shows that energy has not reached a “subsistence limit”); Arturo Escobar, *Latin America at a Crossroads: Alternative Modernizations, Post-Liberalism, or Post-Development?*, 24 CULTURAL STUD. 1, 1 (examining the socio-economic changes occurring in Latin America); PONTING, *supra* note 79, at 171–72 (showing how colonialism created a world economy).

102. See PEARCE, *supra* note 6, at 41–42 (speaking of Philippe Heilberg’s ties with South Sudan’s Unity Province, through a mega land deal with notorious warlords, General Paulino Matip and his son).

103. See Joshua K. Leon, *The Role of Global Cities in Land Grabs*, 36 THIRD WORLD Q. 257, 258 (2015) (stressing that the concentration of power in cities continues, with more than half of the world’s population now in urban areas, and cities are increasingly the power centers underlying land grabs).

104. See Hoffmann, *supra* note 80, at 139, 149 (showcasing that Europe became dependent on long distance trading of cattle and fish from remote locations); Pomeranz, *supra* note 78, at 438 (providing examples of different countries relying on imports from remote locations); JONES, *supra* note 80, at 83 (defining the concept of “ghost acreage”); Brett Clark & John B. Foster, *Ecological Imperialism and the Global Metabolic Rift: Unequal Exchange and the Guano/Nitrates Trade*, 50 INT’L J. COMP. SOC. 311, 311, 313, 316 (2009) [hereinafter Clark & Foster] (asserting that ecological imperialism creates a metabolic rift, specifically highlighting the international guano trade in the 19th century that created a metabolic rift from international soil transfers).

ecological footprints globally are less and less local.¹⁰⁵ Ongoing patterns of land and resource grabbing exacerbate these trends in the current era.¹⁰⁶

C. Modern Global Trade and Investment

By the end of the early modern era and at the onset of the Industrial Revolution, a world market was well established, creating an unprecedented level of global interconnectedness of agricultural production and its cascade of impacts.¹⁰⁷ Yet agriculture and trade prior to about 1800 were still contained within the energetic limits on transport and production methods achievable in an agrarian energy system.¹⁰⁸ Powered by fossil fuels, population expansion, technological innovations, and rising consumption, global markets have expanded exponentially since the dawn of the Industrial Revolution.¹⁰⁹ As noted above, the ecological impacts of modern agriculture, transformed over the past two centuries by fossil fuels and scientific, industrial, and chemical revolutions, are of another order altogether.¹¹⁰ Fossil-fuelled modern agriculture depends on mechanization, automation, massive use of inorganic fertilizers and pesticides, irrigation that relies on major alterations of aquatic and hydrologic systems with dams and other water management infrastructure, an industrial approach that favors disease-vulnerable monocultures of a dwindling number of species of plants and animals, genetic engineering, and increasing consumption of

105. See BJÖRN NYKVIST ET AL., NATIONAL ENVIRONMENTAL PERFORMANCE ON PLANETARY BOUNDARIES: A STUDY FOR THE SWEDISH ENVIRONMENTAL PROTECTION AGENCY 22 (2013) (discussing that humans now live in what is known as the Anthropocene—“an era when humans have become the dominant geological force”—and that international trade causes environmental impacts elsewhere, as opposed to locally).

106. See, e.g., PEARCE, *supra* note 6, at 93–95 (outlining Susan Payne’s London connection with Africa, specifically that she owns the largest land hold in southern Africa, while she engages in buying and selling African farmland with unlimited rights to irrigation).

107. Rachel Beddoe et al., *Overcoming Systemic Roadblocks to Sustainability: The Evolutionary Redesign of Worldviews, Institutions, and Technologies*, 106 PROC. NAT’L ACAD. SCI. U.S. 2483, 2485 (2009) (explaining that the Industrial Revolution brought fuels to the nation, which led to economic growth from factors such as pesticides, fertilizers, and mechanized agriculture).

108. See SIEFERLE, *supra* note 79, at 34 (discussing the natural limitations of traditional agrarian expansion due to a limited amount of solar energy); SMIL, *supra* note 72, at 166 (describing how the agrarian food production system led to cyclical famine).

109. See KARL POLANYI, THE GREAT TRANSFORMATION: THE POLITICAL AND ECONOMIC ORIGINS OF OUR TIME 42–43 (2d ed. 2001) (noting that the Industrial Revolution brought a new belief that an unlimited amount of material commodities could resolve societal issues, and further, that growth in population and industry influenced change in the market economy).

110. See Lester R. Brown, *The Social Impact of the Green Revolution*, 39 INT’L CONCILIATION 3, 6 (1971) (“The technological breakthrough achieved by agricultural scientists foreshadows widespread changes in the economic, social, and political orders . . .”).

meat.¹¹¹ Along with these impacts, the metabolic rift between where food and fiber are produced and consumed has widened significantly.¹¹²

The modern globalized economy is the progeny of this market.¹¹³ Today's globalized market operates on the principles of capitalism, profit-seeking, and commitment to perpetual economic growth.¹¹⁴ Capital now moves with few constraints around the globe, always seeking to expand and maximize short-term profit. Countries and multinational corporations engage in a frenzy of market competition that relies on the greatest exploitation of cheap labor and lowest-cost extraction of material and energy possible.¹¹⁵ In the recent rash of land and resource grabs—particularly in Africa, Latin America, and Asia—and bioprospecting in tropical forests, the owners and controllers of financial capital, along with political leaders they support or tolerate, retain authority and control over the flows of material and energy.¹¹⁶

The contemporary rationale for international trade and investment is embedded in the dominant paradigm that gives priority to economic growth

111. See MCNEILL, *supra* note 77, at 216 (stating that by the early 1990s, most industrialized nations revolutionized their agriculture practice with fossil fuels, chemicals, monocropping, and machines); Rockström et al., *supra* note 25 (suggesting that reliance on fossil fuels and industrialized agriculture have resulted in damaging levels of human activity that are detrimental to the systems that keep Earth in a stable state); Jonathan A. Foley et al., *Solutions for a Cultivated Planet*, 478 NATURE 337, 338–39 (2011) (discussing the environmental impacts of agricultural expansion and intensification, threatening land and water quality, biodiversity, and the climate).

112. See Clark & Foster, *supra* note 104, at 315 (arguing that capitalism, global trade, and intense agricultural practices create a metabolic rift in soil nutrients).

113. See *id.* at 313 (“[T]he rise of the capitalist world economy itself was synonymous with the emergence of a hierarchical division of nations through the appropriation of distant lands, labor, and resources.”).

114. See *id.* at 314 (finding that the globalized markets approach of capitalism is “‘*expansion-oriented and accumulation-driven*’, which pushes it to subsume the entire world to its logic of accumulation”).

115. See MCNEILL, *supra* note 77, at 358 (highlighting that the extraction of materials and energy may have left mankind in an “ecological crisis,” which is unsustainable and necessitates a new regime to avoid collapse); JAMES GUSTAVE SPETH, *THE BRIDGE AT THE EDGE OF THE WORLD: CAPITALISM, THE ENVIRONMENT, AND CROSSING FROM CRISIS TO SUSTAINABILITY* 47–51 (2008) (proclaiming that consumption stimulates a “growth fetish” in the economy, which now grows exponentially, parallel to natural resource use and pollution output); PEARCE, *supra* note 6, at 29–30 (providing one example of a multinational corporation, Tabuk Agriculture Development Company, in Saudi Arabia that is irresponsibly using enormous amounts of water to operate a 90,000-acre dairy farm).

116. See Clark & Foster, *supra* note 104, at 312–13 (examining the world's capital system, specifically its vertical flow of energy and matter to more developed countries, negatively impacting the socio-ecological conditions of the extractive countries); PEARCE, *supra* note 6, at 141 (discussing American fruit companies taking over whole states in Latin America and sustaining relationships with corrupt governments).

and strong protection of private property and state sovereignty.¹¹⁷ Trade broadens the market arenas in which private proprietors can seek profit, create employment opportunities, and contribute to economic growth. It also expands the goods and services available to people worldwide—for example, North American grocery stores now have produce from around the world throughout the year.¹¹⁸ Trade liberalization reduces or eliminates measures of sovereign states that impose tariffs or other restrictions on imports or foreign investments.¹¹⁹

The main economic justification for international trade derives from David Ricardo's principle of comparative advantage—a country “has a comparative advantage if it can produce the good in question more cheaply relative to other goods it produces than can its trading partners, regardless of absolute costs.”¹²⁰ Comparative advantage relies on a country's internal cost ratios in producing goods and services rather than on absolute advantage; absolute advantage is based on a direct comparison of costs of individual goods and services in different countries.¹²¹ However, comparative advantage is based on the assumption that capital is immobile.¹²² In the globalized economy, in which capital is increasingly mobile beyond national borders through foreign investments and transnational companies, this core assumption is more and more in doubt.¹²³ In contemporary trade regimes,

[g]lobalization creates an increasingly prominent role for transnational corporations, encourages the transportation of resources and manufactured goods all over the planet, facilitates the instantaneous opportunistic movement of finance capital across national boundaries in search of the highest returns, and

117. See HERMAN E. DALY & JOSHUA FARLEY, *ECOLOGICAL ECONOMICS: PRINCIPLES AND APPLICATIONS* 366 (2d ed. 2011) (demonstrating that international trade is not trade between countries, but rather between private firms within different countries for the firm's private benefit and economic gain).

118. See *id.* at 355 (highlighting that trade allows us to experience “other peoples' traditions, tastes, and capacities”).

119. Cf. *id.* at 396 (“In the recent era of liberalization, we often witnessed unpredicted changes in international capital flows in and out of countries . . .”).

120. *Id.* at 310.

121. See *id.* at 311 (explaining, with a hypothetical, how comparative advantage works).

122. *Id.* at 312.

123. See *id.* at 361 (finding that “it is not impossible for productive capacity, capital, to be transferred from one country to another,” even though capital mobility must be ruled out for the “comparative advantage argument to work between countries”).

generally encourages the integration of regional and national economies.¹²⁴

In this economic environment, the competition for high returns, combined with the domestic benefits nation states derive if they can attract investment and productive enterprises, creates a disincentive for strong environmental protection or other socially or ecologically beneficial measures that reduce profits.¹²⁵ This dynamic is especially disadvantageous for less developed countries, which end up trapped in debt and hampered in regard to domestic social and environmental programs as they compete to export commodities to markets in wealthier countries.¹²⁶

The international community has a strong commitment to enhancing trade and investment across national borders. The World Trade Organization (WTO) is the international institution that administers and enforces international trade rules at the global scale.¹²⁷ Bilateral or multilateral trade agreements, such as the expiring North American Free Trade Agreement (NAFTA), supplement those rules at the regional scale.¹²⁸

124. William E. Rees, *Globalization and Sustainability: Conflict or Convergence?*, 22 BULL. SCI., TECH. & SOC'Y 249, 257 (2002).

125. *Id.* at 258.

126. *See id.* (indicating that the price of primary goods in developing countries depreciated over 50% from 1980 to 1983).

127. *See What We Stand For*, WTO, https://www.wto.org/english/thewto_e/whatis_e/what_stand_for_e.htm (last visited Apr. 14, 2019) (demonstrating that the WTO promotes trade and investment by lowering trade barriers and discouraging unfair practices).

128. The NAFTA experience demonstrates governments' ability to adopt rigorous, enforceable supranational rules to support their priorities. *See* North American Free Trade Agreement, Can.-Mex.-U.S., Dec. 17, 1992, 32 I.L.M. 289 (1993) (showing that Articles 1116 and 1117 allow investors to pursue arbitration). They did so in NAFTA Chapter 11 by waiving their sovereign immunity to allow private investors to pursue binding arbitration seeking judicially enforceable monetary awards that include estimated lost profits for breach of the NAFTA's investor protections. *Id.* at arts. 1101–1138.2. Although a comprehensive review of Chapter 11 cases involving challenges to environmental measures is beyond the scope of this analysis, two recent cases bear mention because they clearly illustrate problematic aspects of remote ownership and control. For example, see *Clayton v. Canada*, Case No. 2009.04 (Perm. Ct. Arb. 2015), where a Chapter 11 panel of three arbitrators ruled 2–1 that Canada violated Chapter 11 as a result of a joint federal-provincial environmental assessment process that led to Canada's rejection of a marine terminal on the Digby Peninsula in Nova Scotia that a U.S.-based company sought to ship basalt from a quarry in the area to the U.S. The federal and provincial governments concluded that the project "poses the threat of unacceptable and significant adverse effects to the existing and future environmental, social and cultural conditions influencing the lives of individuals and families in the adjacent communities." Letter from Mark Parent, Minister of Env't and Labour, to Paul G. Buxton, Project Manager, Bilcon of Nova Scotia Corp. (Nov. 20, 2007). Canada now faces the panel's ruling on the investors' compensation claim totaling more than \$475 million. *See* SCOTT SINCLAIR, CANADIAN CTR. FOR POLICY ALT., CANADA'S TRACK RECORD UNDER NAFTA CHAPTER 11: NORTH AMERICAN INVESTOR–STATE DISPUTES TO JANUARY 2018, at 5 (2018) (reflecting on Canada's eight losses and NAFTA Chapter 11's interference with Canada's regulatory authority). In

The WTO, established in 1995, aims “to help trade flow as freely as possible—so long as there are no undesirable side effects—because this is important for economic development and well-being.”¹²⁹ The approach to the human-Earth relationship reflected in the WTO is largely mimicked in regional trade and investment agreements.¹³⁰

Expanded liberalized trade and investment is a key component of the international community’s dominant commitment to ever-rising economic growth.¹³¹ For example, in 2014 the G20 leaders stated:

Trade and competition are powerful drivers of growth, increased living standards and job creation. In today’s world we don’t just trade final products. We work together to make things by importing and exporting components and services. We need

Lone Pine Resources Inc. v. Government of Canada, a U.S. investor claimed in excess of \$250 million to compensate for the Quebec government’s revocation under its 2011 *Act to Limit Oil and Gas Activities* of the investor’s licenses to explore for oil and natural gas along and near the St. Lawrence River near Trois Rivières, Quebec. See *Lone Pine Res. Inc. v. Canada*, ICSID Case No. UNCT/15/2. Notice of Arbitration, ¶¶ 49, 58 (Sept. 6, 2013) (stating that Lone Pine expended millions of dollars and considerable time and resources in Quebec to receive necessary mining permits). The investor anticipated that the exploration licenses could lead to shale gas development in the region. *Id.* ¶¶ 7–8. Based on a strategic assessment of the impacts of shale gas and other hydrocarbon development on the human and biophysical environment in the region, the government of Quebec concluded that the region was not suitable for hydrocarbon development. *Id.*

129. See *Understanding the WTO: Who We Are*, WTO, https://www.wto.org/english/thewto_e/whatis_e/who_we_are_e.htm (last visited Apr. 14, 2019) (“At [the] heart [of the WTO] are the WTO agreements, negotiated and signed by the bulk of the world’s trading nations.”); WTO, ANNUAL REPORT 2016, at 4 (2016) (providing a basic understanding of the WTO, including who it is, what it stands for, and what it does).

These documents provide the legal ground rules for international commerce. They are essentially contracts, binding governments to keep their trade policies within agreed limits. Although negotiated and signed by governments, the goal is to help producers of goods and services, exporters, and importers conduct their business, while allowing governments to meet social and environmental objectives.

Understanding the WTO: Who We Are, *supra*. The WTO administers and enforces trade rules pursuant to the General Agreement on Tariffs and Trade (GATT), the General Agreement on Trade in Services (GATS), and the Trade-Related Aspects of Intellectual Property Rights (TRIPS). See WTO, ANNUAL REPORT 2016, *supra* at 2, 5, 37 (explaining the WTO’s collaboration with the World Bank). A significant change from prior international trade arrangements was the establishment of an overarching dispute settlement process covering all aspects of the WTO. See *id.* at 5 (outlining the dispute settlement process).

130. See WTO, *Regional Trade Agreements*, https://www.wto.org/english/tratop_e/region_e/scope_rta_e.htm (last visited Apr. 14, 2019) (outlining that regional trade agreements are essential in international trade relations and specifically that, since 2016, all WTO members have a regional trade agreement in effect).

131. See MANUEL GONZÁLEZ DE MOLINA & VÍCTOR M. TOLEDO, THE SOCIAL METABOLISM: A SOCIO-ECOLOGICAL THEORY OF HISTORICAL CHANGE 137 (2004) (citing the statistical growth of international trade); G20, *G20 Leaders’ Communiqué*, ¶ 11 (Nov. 16, 2015) (stating that global trade and investment are paramount to economic growth and development).

policies that take full advantage of global value chains and encourage greater participation and value addition by developing countries. Our growth strategies include reforms to facilitate trade by lowering costs, streamlining customs procedures, reducing regulatory burdens and strengthening trade-enabling services. We are promoting competition, entrepreneurship and innovation, including by lowering barriers to new business entrants and investment. We reaffirm our longstanding standstill and rollback commitments to resist protectionism We need a strong trading system in an open global economy to drive growth and generate jobs. To help business make best use of trade agreements, we will work to ensure our bilateral, regional and plurilateral agreements complement one another, are transparent and contribute to a stronger multilateral trading system under World Trade Organization (WTO) rules. These rules remain the backbone of the global trading system that has delivered economic prosperity. A robust and effective WTO that responds to current and future challenges is essential.¹³²

The outcome document of the Rio+20 Conference stated that measures to promote a green economy or sustainable development should “[n]ot constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.”¹³³ The Sustainable Development Goals (SDGs) that the U.N. General Assembly adopted in 2015 implicitly endorse the WTO regime¹³⁴ and include a goal of doubling the share of the least developing countries’ global exports by 2020.¹³⁵

Others have done comprehensive reviews of the WTO agreements and other trade and investment agreements and their relationship to environmental issues.¹³⁶ Such a detailed analysis is beyond the scope of this Essay, but some summary observations regarding the WTO are relevant to consideration of how international trade and investment can best promote a mutually enhancing human-Earth relationship in the Anthropocene. First, the WTO and similar regional accords institutionalize a global economic model that promotes global expansion of economic activity founded on

132. G20, *G20 Leaders’ Communiqué*, ¶¶ 8, 16 (Nov. 15–16, 2014).

133. U.N. Conference on Sustainable Development, *The Future We Want*, ¶ 58, U.N. Doc. A/CONF.216/L.1* (June 19, 2012).

134. G.A. Res. 70/1, at 27 (Sept. 25, 2015).

135. *Id.*

136. JAMES K.R. WATSON, *THE WTO AND THE ENVIRONMENT: DEVELOPMENT OF COMPETENCE BEYOND TRADE 2* (2013).

limited interference with private property rights.¹³⁷ However, this model lacks a mechanism to understand local conditions or to monitor or make adjustments according to aggregate impacts on ecological limits, such as planetary boundaries.¹³⁸ Second, the dispute settlement mechanism in the WTO makes clear the international community's capacity to adopt supranational rules with an enforcement regime that has real impact on national policy.¹³⁹ The final decisions in WTO disputes in which national environmental measures were held to violate WTO rules demonstrate the power of this judicialization¹⁴⁰ of international rules and show how difficult it is for WTO member states to adopt environmental measures that overcome concerns regarding over-regulation and protectionism.¹⁴¹

D. *Trade, Investment, and Remote Ownership Problems*

Long-distance trade and international investment tend to increase the detrimental influence of remote actors on social, economic, and ecological systems at a local scale.¹⁴² In the forms of remote ownership that are the most abstract, investors in private corporate land grabs for conversion into vast industrial agricultural operations typically have little knowledge of or interest in the cultural history, ecological functioning, or local-level human-

137. *Id.* at 4–5.

138. *See id.* (showcasing how the WTO has ruled to the detriment of the environment).

139. *See id.* at 93 (providing that the WTO is not only resolving specific disputes between Members, but also making *de facto* precedent at the same time).

140. *See id.* at 89 (demonstrating the judicialization of the WTO rules).

141. The most notable of these cases were: (1) the Tuna-Dolphin cases; *see* Report of the Panel, *U.S.—Restrictions on Imports of Tuna*, DS21/R (Sept. 3, 1991), GATT BISD (39th Supp.), at 155, reprinted in 30 I.L.M. 1594 (1991) [hereinafter *Tuna/Dolphin I*] (rejecting an embargo the U.S. imposed on commercial yellowfin tuna and yellowfin tuna products that were harvested in a way that harmed dolphins); *see also* Report of the Panel, *U.S.—Restrictions on Imports of Tuna*, WTO Doc. DS29/R (June 16, 1994) (unadopted) [hereinafter *Tuna/Dolphin II*] (reviewing the *Tuna/Dolphin I* decision after the E.U. and the Netherlands requested a GATT Panel review because neither Mexico nor the U.S. requested that the GATT Contracting Parties adopt the findings of *Tuna/Dolphin I*); (2) the Shrimp-Turtle case, *see* Appellate Body Report, *U.S.—Import Prohibition of Certain Shrimp and Shrimp Products*, WTO Doc. WT/DS58/AB/R (adopted Oct. 12, 1998), reprinted in 38 I.L.M. 121 (1999) [hereinafter *Shrimp/Turtle*] (rejecting the U.S.'s appeal of the Panel Report's prior decision to reject the U.S.'s imposed prohibition on the importation of certain shrimp and shrimp products that were caught using methods that harmed sea turtles); and (3) the Brazil Tire cases. *See* Report of the Panel, *Brazil—Measures Affecting Imports of Retreaded Tyres*, WTO Doc. WT/DS332/R (adopted Dec. 17, 2007) [hereinafter *Brazil Tyres*] (rejecting Brazil's import restrictions on certain used tires to reduce negative environmental impacts from tire storage and disposal).

142. *See* PEARCE, *supra* note 6, at 115 (overviewing the author's visit with investor Campo Aberto, Aberto's plans to profit from Brazilian agriculture, and an example of an international investment that is likely to contribute to Brazil's relentless practice of monoculture).

Earth interactions of the land underlying their investment.¹⁴³ They simply want the greatest financial return possible, regardless of the ecological or social cost.¹⁴⁴ Meanwhile, local people possessing centuries-old knowledge of, connection to, and experience with the converted land are moved to new places, no longer able to maintain their connection to place or to sustain themselves on local ecosystems—no longer able to maintain a mutually enhancing human-Earth relationship.¹⁴⁵ Breaches of this essential relationship have occurred across history and across the globe.¹⁴⁶

III. CONFRONTING REMOTE OWNERSHIP UNDER ECOLOGICAL LAW

Like ecological economics, ecological law is still mostly conceptual and not yet widely understood or practiced, largely because they both envision a transition away from the hard-wired insistence on economic growth that undergirds policy and decision making globally.¹⁴⁷ Yet the growth-insistent economic model and the legal and governance systems that support it are entirely socially constructed, and therefore subject to change as the flaws in their conceptual foundations become more and more clear. Ecological economics and ecological law are emerging social constructions that respond to the increasingly apparent impossibility of perpetual economic growth on our finite planet (even if economic growth is more and more decoupled from throughput of material and energy in the economy and consequent ecological impacts).¹⁴⁸

143. See generally *id.* (exposing the author's encounters with several *land grabbers* in different areas of the globe, and specifically revealing the human costs of land grabbing for the purpose of large-scale agriculture).

144. A similar set of problems can arise when locally based owners seek to profit from remote sale of local products that exert a local ecological footprint—local owners who have not developed institutions for sustainable governance of the commons.

145. See ANDREAS NEEF, *LAND RIGHTS MATTER! ANCHORS TO REDUCE LAND GRABBING, DISPOSSESSION AND DISPLACEMENT: A COMPARATIVE STUDY OF LAND RIGHTS SYSTEMS IN SOUTHEAST ASIA AND THE POTENTIAL OF NATIONAL AND INTERNATIONAL LEGAL FRAMEWORKS AND GUIDELINES* 8, 13 (Caroline Kruckow & Maïke Lukow eds., 2016) (stating that land grabs have caused the displacement of more than 770,000 people, and specifically that displacement has affected the rights of indigenous peoples of the six Southeast Asian countries).

146. See, e.g., PEARCE, *supra* note 6 (providing specific examples of global land grabbing done by those geographically disconnected from the land grab); ROBIN WALL KIMMERER, *BRAIDING SWEETGRASS: INDIGENOUS WISDOM, SCIENTIFIC KNOWLEDGE, AND THE TEACHINGS OF PLANTS* 259 (2013) (positing that “[r]estoration is imperative for healing the earth” and that if “[w]e restore the land, . . . the land restores us,” providing a mutually beneficial human-Earth relationship).

147. WESTRA, *supra* note 27, at 143.

148. See Garver, *The Rule of Ecological Law*, *supra* note 4, at 326, 330 (finding that ecological law arises from the tension between our infinite economic growth and the socio-ecological consequences that will occur with such growth).

Under ecological law, remote ownership and control of land and ecosystems would give way mostly or entirely to institutions favoring locally tailored rules.¹⁴⁹ When they incorporate institutions and features that are essential to real sustainability, these locally tailored rules reflect the emphasis on attention to place and local ecological knowledge that is necessary to sustain a mutually enhancing human-Earth relationship.¹⁵⁰ Moreover, these locally sourced rules subject trade and investment rules to the hierarchical primacy of ecological limits and the attainment of a mutually enhancing human-Earth relationship.¹⁵¹ In such a regime, providing investors with investment opportunities involving the conversion of land in such a way that decreases the prospects for a mutually enhancing human-Earth relationship would be inconceivable.¹⁵²

To serve as the foundation for an overarching, global objective that can be applied at the scale of landscapes or the entire Earth, a mutually enhancing human-Earth relationship must encompass not only the most pristine wild ecosystems, but also dense human settlements and other areas where humans or their impacts have significantly transformed the evolutionary trajectory of the pre-human or an imagined human-free ecosystem.¹⁵³ A rigorous yet practicable notion of sustainability must incorporate some level of symbiosis between humans and non-human nature in order to be consistent with a mutually enhancing human-Earth relationship.¹⁵⁴ The challenge is to determine, along the spectrum from the least impacted to the most anthropogenically transformed ecosystems, where benchmarks for a mutually enhancing human-Earth relationship (that are practicable in law and governance systems) can and should be drawn at different spatial and temporal scales, while accounting for humans as an integral ecosystem component.¹⁵⁵

Another challenge in applying a cohesive yet practicable notion of a mutually enhancing human-Earth relationship is that human communities

149. *See id.* at 317 (explaining that the degrowth movement emphasizes local autonomy).

150. *See* Garver, *A Systems-Based Tool for Transitioning to Law*, *supra* note 4, at 171 (providing examples of how local communities develop tailored ecological policies).

151. *See* Garver, *The Rule of Ecological Law*, *supra* note 4, at 321 (stating the economic constraints of the current environmental laws and that ecological law would place ecological constraints on the market instead).

152. *See id.* (asserting that ecological law places ecological constraints on property).

153. *See* Erle Ellis & Navin Ramankutty, *Putting People in the Map: Anthropogenic Biomes of the World*, 6 *FRONTIERS ECOLOGY & ENV'T* 439, 445–46 (2008) (discussing that “[s]ustainable ecosystem management” requires “maintaining beneficial interactions between managed and natural systems”).

154. Garver, *The Rule of Ecological Law*, *supra* note 4, at 327.

155. Garver, *A Systems-Based Tool for Transitioning to Law*, *supra* note 4, at 167.

and ecosystems at the local, landscape, and regional level inevitably and increasingly are “subject to human impacts that derive from spatially and temporally diverse drivers—including those that are remote geographically or whose impacts are temporally delayed.”¹⁵⁶ Meanwhile, those local communities inevitably cause temporally and spatially remote impacts as well.¹⁵⁷ Thus, at whatever temporal or spatial scale, practical efforts to promote a mutually enhancing human-Earth relationship require an adaptive, multi-scalar systems approach that maintains an ongoing focus on and connection to the local scale.¹⁵⁸ This approach requires the humility inherent in dealing with the inevitable uncertainties and unpredictability in how systems evolve by applying a precautionary approach, and not the hubris of many Western secular and religious traditions that idealize total human mastery and perfection of nature.¹⁵⁹

Determining place-based benchmarks for mutual human-Earth enhancement and implementing an adaptive, systems-based approach to law with primacy for ecological limits implies a need to place constraints on human choice and to guide human intention toward new goals.¹⁶⁰ The human-Earth relationship will inevitably be socially constructed, and human intention is thus a critical variable for the human prospect.¹⁶¹ For example, properly done and implemented on a regional and ultimately global scale, reciprocal restoration adheres to an adaptive, systems-based approach and both commits to and recognizes the need for human intention, choice, decision making, and active intervention to restore damaged human-Earth relationships.¹⁶² Ecological law that incorporates a broad vision of reciprocal restoration and similar innovative ideas is ultimately a hopeful vision of human societies orientating this intention so as to develop workable norms and rules for a thriving human community within a thriving community of all life on Earth.¹⁶³

156. *Id.*

157. *See id.* at 166 (“Ultimately, how human society crafts law and governance systems from the local to the global level will significantly affect whether humanity will trigger globally or regionally catastrophic shifts in the ecosystems on which human societies depend.”).

158. *Id.* at 167.

159. *Id.*

160. *Id.*

161. *See id.* at 168 (emphasizing that the incorporation of human intentions and “decision making with ecological systems at various scales can lead either to local or civilizational collapse, at one extreme, or to long-term resilience and adaptiveness, at the other”).

162. *See* HUMAN DIMENSION, *supra* note 49, at 258 (providing that reciprocal restoration recognizes the human role in the ecological restoration process).

163. *See id.* at 1 (arguing that ecological restoration needs human involvement that is value based, involving human knowledge and behaviors).

CONCLUSION

Significant obstacles stand in the way of a transition to a limits-insistent global legal system that promotes a mutually enhancing human-Earth relationship.¹⁶⁴ Ecological law encapsulates a future vision not only of law, but also of the social, cultural, political, and economic contexts in which law is embedded.¹⁶⁵ It is a vision that implies an inevitable evolution away from current political orders and power structures toward new ones that must emerge as this transition unfolds.¹⁶⁶ To attain this vision, the resistance to change in the legal system and related systems is high and will take a long time to overcome.¹⁶⁷ This is particularly true with respect to necessary paradigm shifts—especially the transition from the dominant growth-insistent paradigm to the limits-insistent paradigm proposed in this Essay.¹⁶⁸ This transition implies a significant change in deeply entrenched power structures and political orders at all scales—change that will likely emerge in unpredictable ways and through unpredictable actors.¹⁶⁹

Among other promising recent development, the creation of the Ecological Law and Governance Association (ELGA) in 2016 was an important step toward the transition from environmental to ecological law.¹⁷⁰ The Oslo Manifesto from which ELGA emerged states:

To overcome the flaws of environmental law, mere reform is not enough. We do not need more laws, but different laws from which no area of the legal system is exempted. The ecological

164. See *supra* Part I (explaining that conflicts arise between the rights of nature and human rights, and further explaining the necessity of a fundamental shift away from a focus on wealth).

165. See M'Gonigle, *supra* note 100 (showing that, through the lens of legal pluralism, “a plurality of social structures have internal legal orders that function in a compelling regulatory fashion”).

166. See *supra* Part I (overviewing the necessity of a change from the assumptive need for wealth creation and suggesting that ecological law requires limits to have priority in a legal system).

167. See Garver, *A Systems-Based Tool for Transitioning to Law*, *supra* note 4, at 167 (explaining that a system’s resistance to change can “lock in and lock out” certain characteristics of that system, and that a system’s resilience and adaptiveness, together with the degree of lock-in or lock-out characteristics, reflect that system’s ability to change).

168. See *id.* at 170 (discussing the merits of a lock-in/lock-out assessment system in the transition to a limits-insistent paradigm).

169. See *id.* at 167 (describing the cultural humility that will be necessary to transition to a growth-insistent paradigm); PETER G. BROWN ET AL., *RIGHT RELATIONSHIP: BUILDING A WHOLE EARTH ECONOMY* 141 (2009) (“People must bear witness, when working, playing, transacting, and relating to each other every day, so that these discussions will turn from *talk* into the *walk* of right relationship.”).

170. See Garver, *A Systems-Based Tool for Transitioning to Law*, *supra* note 4, at 167 (discussing the mission of the ELGA).

approach to law is based on ecocentrism, holism, and intra-/intergenerational and interspecies justice. From this perspective, or worldview, the law will recognise ecological interdependencies and no longer favour humans over nature and individual rights over collective responsibilities. Essentially, ecological law internalises the natural living conditions of human existence and makes them the basis of all law, including constitutions, human rights, property rights, corporate rights and state sovereignty.¹⁷¹

ELGA is a growing network of jurists and others who are convinced of the need to further develop ecological law and to seek opportunities to put it into practice.¹⁷² Addressing remote ownership problems should be high on the list of priorities for ELGA and like-minded groups and individuals seeking a mutually enhancing human-Earth relationship.¹⁷³

171. Ecological Law and Governance Association, *Oslo Manifesto for Ecological Law & Governance*, art. V (June 21, 2016), <https://www.elga.world/oslo-manifesto/>.

172. Garver, *A Systems-Based Tool for Transitioning to Law*, *supra* note 4, at 167.

173. *See id.* at 169 (stating that systems with strong private property rights have historically caused political inequality and ecological detriment).