

ARTICLES

BIOREGIONAL CONSERVATION MAY MEAN TAKING HABITAT

BY
JAMISON COLBURN*

Conservation's richest innovation in decades has been the conservation easement and, by most accounts, it is still growing in both prevalence and scale. Private actors have used this device to innovate around the gridlock of the public sphere, achieving broad scales with limited capital. But this turn toward private ordering to protect nature has begun to reveal some of the possibilities it will foreclose over the long term. With the demand for homes and second homes in rural and "exurban" environments soaring, the price of landscape scale conservation keeps rising, even as more of what is owned is already facing grave risks from, among other factors, climate change. Furthermore, because of the scarcity of capital and the internal structure of nonprofits capable of operating at such scales, it is increasingly unlikely that they will continue purchasing in the U.S. when global biodiversity faces the risks it does abroad. My claim is that the necessity of condemning conservation easements from those who would subdivide and develop large ownerships must prevail over the political complications and costs of doing so, at least if local communities hope to preserve the biodiversity in their own backyard.

* Professor of Law, Western New England College, School of Law. B.A., State University of New York; J.D. Rutgers University; LL.M., Harvard Law School; J.S.D. Candidate, Columbia University. © 2007 Jamison Colburn. My thanks go to the researchers at the Harvard Forest and to Irene Burkhard.

I.	INTRODUCTION	250
II.	WHAT DOES BIOREGIONALISM MEAN?	252
	A. <i>Scale and Scope: The Challenges for Integrative Conservation</i>	253
	B. <i>The Unnatural History of the Northern Forest</i>	258
	C. <i>Four Centuries to the Dawn of Restoration Ecology</i>	261
III.	THE STRUCTURE OF HABITAT LAW.....	266
	A. <i>Imperiled Species and Prohibitive Norms</i>	267
	B. <i>Public Lands as Islands</i>	274
	C. <i>Privatizing Governance: The Arc of Protecting Nature in America</i>	275
IV.	THE DEAL AND THE WOODLOT: BIOREGIONAL CONSERVATION IN PRIVATE	277
	A. <i>Working Forests: "Sustainable" For How Long?</i>	278
	B. <i>Misgivings: A Game-Theoretic Critique of Privatization</i>	283
V.	EXACTIONS: TAKING HABITAT FOR BIOREGIONAL GOALS	289
	A. <i>Zoning Discretion Into Existence: The Takings Issues</i>	290
	B. <i>Taking Easements and Choosing Partners</i>	294
VI.	CONCLUSION	299

The forest sets the visual tone of New England. It is difficult to find a place outside of a central city where a woodlot or wooded hillside is not in view. The pine-lined lakeshores and the stone walls rambling through the woods are essential ingredients of New England's scenery and quality of life, which in turn key attractions for the region's bustling tourist trade.¹

I. INTRODUCTION

Americans are converting their continent into a semi-built landscape of scattered homes, malls, recreational resorts, and the infrastructure that connects them, and doing so at an arresting rate. We face a species loss pandemic globally, but in America habitat degradation is the single worst factor.² Sprawl now is as much about explosive *exurban* growth as suburban growth; a function of socioeconomic and technologic advantages that have altered the nature of work and travel.³ U.S. Forest Service

¹ LLOYD C. IRLAND, *WILDLANDS AND WOODLOTS: THE STORY OF NEW ENGLAND'S FORESTS* 2 (1982).

² See David S. Wilcove et al., *Quantifying Threats to Imperiled Species in the United States*, 48 *BIOSCIENCE* 607 (1998). Habitat degradation, of course, is an umbrella for many different kinds of environmental change, most of which are anthropogenic in origin. "Habitat" can be defined as any physical or biological resource or condition of an area that affects the presence of a species, population, or individual. MICHAEL L. MORRISON, *WILDLIFE RESTORATION: TECHNIQUES FOR HABITAT ANALYSIS AND ANIMAL MONITORING* 44 (2002).

³ There is evidence to conclude that some metropolitan regions have expanded to their geographic limits. See, e.g., ROBERT BRUEGMANN, *SPRAWL: A COMPACT HISTORY* 64–65 (2005) (finding that the Los Angeles basin dramatically increased in population density per square mile from 1950–2000 to become the most densely populated metropolitan area in the country). But to leap to the further conclusions that sprawl is a bygone phenomenon or that the environmental

specialists predict that by 2030, another 21.7 million acres will shift in usage intensity from rural or exurban to urban, and some 22 million more will shift from rural to exurban.⁴ An environment hospitable to us, together with a few of our hyper-abundant commensals, is fast becoming the most pervasive landscape in North America.⁵ Northern New England and the Adirondacks are exemplary. Investors buying timberlands to break them up have, in about a decade, come to dominate this region's land markets.⁶ Of course, no one is *for* "dumb" growth, but neither are they for radically curtailing the rights of private property and local control producing it.⁷ Regions like this "Northern Forest," in short, are in dire need of innovation in the institutions of conservation.

It has been said that "[l]andowners are much more open to listen if it's a suggestion rather than a demand."⁸ This country's conservationists have divided sharply over the power of that insight for years now. Command-and-control *or* market, public *or* private, and a series of other false choices have consequently dominated a field where virtually no one denies that the type of normative mechanism is critical and virtually everyone concedes that most normative mechanisms have their time and place. This Article uses the Northern Forest to explore this intersection of habitat, land use, and our regulatory state. In two decades, the financing of private conservation has become big business at the same time its practitioners have become ubiquitous.⁹ The Uniform Conservation Easement Act (UCEA), a model act proposed in 1981 by the National Conference of Commissioners on Uniform State Laws,¹⁰ is beginning to dominate the

costs of sprawl are overstated because, for example, residential development often replaces agricultural or silvicultural uses that themselves generate environmental costs oversimplifies the issue. *See id.* at 58–73, 138–51.

⁴ *See* SUSAN STEIN ET AL., U.S. FOREST SERVICE, FORESTS ON THE EDGE: HOUSING DEVELOPMENT ON AMERICA'S PRIVATE FORESTS 6–7 (2005). While Stein and her colleagues also predict that some agricultural land is likely to revert to forest, this is land that is also heavily fragmented and disturbed as habitat. *See infra* Part III.

⁵ *See, e.g.*, JOHN M. HAGAN ET AL., MANOMET CTR. FOR CONSERVATION SCIS, CHANGING TIMBERLAND OWNERSHIP IN THE NORTHERN FOREST AND IMPLICATIONS FOR BIODIVERSITY (2005), available at <http://www.osiny.org/PDF/timberlandnf.pdf> (describing how a shift in ownership of forested lands away from vertically integrated forest products companies has been accompanied by a decrease in sustainable forestry practices and an increase in fragmentation).

⁶ *See id.* at 5–8 (detailing the breakup of 2.3 million acres of Maine forest land into fifteen parcels from 1980–2005). Much of the science being done by nonprofits such as the Nature Conservancy is tailored to this reality. *See, e.g.*, CRAIG R. GROVES ET AL., DRAFTING A CONSERVATION BLUEPRINT: A PRACTITIONER'S GUIDE TO PLANNING FOR BIODIVERSITY 34–35, 42 (2003) (a joint publication by the Earth Island Institute and Nature Conservancy discussing strategies for conserving biodiversity).

⁷ *See infra* Part IV.

⁸ John F. Turner & Jason C. Rylander, *The Private Lands Challenge: Integrating Biodiversity Conservation and Private Property*, in PRIVATE PROPERTY AND THE ENDANGERED SPECIES ACT 92, 103 (Jason F. Shogren ed., 1999).

⁹ *See* RICHARD BREWER, CONSERVANCY: THE LAND TRUST MOVEMENT IN AMERICA 9–10 (2003) (describing the development of land trusts, and noting that "[o]f the approximately thirteen hundred local land trusts, well over half have appeared since 1980").

¹⁰ Uniform Conservation Easement Act (UCEA) § 1–6, 12 U.L.A. 163 (1981); *see* Mary Ann King & Sally K. Fairfax, *Public Accountability and Conservation Easements: Learning from the*

conservation landscape nationally and in this region.¹¹ By 2003, an average of about 825,000 acres *per year* was encumbered by some form of conservation easement nationwide,¹² making it far and away the most pervasive conservation mechanism in America today.¹³ Indeed, if our land ethic ever finds Leopold's path,¹⁴ it will likely be with this vehicle.

A privatized conservationism that raises capital to buy from willing sellers is showing itself to be *the* structural development of a generation. But this strategy is beginning to reveal its limitations, in part because its agents are in a bidding war, raising their costs at the same time they depress the conservation value of their own bargains. This Article offers a targeted response, sketching three arguments for taking title or fractions of title to land in order to protect and/or restore habitat connectivity, which are referred to as landscape *permeability*. Protecting landscape permeability by transferring interests in land to nonprofits is a legitimate use of sovereign power, and enabling statutes ought to clarify this authority wherever necessary. Also, there are ways of taking interests in such lands that may not even amount to "takings" in the constitutional sense. In conclusion, though, I assume condemning conservation restrictions can, in some circumstances, amount to a taking. But, liability in that event can be minimized or even, in some cases, eliminated. Before coming to these arguments, though, this Article frames the discussion in its larger context: the protection and restoration of intact landscapes and species assemblages.

II. WHAT DOES BIOREGIONALISM MEAN?

Bioregionalism, though simple in concept, has thus far proven operationally intractable. "A key to making bioregionalism work is a close

Uniform Conservation Easement Act Debates, 46 NAT. RESOURCES. J. 65 (2006) (describing the creation of the UCEA).

¹¹ Versions of the UCEA have been enacted in twenty-four states, while twenty-five others have analogous enabling legislation. Nancy A. McLaughlin, *Rethinking the Perpetual Nature of Conservation Easements*, 29 HARV. ENVTL. L. REV. 421, 426 (2005).

¹² See Rob Aldrich, *Land Trusts Double the Number of Acres Protected: 2003 Census Reports on the State of Land Trusts*, EXCHANGE: THE NAT'L J. OF LAND CONSERVATION, Winter 2005, at 10–11. Land Trust Alliance's (LTA) census figures composite several forms of easements, including cultural preservation restrictions and other concerns independent of biodiversity. *Id.*

¹³ The fee simple and easement purchases of the Conservation Fund, The Nature Conservancy, The Trust for Public Land, and Ducks Unlimited averaged \$266 million annually from 1991–2000. Frank Casey, *Contours of Conservation Finance in the United States at the Turn of the Twenty-first Century*, in FROM WALDEN TO WALL STREET: FRONTIERS OF CONSERVATION FINANCE 37, 43 (James N. Levitt ed., 2005). The data also suggest that, of the \$2.7 billion total dedicated to conservation, preservation, and farmland acquisitions nationally (including federal, state, and private sources), the \$898 million federal conservation contribution is falling while the \$266 million private contribution is rising (and is itself an underestimate, perhaps by a significant margin). *Id.* at 40–44.

¹⁴ See generally ERIC T. FREYFOGLE, *THE LAND WE SHARE: PRIVATE PROPERTY AND THE COMMON GOOD* (2003) (describing how American land use must change if Aldo Leopold's "land ethic" is to be the norm).

examination of boundaries and what they mean.”¹⁵ Most of our political boundaries are completely unrelated to the earth’s “ecoregions”¹⁶ or “bioregions”—regions defined by their biota. But a close examination of legal boundaries often reveals that, though unrelated to biophysical realities, they are fixed and powerful nevertheless.¹⁷ Working to keep landscapes¹⁸ intact, in short, requires confronting our legal system’s fragmenting and commodifying tendencies and improvising the mechanisms to bridge its divides. Doing such work at a “bioregional” scale entails understanding the ecological relationships binding organisms and their environments together and promoting collective self-governance motivated by that understanding. Part II unpacks this ideal.

A. Scale and Scope: The Challenges for Integrative Conservation

Late in the 1980s, the 1.8 million residents of northern New York, Vermont, northern New Hampshire, and inland Maine coalesced for a short time and came to the brink of forming a politically cohesive *bioregional* identity.¹⁹ That is, they came to view their socioeconomic fortunes as intertwined with the region’s ecology. The catalyst was a perceived threat to “traditional patterns of land ownership and use”²⁰ in the sweeping 26 million acre (mostly montane) region comprising the “Northern Forest.”²¹ Yet, as quickly became evident, the content of these traditions is contentious. The threat provoked a pair of blue ribbon study groups, public agitation, and a multitude of proposals for legal reform. It even built

¹⁵ Christopher McGrory Klyza, *Bioregional Possibilities in Vermont*, in BIOREGIONALISM 81, 81 (Michael Vincent McGinnis ed. 1999) [hereinafter Klyza, *Bioregional Possibilities*].

¹⁶ See ROBERT G. BAILEY, ECOREGIONS: THE ECOSYSTEM GEOGRAPHY OF THE OCEANS AND CONTINENTS (1998) (using aspects of climate, including soil type, latitude, moisture, elevation, and ocean circulation to classify geographic ecoregions).

¹⁷ Cf. Klyza, *Bioregional Possibilities*, *supra* note 15, at 81 (“One of the major problems with theories calling for significant changes in the way modern societies and institutions are designed is that they are too abstract, removed from practical concerns and issues. This is true of bioregionalism.”).

¹⁸ I use “landscape” as an indexical concept, i.e., “a spatially heterogeneous area used to describe features of interest (stand type, site, soil).” MORRISON, *supra* note 2, at 47. In this sense, it is the features of interest themselves that serve to integrate otherwise spatially fragmented lands. *Id.* at 48 (“The perception of ‘landscape’ to a small animal . . . is likely much different than that perceived by a large one.”).

¹⁹ See Christopher McGrory Klyza, *The Northern Forest: Problems, Politics, and Alternatives*, in THE FUTURE OF THE NORTHERN FOREST 36, 37 (Christopher McGrory Klyza & Stephen C. Trombulak eds., 1994) [hereinafter Klyza, *Problems, Politics, and Alternatives*]; Thomas Carr, *The Northern Forest Economy*, in THE FUTURE OF THE NORTHERN FOREST *supra* at 52, 62.

²⁰ See NORTHERN FOREST LANDS COUNCIL, FINDING COMMON GROUND: CONSERVING THE NORTHERN FOREST 1 (1994) [hereinafter NFLC REPORT]. Fifty eight percent of the study area is in Maine. *Id.* at A-75; see also STEPHEN C. HARPER ET AL., THE NORTHERN FOREST LANDS STUDY OF NEW ENGLAND AND NEW YORK (1990).

²¹ The Northern Forest Lands Council (NFLC) was as much a construction of the socioeconomic commonalities joining inland Maine, New Hampshire, northern Vermont, and New York as it was any particular ecological association. See NFLC REPORT, *supra* note 20, at 3–7.

momentum to create a massive national park in the region that still ripples to this day.²² In the end, though, what it produced were recriminations on why nothing concrete was actually accomplished. No public structure of any kind collectivizes the region or its ecosystems in any way today.²³ The same localism New England unleashed on the nation²⁴—a faith in local control that has dulled and blunted a long procession of tools for protecting nature in ways detailed elsewhere²⁵—shorted out the Northern Forest agenda. Consequently, whatever threats the region's citizens perceived then, remain perceptible today. By the end of the 1990s, the region's "Northern Forest Initiative" had cratered, which is precisely what every ecosystem-wide management initiative to date has done.²⁶

Biodiversity professionals have come to this (painful) realization in efforts to achieve integrated, bioregional responses to environmental degradation in places as diverse as Greater Yellowstone,²⁷ the Northern Cascades,²⁸ the Great Lakes,²⁹ the interior Columbia River basin,³⁰ the

²² See JONATHAN S. ADAMS, *THE FUTURE OF THE WILD: RADICAL CONSERVATION FOR A CROWDED WORLD* 44 (2006) (describing the movement for Maine North Woods National Park still being studied by The Wildlands Project); Charles R. Scott, *Liquidation Timber Harvesting in Maine: Potential Policy Approaches*, 29 HARV. ENVTL. L. REV. 251, 274 (2005) (describing the non-profit organization RESTORE: The North Woods as "at the forefront" of promoting a Maine Woods National Park).

²³ See, e.g., Stephen C. Trombulak, *The Northern Forest: Conservation Biology, Public Policy, and a Failure of Regional Planning*, 11 ENDANGERED SPECIES UPDATE 7, 10–12 (1994) (describing the failure of the NFLC).

²⁴ See, e.g., RICHARD W. JUDD, *COMMON LANDS, COMMON PEOPLE: THE ORIGINS OF CONSERVATION IN NORTHERN NEW ENGLAND* 41 (1997) ("In colonial society, the network of rights and duties that bound individuals to family and families to community was the dominant institutional arrangement under which natural resources were managed."); STEPHEN INNES, *CREATING THE COMMONWEALTH: THE ECONOMIC CULTURE OF PURITAN NEW ENGLAND* 6 (1995) (stating that early Massachusetts Bay settlers "embraced local communities and institutions, townships, churches, and schools, as well as all that was market regulated, voluntarily organized or privately controlled").

²⁵ See Jamison E. Colburn, *Localism's Ecology: Protecting and Restoring Habitat in the Suburban Nation*, 33 *ECOLOGY L.Q.* 945 (2007) [hereinafter Colburn, *Localism's Ecology*]; Jamison E. Colburn, *The Indignity of Federal Wildlife Habitat Law*, 57 *ALA. L. REV.* 417 (2005) [hereinafter Colburn, *Indignity*].

²⁶ The last blue ribbon panel disbanded and issued its 100-plus page report in 1994. See NFLC REPORT, *supra* note 20. Just a few years later it was evident that little of the panel's prescription would be implemented. A "report card" was commissioned by the North East State Foresters Association in 2000, which found that the four states had failed to act on many of the most important recommendations of the Council and that, though they had refined their land acquisition programs as suggested, funding levels were far below what would be needed for progress at a regional scale. See ROBERT W. MALMSHEIMER ET AL., *N.E. STATE FORESTERS ASS'N, THE IMPLEMENTATION OF THE NORTHERN FOREST LAND COUNCIL'S RECOMMENDATIONS: AN ANALYSIS SIX YEARS LATER* 26–27 (2001). Additionally, public coordination at such scales has never been sustained.

²⁷ See Robert B. Keiter, *Taking Account of the Ecosystem on the Public Domain: Law and Ecology in the Greater Yellowstone Region*, 60 *U. COLO. L. REV.* 923 (1989). Greater Yellowstone is perhaps the best-known example of failed attempts to dictate "ecosystem management" from the top down. See ADAMS, *supra* note 22, at 177–206.

²⁸ See Barry R. Noon & Jennifer A. Blakesley, *Conservation of the Northern Spotted Owl under the Northwest Forest Plan*, 20 *CONSERVATION BIOLOGY* 288 (2005).

²⁹ See, e.g., Jon Cannon, *Choices and Institutions in Watershed Management*, 25 *WM. &*

Chesapeake Bay,³¹ and elsewhere. In the abstract, it is rational to focus finite management resources on whole species assemblages, whole watersheds—whole natural systems. Conservation biology speaks of “representation,” of saving some of everything.³² Such insight has thus far been a chimera.³³ Bounding any landscape or natural system and learning enough about it to “manage” it rationally is: 1) practically impossible given the laws of ecology,³⁴ and 2) politically naïve given the geography of popular sovereignty under our Constitution.³⁵ The changing land use patterns in the Northern Forest are often summed up in a word—sprawl—but as to prescribing alternatives, public action usually stalls.³⁶

Deforestation has been a constant of human history³⁷ and the struggle to define “sustainability” involves those far beyond the borders of even the largest forested regions.³⁸ Moreover, this region is not facing deforestation

MARY ENVTL. L. & POL'Y REV. 379 (2000).

³⁰ See, e.g., Michael C. Blumm et al., *Practiced At the Art of Deception: The Failure of Columbia Basin Salmon Recovery Under the Endangered Species Act*, 36 ENVTL. L. 709, 715–18 (2006).

³¹ See HOWARD R. ERNST, *CHESAPEAKE BAY BLUES: SCIENCE, POLITICS, AND THE STRUGGLE TO SAVE THE BAY* (2003).

³² On the shifts in strategy being provoked by this philosophy, see ADAMS, *supra* note 22 at 3–7 (discussing how saving the spotted owl turned into a much broader save everything approach leading to a major shift in strategy).

³³ See generally ROBERT B. KEITER, *KEEPING FAITH WITH NATURE: ECOSYSTEMS, DEMOCRACY, & AMERICA'S PUBLIC LANDS* 48 (2003) (observing that criticism of ecosystem-scale environment management must be addressed to establish a “viable natural resource policy”). As Professor Doremus has observed,

if we move away from the focal points of the [Endangered Species Act] to protection of ecosystems or biodiversity, then we risk sinking in a quagmire of ambiguity. We struggle to define ecosystems and biodiversity, or thresholds of unacceptable harm to either, with sufficient precision to constrain a reluctant or overzealous agency. We encounter similar difficulties if we stick with species but seek to intervene before their populations are drastically depleted, or if we choose locations as our focus but try to move beyond the designation of a handful of special locations as nature reserves.

Holly Doremus, *Biodiversity and the Challenge of Saving the Ordinary*, 38 IDAHO L. REV. 325, 347 (2002) [hereinafter Doremus, *Saving the Ordinary*].

³⁴ See Marco A. Janssen, *A Future of Surprises*, in PANARCHY: UNDERSTANDING TRANSFORMATION IN HUMAN AND NATURAL SYSTEMS 241, 241–45 (Lance H. Gunderson & C.S. Holling eds., 2002) [hereinafter PANARCHY] (discussing how analysts' perceptions of reality lead to unexpected results when modeling complex ecological-economic systems).

³⁵ See Colburn, *Localism's Ecology*, *supra* note 25; see also Jamison E. Colburn, *Waters of the United States: Theory, Practice and Integrity at the Supreme Court*, 34 FLA. ST. U. L. REV. (forthcoming 2007).

³⁶ Localist opposition to centralized regulation of land use in the region circumscribes the range of tools available to protect its natural resources. See King & Fairfax, *supra* note 10, at 67 (“[T]he private nature of [conservation easements] has been a major part of their charm; they have been embraced as a private, voluntary, or win-win alternative to regulation that protects resources while compensating affected landowners.”); see *infra* notes 140–58 and accompanying text.

³⁷ See MICHAEL WILLIAMS, *DEFORESTING THE EARTH: FROM PREHISTORY TO GLOBAL CRISIS* (2006).

³⁸ See Errol Meidinger, *The Administrative Law of Global Private-Public Regulation: the Case of Forestry*, 17 EUR. J. INT. L. 47, 48–53 (2006) (describing forest certificate programs and

per se. It is facing something much more incipient: exurban sprawl and all of its consequent biological disturbances. Indeed, the steady pace at which this region is being carved into the semi-built landscape of exurban America—a landscape of roads, trails, transmission lines, cell towers, scattered homes and retail, ski slopes, golf courses, etc.—is rivaled by only one other influence in its potency: climate change.³⁹ With the vast majority of the land privately owned and regional property values rising steadily as affluent Americans seek out their place “away from it all,” the region’s future as a land market is threatening to undo what it has become over the last century: one of the greatest expanses of continuous habitat east of the Mississippi.⁴⁰

The states and federal government seem paralyzed, leaving the Northern Forest to suffer what Michael Heller has called a *tragedy of the anticommons*. If the commons is the opposite of private property, i.e., private property is the division and distribution of what are otherwise rights to use or exclude that are held in common,⁴¹ then it is possible to have too many owners whose properties are too small and/or too divided to manage their interrelated resources efficiently, making it likely they will fail to bargain into optimal arrangements.⁴² There are perhaps several hundred thousand landowners in this region.⁴³ Additionally, as of 1990, more than 70 million people lived within a day’s drive of the region.⁴⁴ Even those whose land is not for sale generally have little inclination to support laws flatly prohibiting the profitable subdivision and sale of land.⁴⁵ A long

the administrative procedures of the global forest regulatory system). For a trenchant argument that the concept itself is broken, see Julianne Lutz Newton & Eric T. Freyfogle, *Sustainability: A Dissent*, 19 CONSERVATION BIOLOGY 23 (2005).

³⁹ On the threat habitat alterations of the kind represent, see Wilcove et al., *supra* note 2, at 607–10 (finding that, empirically, habitat degradation is the single greatest threat to biodiversity in North America); REED F. NOSS & ALLEN Y. COOPERRIDER, *SAVING NATURE’S LEGACY: PROTECTING AND RESTORING BIODIVERSITY* 30–66 (1994) (same). Estimates vary and rates change annually depending on market fluctuations, but one recent estimate by Maine’s Forest Service concluded that between 30,000 and 45,000 acres of Maine timberlands are now “liquidated”—clear-cut and subdivided—annually. Scott, *supra* note 22, at 255. In the rest of the region, the numbers are probably higher (especially in Vermont), although one enormous development proposal in Maine is currently pending and particularly poignant. See *infra* notes 226–51 and accompanying text.

⁴⁰ See NFLC REPORT, *supra* note 20, at 3 (stating that the area is “one of the largest . . . in the nation”).

⁴¹ See, e.g., Carol M. Rose, *Possession as the Origin of Property*, 52 U. CHI. L. REV. 73, 76 (1985) (using the rule of capture to make this point about property in wildlife).

⁴² See Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621 (1998); Michael A. Heller, *The Boundaries of Private Property*, 108 YALE L.J. 1163 (1999).

⁴³ See generally Klyza, *Problems, Politics, and Alternatives*, *supra* note 19, at 36–37 (describing land ownership acreage in the Northern Forest).

⁴⁴ NFLC REPORT, *supra* note 20, at 3.

⁴⁵ See generally WILLIAM A. FISCHER, *THE HOMEVOTER HYPOTHESIS: HOW HOME VALUES INFLUENCE LOCAL GOVERNMENT TAXATION, SCHOOL FINANCE, AND LAND-USE POLICIES* (2001) (contending that local voters vote in ways that support the value of their single largest investment: their homes). This is *not* to say, however, that such owners are generally predisposed against collective or cooperative management or that they lack incentives to

tradition of property rights and localism stalls virtually all such approaches.⁴⁶ A more bottom-up and iterative strategy is something else altogether, though, and buying from “willing sellers” ad hoc seems to be that strategy.

Thus, while the “traditional patterns of land ownership and uses” may be changing,⁴⁷ the public is unsure it can or will do anything about it. Ecosystem-level approaches, here as elsewhere, have been too weighed down by their own mass. The immensity, technicality, and cost of *describing*—of understanding—large natural systems put almost beyond reach any regulatory structure that is “ecoregional” or “bioregional” in scale and scope. Working at such scales requires “[a]n approach to maintaining or restoring the composition, structure, and function of natural and modified ecosystems for the goal of long-term ecological and human sustainability.”⁴⁸ And even the courts now seem to recognize that that demands “adaptive management” wherein “policy choices are made incrementally. As each choice is made, data on the effects of these choices are collected and analyzed in order to assess whether to retain, reverse, or otherwise alter the policy choice.”⁴⁹ Because means and ends are, thus, reciprocally shaped, protection of the natural and human systems’ *resilience*—their capacity to absorb disturbances without changing in fundamental ways—is about the only incorrigible goal.⁵⁰ Not surprisingly, the record of attempts to build such models (assuming they are even legal) is a record of institutional failure.⁵¹ So the dilemma is this: what is the alternative?

control subdivision and sale. See Andrew O. Finley et al., *Interest in Cross-Boundary Cooperation: Identification of Distinct Types of Private Forest Owners*, 52 FOREST SCI. 10, 20 (2006).

⁴⁶ See generally JUDD, *supra* note 24.

⁴⁷ See generally HAGAN ET AL., *supra* note 5 (describing how land ownership in the Northern Forest has changed over the last twenty-five years); MALMSHEIMER ET AL., *supra* note 26 (describing the progress states have made in forest conservation since the NFLC published recommendations in 1994 to further conservation efforts); Scott, *supra* note 22 (discussing how Maine’s high percentage of privately owned timberland has led to increased liquidation harvesting).

⁴⁸ Gary K. Meffe et al., *Ecosystem Approaches to Conservation: Responses to a Complex World*, in PRINCIPLES OF CONSERVATION BIOLOGY 468 (Martha J. Groom et al. eds., 3d ed., 2005).

⁴⁹ *In re Operation of the Mo. River Sys. Litig.*, 363 F. Supp. 2d 1145, 1163 (D. Minn. 2004), *vacated in part*, 421 F.3d 618 (8th Cir. 2005).

⁵⁰ See C.S. Holling & Lance H. Gunderson, *Resilience and Adaptive Cycles*, in PANARCHY, *supra* note 34, at 25, 50–52 (detailing the principles behind ecosystem resilience to external variables).

⁵¹ See Stephen R. Carpenter et al., *Collapse, Learning, and Renewal*, in PANARCHY, *supra* note 34, at 173 (discussing models that are motivated by understanding crisis and collapses in environmental management). Several major federal statutes are structurally incongruent with that kind of adaptive management. See, e.g., Julie Thrower, *Adaptive Management and NEPA: How A Nonequilibrium View of Ecosystems Mandates Flexible Regulation*, 33 ECOLOGY L.Q. 871 (2006). As to the possibilities for adaptive management by administrative agencies generally, see J.B. Ruhl, *Regulation By Adaptive Management—Is It Possible?*, 7 MINN. J.L. SCI. & TECH. 21 (2005).

The Northern Forest epitomizes bioregionalism's dilemma. Few species inhabit the whole region and, of those that do, none are managed federally. There are almost a dozen major watersheds.⁵² Combined, the four states possess twice as much land as the federal government.⁵³ Yet, all combined, public lands are still less than a sixth of the region and are dispersed.⁵⁴ Forest types and species mixes are highly diverse, as are the kinds of ownership and the predominant local land uses. Lastly, there are very few fragments of "natural" forest remaining,⁵⁵ whether to serve as anchors of conservation reserves or as reference landscapes. The result has been regionally fractious and often incoherent public policies. And, despite the obvious linkages between these failures in governance and the trappings of private property and local autonomy,⁵⁶ few seem to share Thoreau's deep suspicions of owning discrete pieces of nature.⁵⁷

B. The Unnatural History of the Northern Forest

Upland Maine and New Hampshire, northern Vermont, and parts of western Massachusetts comprise a discrete "bioregion." Along with the Adirondacks, these lands constitute the southern edge of an immense boreal forest that sweeps the northern half of North America.⁵⁸ Most of this Northern Forest is, indeed, an *ecotone*—a natural boundary—that remains quite "rural" compared to what lies to the south and west.⁵⁹ Even as Thoreau

⁵² See Stephen Trombulak, *A Natural History of the Northern Forest*, in *THE FUTURE OF THE NORTHERN FOREST* 11, 17 (Christopher McGrory Klyza & Stephen C. Trombulak eds., 1994) ("Also present are 68,500 miles of rivers and streams, over 1 million acres of lakes, and over 2 million acres of wetlands.").

⁵³ Lloyd C. Irland, *U.S. Forest Ownership: Historic and Global Perspective*, 14 ME. POL'Y REV. 16, 17–18 (2005) available at <http://www.umaine.edu/mcsc/MPR/Vol14No1/MPR3irlandLR.pdf>.

⁵⁴ Public lands in the region make up less than 16% of the land. See Klyza, *Problems, Politics, and Alternatives*, *supra* note 19, at 36–37.

⁵⁵ Though debatable, it has been estimated that 90–95% of the region has been logged/cleared at some point in the last four centuries. See generally Glenn Motzkin et al., *Forest Landscape Patterns, Structure, and Composition*, in *FORESTS IN TIME: THE ENVIRONMENTAL CONSEQUENCES OF 1,000 YEARS OF CHANGE IN NEW ENGLAND* 171 (David R. Foster & John D. Aber eds., 2004) [hereinafter *FORESTS IN TIME*].

⁵⁶ Cf. Heller, *supra* note 42, at 1165–66 ("The danger with fragmentation is that it may operate as a one-way ratchet: Because of high transaction costs, strategic behaviors, and cognitive biases, people may find it easier to divide property than to recombine it.").

⁵⁷ On Thoreau's misgivings, see DAVID R. FOSTER, *THOREAU'S COUNTRY: JOURNEY THROUGH A TRANSFORMED LANDSCAPE* 86 (1999) [hereinafter *THOREAU'S COUNTRY*] ("[O]wnership was a term that Thoreau often used contemptuously because he did not regard legal title as conveying any true rights to nature."). On the property rights uprising that took public acquisitions off the table in the NFLC process, see DAVID DOBBS & RICHARD OBER, *THE NORTHERN FOREST* 267–98 (1996) (recounting the public resistance to regulations which would proscribe property owner's rights within the Adirondack Park).

⁵⁸ See E.C. PIELOU, *THE WORLD OF NORTHERN EVERGREENS* 1–7 (1990) (discussing the location, history, and unique ecology of the Northern evergreen forests); RICHARD M. DEGRAAF & MARIKO YAMASAKI, *NEW ENGLAND WILDLIFE: HABITAT, NATURAL HISTORY, AND DISTRIBUTION* 5–7 (2001).

⁵⁹ See Harper, *supra* note 20, at 33–34 (contrasting density and character of the Northern Forest to urbanized communities to the South).

retreated into this forest to escape the dehumanizing urbanity of 1840s Concord and become the Puritan congregation of one in *Walden*, a portrayal of it as “wild” was ironic at most.⁶⁰ And yet his communion with it was transcendental. It was still a medium for punctuating his “disdain for the common life.”⁶¹ Indeed, Thoreau’s poetry about his *unnatural* forest fueled a century of American romance with nature and efforts to commune with it in some pre-modern, sylvan state.⁶²

Of all North America’s biomes, the forests in this region have probably been disturbed by the modern economy as much or more than any other. From a massive trade and export of fish and wildlife,⁶³ to extensive logging and forest conversion,⁶⁴ to the release and spread of countless invasive species,⁶⁵ what there is in this region today that should be “preserved” is a mystery to citizen and ecologist alike. But consider what has been wasted. The first official bounty on predators here was early in the seventeenth century.⁶⁶ The beaver, a species of extraordinary ecological impact, was trapped throughout the region to extirpation, in parts as early as the eighteenth century.⁶⁷ With the elimination of beaver and most ungulates (caribou, deer, and moose), the principal prey of the gray wolf was gone,

⁶⁰ LEO MARX, *THE MACHINE IN THE GARDEN: TECHNOLOGY AND THE PASTORAL IDEAL IN AMERICA* 242–65 (2000); see WILLIAM R. JORDAN III, *THE SUNFLOWER FOREST: ECOLOGICAL RESTORATION AND THE NEW COMMUNION WITH NATURE* 155 (2003) (“[I]n 1844, barely a year before Thoreau took up residence in Walden Woods, the Fitchburg Railroad completed track that passed just a few rods from the pond, and during his two years there loggers cut a stand of timber on the shore of the pond across from his cabin.”).

⁶¹ MARX, *supra* note 60, at 264; see also JORDAN, *supra* note 60, at 44 (“Our canonic environmental literature, from Henry David Thoreau and John Muir on, depicts withdrawal from the human community as the essential first step toward entry into the biotic community.”).

⁶² See DANIEL B. BOTKIN, *NO MAN’S GARDEN: THOREAU AND A NEW VISION FOR CIVILIZATION AND NATURE* (2001) (discussing Thoreau’s vision of nature and civilization as a way to connect, understand, and approach the natural world); William Cronon, *The Trouble with Wilderness, Or Getting Back to the Wrong Nature*, in *UNCOMMON GROUND: TOWARD REINVENTING NATURE* 69–91 (William Cronon ed., 1995).

⁶³ See *infra* notes 66–69 and accompanying text.

⁶⁴ See *infra* notes 70–71 and accompanying text.

⁶⁵ See *infra* notes 84–88 and accompanying text.

⁶⁶ See PETER MATTHIESSEN, *WILDLIFE IN AMERICA* 57 (rev’d ed. 1987) (noting that the Massachusetts Bay Company established a bounty on wolves in 1630). In 1657, New Haven established a five pound bounty on a “great black wolfe of a more than ordinarie bigness, which is like to be more fierce and bould than the rest, and so occasion the more hurt.” WILLIAM CRONON, *CHANGES IN THE LAND: INDIANS, COLONISTS, AND THE ECOLOGY OF NEW ENGLAND* 133 (20th Anniversary ed., 2003) (1983).

⁶⁷ The beaver was probably functionally extinct from most of Massachusetts by the time of the Revolution. Stephen C. Trombulak & Kimberly Royar, *Restoring the Wild*, in *WILDERNESS COMES HOME: REWILDING THE NORTHEAST* 157, 161–62 (Christopher McGrory Klyza ed., 2001) [hereinafter *WILDERNESS COMES HOME*]. “In 1743, just *one* port in Rochelle, France, received the pelts of 127,080 beaver, 30,325 martens, 1,267 wolves, 12,428 otters and fishers, 110,000 raccoons, and 16,512 bears. These pelts were taken exclusively from the northeast United States and southeastern Canada.” Alicia Daniel & Thor Hanson, *Remote, Rocky, Barren, Bushy Wild-woody Wilderness*, in *WILDERNESS COMES HOME*, *supra*, 27, 40. Hudson’s Bay Company trappers began to take bobcat and lynx in about 1700 and by the close of the century had taken some 750,000 of them. KEVIN HANSEN, *BOBCAT: MASTER OF SURVIVAL* 105 (2007). Lynx and bobcat mortality from trapping in the nineteenth century is thought to be around 2.6 million. *Id.* at 108.

hastening its extirpation⁶⁸ along with most other predators.⁶⁹ By 1650, sawmills were common,⁷⁰ the average home was being heated with 30–40 cords of wood a year,⁷¹ and a march toward deforestation (by the turn of twentieth century) was under way.⁷² By 1850, farms were everywhere and creating all those stone walls Irland mentions in the epigraph.⁷³

This region, like others, evolved under human economic and cultural pressures, focusing on a few readily extractable resources, such as pelts and saw logs in the seventeenth century,⁷⁴ rural farming by pioneer communities in the eighteenth and nineteenth centuries,⁷⁵ and pulp and paper mills in the late nineteenth and early twentieth centuries.⁷⁶ Even now, the vacationing, recreating user-residents of the twenty-first century extract their recreation, seeking their piece of the “wild.”⁷⁷ The latest threats of “liquidation” timber harvesting and subdivision sales of house lots are more evolution than revolution.⁷⁸ With each of these economic shifts, the forest changed in ways long-term ecological research is only beginning to document and understand.⁷⁹ In every dimension, but especially in its species

⁶⁸ L. DAVID MECH, *THE WOLF: THE ECOLOGY AND BEHAVIOR OF AN ENDANGERED SPECIES* 325 (9th ed. 1994).

⁶⁹ The “predators” of the region are its carnivores, past and present: gray wolf, coyote, red and gray foxes, black bear, raccoon, martens and fishers, weasels and mink, river otter, striped skunk, mountain lion, bobcat, and lynx. See JOHN O. WHITAKER, JR. & WILLIAM J. HAMILTON, JR., *MAMMALS OF THE EASTERN UNITED STATES* 259–315 (2d ed. 1998) (outlining the habitat and range of various eastern carnivores); DEGRAAF & YAMASAKI, *supra* note 58, at 340–57. On the importance of predators to resilience in a species assemblage, see John Terborgh et al., *The Role of Top Carnivores in Regulating Terrestrial Ecosystems*, in *CONTINENTAL CONSERVATION: SCIENTIFIC FOUNDATIONS OF REGIONAL RESERVE NETWORKS* 39, 44–58 (Michael E. Soulé & John Terborgh eds., 1999) [hereinafter *CONTINENTAL CONSERVATION*]. The term easily encompasses birds of prey, too, but federal migratory birds (which include most birds of prey at risk in the region) are their own legal and management category. See MICHAEL J. BEAN & MELANIE ROWLAND, *THE EVOLUTION OF NATIONAL WILDLIFE LAW* 18–19, 22 (3d ed. 1997).

⁷⁰ See Austin F. Hawes, *New England Forests in Retrospect*, 21 *J. FORESTRY* 209, 216 (1923).

⁷¹ CRONON, *supra* note 66, at 21, 117–21.

⁷² Hawes, *supra* note 70, at 214–16.

⁷³ See also THOREAU’S COUNTRY, *supra* note 57, at 60–71 (discussing the stone walls that criss-cross New England).

⁷⁴ See generally CHARLES F. CARROLL, *THE TIMBER ECONOMY OF PURITAN NEW ENGLAND* (1973) (discussing in detail global demand for timber and the deforestation and economic developments caused by timber harvesting in early America).

⁷⁵ See generally JUDD, *supra* note 24 (describing the early new England farmers and their views on land use and conservation).

⁷⁶ See Thomas Carr, *The Northern Forest Economy*, in *THE FUTURE OF THE NORTHERN FOREST* 52, 65–67 (Christopher McGrory Klyza & Stephen C. Trombulak, eds., 1994). The pulp and paper industry continued in Maine to the present day. See IRLAND, *supra* note 1, at 151–58.

⁷⁷ Carr, *supra* note 76, at 52, 62–65; see, e.g., Mike Grudowski, *Location is Everything: Best Outside Towns 2006*, *OUTSIDE MAGAZINE*, Aug. 2006, at 63.

⁷⁸ See Bill McKibben, *Epilogue*, in *WILDERNESS COMES HOME*, *supra* note 67, at 275, 275. While fuel still accounts for over half of all the wood extracted from forests globally (an estimated 2.4 billion m³ by 2010), WILLIAMS, *supra* note 37, at 489, most of demand in the United States—the world’s largest consumer of forest products—is for sawlogs, veneers, and other non-fuel products. *Id.* at 488, 488 fig.14.8. Regionally, sugarbushes, fire woodlots, and other micro-economic uses are still common. McKibben, *supra*, at 276–78.

⁷⁹ See D. Bernardos et al., *Wildlife Dynamics in the Changing New England Landscape*, in

composition, the region is what ecologists call a “disturbed environment.”⁸⁰ Of course, human disturbance is not necessarily degradation in the strictest sense. For example, the region is apparently being enhanced as habitat for at least some species like the coyote.⁸¹ The concept of human disturbance, thus, either must accommodate some dissonance or be subordinated within some larger, normative vision of “nature” and humanity’s relationship to it. Part II.C. describes and situates this socio-ecological nexus and where that vision is pointing.

C. Four Centuries to the Dawn of Restoration Ecology

Our culture has accelerated the process Thoreau chronicled. For example, spruce, fir, hemlock, and northern hardwoods like maple, birch, oak, and beech species structure and delineate the Northern Forest today.⁸² But that may not last long. That tree species mix is in flux for a variety of reasons, as it was even before English settlement.⁸³ A menu of exotic insects and diseases has been released into this forest.⁸⁴ The most recent example, the hemlock woolly adelgid (HWA), an aphid-like insect inadvertently introduced via nursery stock, is eliminating a dominant tree species from the

FORESTS IN TIME, *supra* note 55, at 142, 142–43.

⁸⁰ *See id.*

⁸¹ GERRY PARKER, EASTERN COYOTE: THE STORY OF ITS SUCCESS 24–32 (1995).

⁸² DEGRAAF & YAMASAKI, *supra* note 58, at 5. Paleoecological pollen studies indicate that tundra vegetation was replaced by boreal spruce forest and then by species associated with more temperate climates, including pine, oak, hemlock, and beech, beginning about 9000 years ago. D. Foster et al., *The Environmental and Human History of New England*, in FORESTS IN TIME, *supra* note 55, at 43, 44. But,

[o]ver the past 1,500 to 2,000 years, climate cooling across the Northeast has initiated significant changes in vegetation. A reduction in the latitudinal and elevation range of some trees was accompanied by a regional increase in spruce, presumably resulting from the expansion of populations that had persisted in local sites like wetlands.

Id. at 45. Fire and storm disturbances are relatively rare occurrences regionally, although hurricane winds (of which there have been about eight of significance since 1620 and, especially, a 1938 hurricane that did extensive damage) have left locally significant windthrows and their associated effects. *Id.* at 48–59. Lastly, Native American tribes cleared land for subsistence agriculture and are believed to have used fire as a land-clearing technique for hunting as well. CRONON, *supra* note 66, at 50–70.

⁸³ With the end of the last glacial period about 12,000 years ago, the climate and soils of New England cooperated to produce a succession of spruce, fir, pine, and finally mixed hardwood forests throughout the region, *see* D. Foster et al., *supra* note 82, at 43–44, and an abundance of vernal pool complexes. ELIZABETH A. COLBURN, VERNAL POOLS: NATURAL HISTORY AND CONSERVATION 33–50 (2004). Even prior to European contact, Native Americans’ use of fire to manage forests for hunting and agriculture changed the canopy and age structure of the forest significantly (although most burning was done in southern and coastal New England). *See* Hawes, *supra* note 70, at 212–15.

⁸⁴ David R. Foster & John D. Aber, *Background and Framework for Long-Term Ecological Research*, in FORESTS IN TIME, *supra* note 55, at 3, 10 (“A series of introduced insects and diseases—chestnut blight, Dutch elm disease, gypsy moth, beech bark disease, and hemlock woolly adelgid—has selectively weakened, defoliated, or decimated major tree species across the region.”).

southern edges of the forest.⁸⁵ Before HWA, the spruce budworm attacked the region's spruce; those that remained were logged in "salvage" projects.⁸⁶

Of course, what climate change will do to this forest is an even bigger question. HWA, for example, may spread substantially with warmer temperatures.⁸⁷ But it is anyone's guess what else may result. As the mix of tree species changes, the forest structure changes, food supplies change, and significant, unpredictable alterations of the whole environment—cascading effects throughout the whole trophic web—can result. Such abrupt shifts almost always reduce the resilience of the system.⁸⁸ Researchers have just begun to document such biotic responses to global warming, but the evidence gathered to date suggests major phenological adaptations like range shifts poleward and upward.⁸⁹ Lacking any potential for such adaptations—lacking the necessary connectivity between their extant habitat patches—some species are destined for extinction.⁹⁰

Our culture and economy, in short, have defined the Northern Forest in virtually every way.⁹¹ Its unnatural history of disturbance runs deeper than a

⁸⁵ HWA "poses an important and immediate threat to the health of eastern hemlock (*Tsuga canadensis*) in the eastern US." Morgan W. Tingley et al., *Avian Response to Removal of a Forest Dominant: Consequences of Hemlock Woolly Adelgid Infestations*, 29 J. BIOGEOGRAPHY 1505, 1506 (2002). Like many such threats before it, the cultural affinity for commodities like exotic plantings is the most obvious cause—having incentivized nursery practices that indirectly introduced this pest. As it moves slowly northward through the forests of New England and the Adirondacks (it was first detected in coastal Connecticut in 1985), HWA sometimes completely eliminates this conifer species, allowing the succession of various hardwood species. *Id.* Because hemlock creates a naturally diverse canopy structure, this is projected to lead to a more homogenized forest with potentially harmful effects on avian diversity in the process. *Id.*

⁸⁶ See IRLAND, *supra* note 1, at 42–47 (detailing the impact of the spruce budworm on the industrial forest)

⁸⁷ HWA, for the time being, is limited by colder temperatures. Tingley et al., *supra* note 85, at 1506. HWA is, of course, only one species that may change its distribution or behavior in an altered climate. See Terry L. Root & Lesley Hughes, *Present and Future Phenological Changes in Wild Plants and Animals*, in CLIMATE CHANGE AND BIODIVERSITY 61 (Thomas E. Lovejoy & Lee Hannah eds., 2005) (noting that phenological changes may be the primary response of long-lived plants to climate changes).

⁸⁸ See Benjamin E. Wolfe & John N. Klironomos, *Breaking New Ground: Soil Communities and Exotic Plant Invasions*, 55 BIOSCIENCE 477, 477 (2005).

⁸⁹ See, e.g., Camille Parmesan, *Ecological and Evolutionary Responses to Recent Climate Change*, in 37 ANNUAL REVIEW OF ECOLOGY, EVOLUTION, AND SYSTEMATICS 637, 638 (2006) (describing ecological changes that match changes predicted to result from global warming); Camille Parmesan, *Biotic Response: Range and Abundance Changes*, in CLIMATE CHANGE AND BIODIVERSITY, *supra* note 87, at 41, 41 ("several recent reviews . . . show that twentieth-century climate change has had a wide-range of consequences and has had an impact on many diverse taxa in disparate geographic regions").

⁹⁰ See, e.g., Proposed Rule to List the Polar Bear (*Ursus maritimus*) as Threatened Throughout Its Range, 72 Fed. Reg. 1064 (proposed Jan. 9, 2007) (to be codified at 50 C.F.R. pt. 17).

⁹¹ Modern markets, in the sense of an exchange- and commodity-based system of extracted goods and services that values land as a resource to be acquired, exploited, and sold, have existed in New England for almost four centuries. See generally CRONON, *supra* note 66 (examining the ecological change that resulted from the shift from American Indian to European dominance in New England and contrasting the two systems to explain the change).

record of overexploitation or unleashed pests and disease: it defines a totally uncertain—perhaps grim, perhaps hopeful—future. For the upshot of the region's collapsing timber and other commodity markets has been its enhancement as a "wilderness" destination.⁹² The waves of bungalow-blight flooding the forests of northern New England and the Adirondacks, indeed, were at least partly the cause of the Northern Forest initiatives and reform proposals mentioned.⁹³ Thus, the point of this history is that after all the clearing, cutting, and killing had receded, the region's value *as a forest* began regenerating.⁹⁴ By the end of the twentieth century, trees were as abundant as they had been in the seventeenth century.⁹⁵ Years of genetic research had opened up the possibility of restoring one of the iconic tree species long lost to an introduced disease.⁹⁶ Wildlife restoration had become a mainstream pastime,⁹⁷ and wildlife viewing and other forms of wildlife-dependent recreation had become an economic engine.⁹⁸

Though no crisp line separates this economy from its feudal predecessor, its conceptualization and politicization coincide strikingly well with English settlement of the New World. See ALBERT O. HIRSCHMAN, *THE PASSIONS AND THE INTERESTS: POLITICAL ARGUMENTS FOR CAPITALISM BEFORE ITS TRIUMPH* 4–5 (1977).

⁹² As national and global forest-product markets grew more integrated in the post-war era, the commercial forests of New England—and the rural economies dependent upon them—suffered. See *generally* DOBBS & OBER, *supra* note 57 (describing a history of the northern forest and the impact the history has had on the people living there). With prices depressed by competition, the timber owners' incentives to cut receded, although this also provided an incentive to such owners to subdivide their lands for sale and development. See Carr, *supra* note 76, at 53, 65–67 (suggesting a correlation between wood and lumber industry debt and land conversion).

⁹³ The subdivision of large ownerships (primarily from the holdings of timber and paper companies) was of primary concern to the NFLC. See NFLC REPORT, *supra* note 20, at A-17 (Appendix E) (noting that conversions of forest land to non-forest uses prompted the creation of the NFLC).

During the 1980–91 period, at least 203,000 acres of land across the [NFLC study] region were parcelized in connection with the sale of large tracts of forest land (over 500 acres). This represents approximately 1% of the 26 million-acre Northern Forest area and approximately 4% of the 5.5 million acres of these large ownerships which changed hands during the period.

Id. at A-18.

⁹⁴ Compare D. Foster et al., *supra* note 57, at 74 ("Currently, forests cover from 60 percent to more than 90 percent of the New England upland, making it one of the most heavily forested regions in the United States."), with Jane Braxton Little, *Timberlands Up For Grabs*, HIGH COUNTRY NEWS, Jan. 23, 2006, at 9, available at http://www.hcn.org/servlets/hcn.Article?article_id=16037 (describing massive subdivision and sales and the consequent skyrocketing prices for timberlands throughout the country).

⁹⁵ See THOREAU'S COUNTRY, *supra* note 57, at 8–9.

⁹⁶ See Ryan MacFee, Genetic Variation in Am. Chestnut Populations in N.Y. State, <http://www.esf.edu/ResOrg/RooseveltWildlife/Research/AmericanChestnut/AChestnut.htm> (last visited Apr. 14, 2007) (describing how a better genetic understanding of the American Chestnut Tree has led to successful efforts in reforestation).

⁹⁷ See *generally* PETER FRIEDERICI, *NATURE'S RESTORATION: PEOPLE AND PLACES ON THE FRONT LINES OF CONSERVATION* (2006) (recounting a history of successful ecological restoration projects from across the nation).

⁹⁸ See, e.g., *id.* 30–33 (discussing, for example, ecotourism, bird-watching, and tending wild gardens).

Of course, trees alone do not make a forest. *Ecological restoration* is a long-term prospect at best,⁹⁹ and its challenges in this disturbed environment only begin with vegetation.¹⁰⁰ To recover what has been wasted, a regionally coordinated approach is necessary. The American dream of a home “away from it all” driving the region’s land markets (and thus, to a significant degree, its governance¹⁰¹) is also potentially the most powerful catalyst for that approach. For with this manifestation of wealth causing the development and fragmentation of nature comes the provocation of *conservative* reactions, and it is the dialectic between those two that this study’s proposals aim to shape.¹⁰² The people of the region are accustomed to a rural lifestyle, not condos and ski resorts on every slope.¹⁰³ And the people buying the condos are buying them to be away from civilization. So while there is little doubt that more fragmentation, more crosshatching of landscapes with roads and other infrastructure, greater spread of invasive species and impervious surfaces, and the consequent homogenization and disturbance of habitats regionally, are all on the horizon, there is enormous

⁹⁹ Cf. JORDAN, *supra* note 60, at 28–53 (linking this aspect of restoration to the achievement of community and the reciprocal bonding necessary to do so).

¹⁰⁰ Species diversity, abundance, and resilience remain seriously depressed throughout the region—and that is probably the sharpest point to any “natural history” of North America. It is important to note how few species are *provably* extinct. The passenger pigeon, for example, is known to have gone globally extinct. But many more species have been confined to mere fractions of their historic range or abundance, and it is this problem U.S. wildlife managers must address. See *generally* MORRISON, *supra* note 2, at 174–80, 187–95 (discussing fragmentation of habitats, its effects on animals, and the information gaps and challenges facing wildlife scientists and managers seeking to develop rigorous restoration plans to promote the best use of habitats for such animals).

¹⁰¹ Three of the four Northern Forest states have had their own specific subdivision control laws for a generation or more. Maine’s Land Use Regulation Commission and New York’s Adirondack Park Agency have each acted as specialized oversight agencies for subdivision and land use planning within the study area. I consider Maine’s experience in depth below. See *infra* Part IV.

¹⁰² I use “conservative” here as the adjectival form of *conservation*, its most natural sense. In the 1990s, the Nature Conservancy (TNC) recognized this trend and the motive it gave many people in the region as an opportunity to mount a \$57 million capital campaign for the conservation of, among other properties, the storied St. John River corridor. BILL BIRCHARD, *NATURE’S KEEPERS: THE REMARKABLE STORY OF HOW THE NATURE CONSERVANCY BECAME THE LARGEST ENVIRONMENTAL ORGANIZATION IN THE WORLD* 114–26 (2005). By 2004, TNC’s Maine Chapter had acquired fee interests in some 265,000 acres and sub-fee interests in some 209,000 more. The Nature Conservancy, *The Nature Conservancy in Maine: A History, a Legacy*, <http://www.nature.org/wherewework/northamerica/states/maine/about/art16029.html> (last visited Apr. 15, 2007); see *infra* notes 189–256 and accompanying text (discussing this explosive growth of private conservation in the region).

¹⁰³ The region’s “industrial forests”—large ownerships devoted almost exclusively to logging—illustrate the point. In Maine, some 17.5 million acres—nine-tenths of the state—are forested by most definitions. DOBBS & OBER, *supra* note 57, at 117–18. As of 1995, almost half of that (8.1 million acres) was owned by eight Fortune 500 paper companies and other industrial concerns. *Id.* Because such timberlands traditionally served as de facto recreation areas—unposted and sparsely occupied—and because, traditionally, clear-cutting was disfavored as a management technique, residents benefited directly from large corporate ownerships. *Id.* at 121–22.

capital being generated in this re-valuation of nature, too.¹⁰⁴ Because preserving regional biodiversity requires achieving and maintaining landscape “permeability,” and because that will require a robust, proactive response,¹⁰⁵ liquidating this capital and investing it in practicable restorative measures is arguably the lost agenda of the Northern Forest.¹⁰⁶

Habitat disturbance of the kind witnessed in this forest’s last four centuries represents a broad and deep alteration of its very ecology so complete in its regional implications that the very concept of nature has become indeterminate. That said, citizens and ecologists alike appreciate the interconnections in most of the biomes they inhabit or study today better than ever. Many view restoration ecology as *the* contemporary ethic of land management.¹⁰⁷ In trying to restore places like the Northern Forest, people are learning to compensate for their novel or “outside” influences so that nature can continue to behave or can resume behaving *as if* those influences were not present.¹⁰⁸ They are building a vision that integrates the biosciences with a normative center: mitigating the “*Anthropocene*” to the maximum possible extent.¹⁰⁹ Especially in places like the Northern Forest, this is producing whole new fields of professional study like “road ecology,” which is emerging from the intensifying, interdisciplinary study of this most modern of habitat-disturbing land uses (and which has caused marked habitat degradation in the Northern Forest in particular).

Roads and vehicles affect wildlife in several important and interesting ways. Most of the ways are well documented and have been described in the literature for over 50 years. Roads can cause a direct loss of habitat, alter the quality of adjacent habitat, lead to road-kills, and impede animal movements.

¹⁰⁴ Cf. GEOFFREY HEAL, NATURE AND THE MARKETPLACE: CAPTURING THE VALUE OF ECOSYSTEM SERVICES 33–41 (2000) (arguing that people seeking to experience nature will usually pay for that access and that this could become a powerful investment vehicle). *But cf.* James Saltzman, *Creating Markets for Ecosystem Services: Notes from the Field*, 80 N.Y.U. L. REV. 870, 883 (2005) (“Markets for [ecosystem] services can only be established if there are discrete groups of providers and beneficiaries. Otherwise, transaction costs become too high for contract formation.”).

¹⁰⁵ See Colburn, *Indignity*, *supra* note 25, at 421–36 (discussing the rapid onset of the “species loss pandemic” and the rise of the discipline of conservation biology); ADAMS, *supra* note 22, at 9–22 (noting that conservation biology represents an “uncomfortable intersection of science and advocacy” and discussing the vast shortcomings of ecoregional conservation).

¹⁰⁶ See generally HEAL, *supra* note 104 (discussing ways to modify markets to reflect the proper values of important ecosystems); Klyza, *Bioregional Possibilities*, *supra* note 15 (discussing the potential benefits of applying bioregional thinking to individuals to support a cultural sensibility for wildlife restoration in the Northern Forest Lands).

¹⁰⁷ See generally ADAMS, *supra* note 22 (discussing that restoration ecology provides hope for the “future of the wild”); JORDAN, *supra* note 60 (positing restoration ecology as the best possible prospect for conservation of the classic landscape); FRIEDERICI, *supra* note 97, at 36–37 (offering tales recounting the “new landscape of restoration” created because people have “decided that it is time to intervene, to use human energy and ingenuity to alter these places in a positive way”).

¹⁰⁸ JORDAN, *supra* note 60, at 22.

¹⁰⁹ The “Anthropocene” is a term coined by Paul Crutzen to distinguish the epoch humanity is currently creating from the immediate past geologic epoch, the Holocene. Paul J. Crutzen, *Geology of Mankind*, 415 NATURE 23, 23 (2002).

As roads are upgraded to accommodate greater traffic volume, the rate of successful wildlife crossing decreases significantly. Thus, roads may effectively fragment habitats and otherwise continuous population distributions. Smaller populations typically result, with a greater potential of genetic problems and an increased chance of local extinction.¹¹⁰

How well such influences can be excluded or corrected frames any restorative project in places like the Northern Forest. The most common restorative *mechanism*, though, remains the devotion of more land to habitat. Thus, as large holdings of timberland are subdivided and occupied, the regeneration of this forest could end up being fleeting.¹¹¹ For without the biophysical elements necessary to sustaining species diversity over the long term, any discussion of an “ecological integrity” of the region’s forests is at best awkward and at worst utterly misplaced.¹¹² Tragically, as Part III argues, most state and federal legal mechanisms are ineffective as means for protecting such elements in environments like the Northern Forest, leaving local and private actors to lead.

III. THE STRUCTURE OF HABITAT LAW

Over its long history, wildlife law in America has been anchored in *ownership*.¹¹³ In theory, the states inherited wildlife from the Crown¹¹⁴ and they gradually shifted from managing it for maximizing exploitation to

¹¹⁰ RICHARD T.T. FORMAN ET AL., ROAD ECOLOGY: SCIENCE AND SOLUTIONS 114 (2003) (internal citations omitted).

¹¹¹ Whether out west or back east, the results of an economy based on recreation and tourism are similar:

Rather than clearcuts and open pit mines, [the tourism-recreation economy’s] legacy is suburban-like sprawl . . . that chop[s] once pastoral landscapes into smaller and smaller fragments. As new homes and secondary roads spread across vacant agricultural lands, open space begins to disappear, winter wildlife habitat is lost, seasonal migration routes are disrupted, and erosion problems are exacerbated. . . . Unlike the site-specific impacts associated with a mine or timber sale, recreationists are ubiquitous; the mere presence of more people will generate more human waste, create more unauthorized travel routes, and disturb more wildlife.

KEITER, *supra* note 33, at 262.

¹¹² See Stephen C. Trombulak, *The Northern Forest: Conservation Biology, Public Policy, and a Failure of Regional Planning*, ENDANGERED SPECIES UPDATE 7, 7–16 (1994), available at <http://community.middlebury.edu/~trombula/NF-esUpdate.html> (“The ecological health of this region is extremely poor. It would miss the point entirely to talk only about the threats to biological diversity here. Conditions are far worse than simply facing threats. A threat is what Pearl Harbor faced on 6 December 1941.”); Daniel J. Simberloff et al., *Regional and Continental Restoration*, in CONTINENTAL CONSERVATION, *supra* note 69, at 65, 71 (“Just as restoration requires attention to spatial scale, so it demands attention to scales of time. . . . A local restoration project or protected area may be needed not so much for its current contribution . . . as for its role in promoting the persistence or reintroduction of species and communities in the future.”).

¹¹³ See BEAN & ROWLAND, *supra* note 69, at 7–15.

¹¹⁴ See *Geer v. Connecticut*, 161 U.S. 519, 527–28 (1896). Little, if anything, remains of *Geer’s* ownership notions following a series of later cases. See BEAN & ROWLAND, *supra* note 69, at 27–35.

managing its scarcity.¹¹⁵ Only in its very recent past has American wildlife law taken habitat loss seriously at all. And throughout its evolution, the structure of federal (and most state) wildlife law has remained surprisingly constant. First, what focus there has been on habitat has overwhelmingly taken the form of public lands acquisition or retention.¹¹⁶ Without public land, there has been precious little public attention paid to biodiversity in land use.¹¹⁷ Second, when habitat has prompted controls on private land, the species protected have overwhelmingly skewed toward what biologists sarcastically call “charismatic megafauna”—not intact species assemblages.¹¹⁸ Third, the law has done little to curb the introduction or spread of invasive species and it has almost never provided the capital needed for other rehabilitative work at landscape scales.¹¹⁹

In its most recent structural turn, though, federal (and most state) wildlife habitat law has commanded its agents to attempt the impossible. It has saddled them with judicially enforceable duties to create comprehensive plans for their parcels of public land in order to protect and restore resident wildlife populations while simultaneously depriving them of the geography, the human capital, and the authority necessary to achieving such objectives.¹²⁰ Thus, as I have argued elsewhere and summarize here, federal (and most state) habitat law has evolved into a series of structural dead-ends for bioregional conservation: it is, with extraordinary efforts, keeping a few populations of charismatic species on life support in a few places. For all our systemic and pervasive conservation challenges like those confronting the Northern Forest, though, it is almost entirely beside the point.

A. Imperiled Species and Prohibitive Norms

When it took shape in 1973, the Endangered Species Act (ESA) was envisioned as legislation to address and even perhaps solve the extinction crisis we were just then noticing—at least within the confines of U.S. jurisdiction.¹²¹ Since then, we have learned that that legislation can do no

¹¹⁵ See THOMAS A. LUND, *AMERICAN WILDLIFE LAW* 101–10 (1980); DALE D. GOBLE & ERIC T. FREYFOGLE, *WILDLIFE LAW: CASES AND MATERIALS* 21–23 (2002).

¹¹⁶ See Shannon Petersen, Comment, *Congress and Charismatic Megafauna: A Legislative History of the Endangered Species Act*, 29 ENVTL. L. 463, 467–74 (1999) (discussing Federal efforts to protect species, beginning with effort to protect wildlife on Federal lands, and culminating in the Endangered Species Acts of 1973); see also Christine A. Klein, *Preserving Monumental Landscapes Under the Antiquities Act*, 87 CORNELL L. REV. 1333, 1334–39 (2002).

¹¹⁷ The case has been made that protection of “wilderness” as such was not only discouraged at common law, but was positively antithetical to the common law of property. See John G. Sprankling, *The Antiwilderness Bias in American Property Law*, 63 U. CHI. L. REV. 519, 521–26 (1996).

¹¹⁸ See Petersen, *supra* note 116. It has been argued that this is a predictable consequence of our Constitution. See David Orr, *The Constitution of Nature*, 17 CONSERVATION BIOLOGY 1478 (2003).

¹¹⁹ Colburn, *Indignity*, *supra* note 25, at 446–53.

¹²⁰ See generally Jamison E. Colburn, *Habitat and Humanity: Public Lands Law in the Age of Ecology*, 39 ARIZ. ST. L.J. (forthcoming 2007).

¹²¹ See LAWRENCE R. LIEBESMAN & RAFAEL PETERSEN, *ENDANGERED SPECIES DESKBOOK* 5–10

such thing. Today the ESA is the keystone of our “strictly science” federal conservation laws.¹²² Yet, paradoxically, it is the very structure showing how ill-adapted our administrative state is to the real problems of species loss and the applied science of conservation biology.¹²³ The agencies charged with its implementation have always been under-funded and understaffed.¹²⁴ Yet they still may only set land use policy when they can document the presence of a listed species and then only to the extent they can justify use restrictions with the “best available scientific or commercial data.”¹²⁵ These agencies face constant legal challenges by aggrieved stakeholders alleging they have ignored the law.¹²⁶ No matter how careful government biologists are in their assessments of an ecosystem or any of its components (which is not to say they are always careful), the very structure of their authority—the Act’s moral stakes, procedural rigidity, and atomistic focus on particular organisms—embeds them in legal conflict, deterring the very kinds of deliberation and collaboration they must sustain to succeed.¹²⁷

Of course, without listed species around, habitat degradation is marginalized and, along with it, so is bioregional thinking.¹²⁸ In fact, even when a species *is* listed, habitat protection is usually partial at best. Section 9 of the ESA prohibits anyone within the jurisdiction of the United States from killing or even bringing “harm” to listed species.¹²⁹ The agencies’

(2003) (summarizing history leading up to, and the intent of, the Endangered Species Act (ESA)).

¹²² See Holly Doremus, *Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy*, 75 WASH. U. L.Q. 1029, 1042–56, 1112 (1997) [hereinafter Doremus, *Listing Decisions*].

¹²³ See Colburn, *Indignity*, *supra* note 25, at 436–53; Doremus, *Listing Decisions*, *supra* note 122, at 1057–1129.

¹²⁴ See, e.g., Fish and Wildlife Service, *Endangered and Threatened Wildlife and Plants; Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation*, 64 Fed. Reg. 31,871, 31,873 (June 14, 1999) (acknowledging that the Service’s entire budget in a fiscal year could be spent on just one duty under the ESA: the designation of “critical habitat” for listed species pursuant to court orders).

¹²⁵ 16 U.S.C. § 1533(b)(1)(A) (2000). In *Northern Spotted Owl v. Hodel*, 716 F. Supp. 479, 483 (W.D. Wash. 1988), the court held that this statutory language requires the federal government to rely, wherever possible, on expert analysis and not simply the conclusory assertions of staff or interested private parties. See also *Ctr. for Biological Diversity v. Norton*, 254 F.3d 833 (9th Cir. 2001) (holding that the Secretary of Interior was required to provide an explanation and evaluation of why she decided to designate two species as candidates for listing under the ESA). This statutory mandate also specifically excludes the use of political and economic considerations for listing. See, e.g., *Save our Springs v. Babbitt*, 27 F. Supp. 2d 739, 747 (W.D. Tex. 1997). However, it has been extremely difficult to say what constitutes the *best* scientific or commercial information amid the kinds of normative conflicts listing decisions produce.

¹²⁶ Doremus, *Listing Decisions*, *supra* note 122, at 1033–34 (“Federal conservation statutes consistently invoke the mantra of science, demanding that executive branch agencies base their actions on the best available scientific information, a term not defined in any statute.”).

¹²⁷ See George Cameron Coggins, *A Premature Evaluation of American Endangered Species Law*, in *ENDANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES* 1, 1 (Donald C. Bauer & William Robert Irvin eds., 2002); Colburn, *Indignity*, *supra* note 25, at 436–53.

¹²⁸ Colburn, *supra* note 120.

¹²⁹ Under the Act, the “take” of any listed species is specifically prohibited and “take” is defined to mean “harass, harm, pursue, shoot, wound, trap, capture, or collect, or to attempt to

administrative definition of “harm,” though, limits it to action, “including habitat modification, *which actually kills or injures wildlife*.”¹³⁰ Thus, draining a pond in which a listed turtle lives, depriving that turtle of its habitat, *may*—depending on that turtle’s reaction—be a prohibited act if, for example, the turtle then meets its demise on an adjacent road searching out other habitat.¹³¹ Of course, having to *prove* that the action—and let us stipulate that it is a proximate cause of the turtle’s actions¹³²—was the legal cause of the “harm” deters most governmental responses.¹³³ There is a broader point here about prohibitive norms and habitat: the scarcity of public resources prevents them from being, certainly at the federal level, “a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.”¹³⁴

engage in any such conduct.” 16 U.S.C. § 1532(19) (2000).

¹³⁰ See Fish and Wildlife Service, Endangered and Threatened Wildlife and Plants; Final Redefinition of “Harm,” 46 Fed. Reg. 54748, 54748 (Nov. 4, 1981) (emphasis added). “Harm in the definition of ‘take’ in the Act means an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” 50 C.F.R. § 17.3 (2006). “Harass in the definition of ‘take’ means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.” *Id.*

In *Babbitt v. Sweet Home Chapter of Cmty. for A Great Oregon*, 515 U.S. 687, 697 (1995), the Supreme Court rejected the proposition that ESA § 3’s definition of “take” could not bear an administrative definition of “harm” that included habitat modifications injurious to a population rather than to definite individuals. *But cf. id.* at 710 (O’Connor, J., concurring) (“One need not subscribe to theories of ‘psychic harm’ . . . to recognize that to make it impossible for an animal to reproduce is to impair its most essential physical functions and to render that animal, and its genetic material, biologically obsolete. This, in my view, is actual injury.”). Somehow, though, construction industry lawyers still argue that “the harm regulations provide that a land use activity does not become harm unless and until the activity kills or actually injures a member of a listed wildlife species.” Steven P. Quarles & Thomas R. Lundquist, *When Do Land Use Activities “Take” Listed Wildlife Under ESA Section 9 and the “Harm” Regulation?, in ENDANGERED SPECIES ACT: LAW, POLICY AND PERSPECTIVES* 207, 217 (Donald C. Bauer & William Robert Irvin eds., 2002). This seems like a specious argument calculated to preclude federal prohibitions on broad scale habitat degradation. While the “harm” definition was amended in 1981 to require “significant” habitat destruction/degradation that “actually” kills or injures “wildlife,” one can do so by impairing the “essential behavioral patterns of a listed species” like breeding, *i.e.*, by disrupting the population and not just its individuals. See 46 Fed. Reg. at 54,749, 54,748 (outlining the amendments). There would be nothing for the “harm” part of the definition of “take” left to signify—given ESA § 3’s other defining terms like “wound,” “kill,” and “harass”—if it necessarily required provable harm to particular individuals.

¹³¹ BEAN & ROWLAND, *supra* note 69, at 218 n.121; *Babbitt*, 515 U.S. at 733 n.5 (Scalia, J., joined by Rehnquist, C.J., and Thomas, J., dissenting).

¹³² Of course, the driver would be a but-for cause as well, but nothing in the Act suggests the first party’s liability ought to be severed by another, contributory cause. And without knowing much more than we do about animal consciousness, it would be impossible to prove that the turtle’s reaction was, in any sense, conscious. See *generally* DONALD R. GRIFFIN, *ANIMAL MINDS: FROM COGNITION TO CONSCIOUSNESS* (2d ed. 2001).

¹³³ Cf. H.L.A. HART & TONY HONORÉ, *CAUSATION AND THE LAW* 32–44 (2d ed. 1985) (differentiating between “causes” and “mere conditions” as predicates in ordinary language and arguing that the two are often confused in causal analysis in the law).

¹³⁴ 16 U.S.C. § 1531(b) (2000). The agencies’ experiences with consultations pursuant to ESA

ESA § 7 and a few of its state copies specifically prohibit the “adverse modification” of a listed species’s designated “critical habitat.”¹³⁵ But critical habitat designations have themselves become parodies of regulatory politics.¹³⁶ The ESA requires that, concurrent with the listing of an imperiled species, the federal government “shall designate critical habitat . . . on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, or specifying any particular area as critical habitat.”¹³⁷ Yet, if it deems the costs too high to

§ 7 in which “take” has been inferred on the basis of incomplete proof underscores this point. *See, e.g.,* *Ariz. Cattle Growers’ Ass’n v. U.S. Fish & Wildlife Serv.*, 273 F.3d 1229, 1233 (9th Cir. 2001) (invalidating “Incidental Take Statements” issued in the course of consultation as being insufficiently supported by proof).

¹³⁵ 16 U.S.C. §§ 1533(b)(2), 1536(a)(2) (2000). On states’ imperiled species programs generally, see Lawrence Niles & Kimberly Korth, *State Wildlife Diversity Programs*, in *THE ENDANGERED SPECIES ACT AT THIRTY: RENEWING THE CONSERVATION PROMISE* 141, 141–55 (Dale D. Goble, J. Michael Scott & Frank W. Davis eds., 2006). For example, under Maine’s endangered species law, the Maine Department of Inland Fisheries and Wildlife (MDIFW) is empowered to protect by rule essential wildlife habitat for listed species. *ME. REV. STAT. ANN.* tit. 12, §§ 12804(2), 12806(1)(A) (2005). To date, MDIFW has only designated habitat for a few shorebirds and bald eagle nesting sites. 09-137 *ME. CODE R.* § 8.05 (2005), available at <http://www.maine.gov/sos/cec/rules/09/chaps09.htm>.

¹³⁶ *See, e.g.,* Amy Sinden, *The Economics of Endangered Species: Why Less Is More in the Economic Analysis of Critical Habitat Designations*, 28 *HARV. ENVTL. L. REV.* 129, 151–52 (2004) (explaining how FWS has avoided political problems by writing critical habitat out of the ESA, and therefore declined to designate critical habitat for the majority of species). The government now routinely admits it makes its critical habitat decisions in response to lawsuits and threats to sue. Amy N. Hagen & Karen E. Hodges, *Resolving Critical Habitat Designation Failures: Reconciling Law, Policy, and Biology*, 20 *CONSERVATION BIOLOGY* 399, 402 (2006). Though the statute proclaims its goal to be the conservation of ecosystems, the means Congress actually provides consist chiefly in the designation and protection of resources for listed species, and critical habitat designations have become harder and harder for the agencies to complete. *See, e.g.,* *Ctr. for Biological Diversity v. Norton*, 240 F. Supp. 2d 1090, 1091–96 (D. Ariz. 2003), *amended in part*, 2003 WL 22849594 (D. Ariz. Feb. 19, 2003) (describing the long, and sometimes contradictory, background of the Mexican Spotted Owl critical habitat designation). For example,

[b]etween April 1996 and July 1999, FWS designated more than 250 species as threatened or endangered under the ESA, but had made critical habitat designations for only 2. Of a total of 1,200 species listed by FWS as threatened or endangered, FWS has designated critical habitat for only 113 (9%) of them. Furthermore, while FWS must designate critical habitat once a species is listed, “the FWS has typically put off doing so until forced to do so by court order.”

Id. at 1103 (citations omitted) (quoting *N.M. Cattle Growers Ass’n v. U.S. Fish & Wildlife Serv.*, 248 F.3d 1277 (10th Cir. 2001)).

¹³⁷ 16 U.S.C. § 1533(b)(2) (2000). In *New Mexico Cattle Growers Ass’n v. U.S. Fish & Wildlife Service*, 248 F.3d at 1285, the court held that the ESA required a detailed analysis of the economic impacts fairly traceable to the designation of critical habitat, even if those impacts would also be caused in the absence of (i.e., would be caused irrespective of) critical habitat designations (i.e., by the listing of the species in and of itself). This decision, besides slowing the agencies’ designations considerably, *see* Sinden, *supra* note 136, at 167, has created a real incentive to be under-inclusive in critical habitat designations. *See, e.g.,* *Ctr. for Biological Diversity*, 240 F. Supp. 2d at 1097, 1108 (recounting FWS’s attempt to avoid designating as critical habitat areas under “adequate management” and areas currently unoccupied by the species).

landowners within the “geographical area occupied by the species, at the time it is listed,”¹³⁸ the government simply elects not to designate private lands.¹³⁹ Additionally, as stakeholders and courts clarify the diversity of ways in which habitat actually suffers “adverse modification” from traditional land uses,¹⁴⁰ the resource-starved agencies have a growing incentive not to designate more.

This was evident recently in the Fish & Wildlife Service’s decision to exclude *all* of Maine from the finalized critical habitat designations for the Canada lynx, a species listed as threatened under court order in 2001.¹⁴¹ “Many commenters,” the agency observed without a hint of irony, “expressed concern that commercial and recreational activities such as logging, mining, snowmobiling, off-road vehicles, and downhill skiing, would be prohibited or severely restricted by a designation of critical habitat.”¹⁴²

Conservation groups have purchased conservation easements on hundreds of thousands of acres of forestland. These easements are negotiated with private timber companies to assure protection from development and promote sustainable forestry and wildlife management. Most of these easements have required significant Federal funds, especially from Forest Legacy and the North American Wetlands Conservation Act. Currently, about [2 million acres] of the [6.4 million acres] in Maine considered for inclusion in lynx critical habitat are under permanent easements, with several hundred thousand acres more under negotiation.¹⁴³

¹³⁸ 16 U.S.C. § 1532(5)(A)(i) (2000). The statutory definition of “critical habitat” for a listed species is

the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of [ESA § 4], on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection.

Id. The designation can be extended to areas “outside the geographical area occupied by the species at the time it is listed” only if FWS specifically finds “that such areas are essential for the conservation of the species.” *Id.* § 1532(5)(A)(ii).

¹³⁹ See 16 U.S.C. § 1533(b)(2) (2000) (“The Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat.”). In *New Mexico Cattle Growers v. U.S. Fish & Wildlife Service*, 248 F.3d at 1285, the court held that FWS has a statutory duty to analyze the quantifiable costs and benefits of designating protected habitat even if those factors are coordinately caused by the listing of the species itself (through the operation of ESA § 9) or other regulatory requirements.

¹⁴⁰ See *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1069–71 (9th Cir. 2004); *Sierra Club v. U.S. Fish & Wildlife Serv.*, 245 F.3d 434, 441–43 (5th Cir. 2001).

¹⁴¹ See *Defenders of Wildlife v. Norton*, 239 F. Supp. 2d 9, 26 (D.D.C. 2002), *vacated in part*, 89 Fed. Appx. 273 (D.C. Cir. 2004); Designation of Critical Habitat for the Contiguous United States Distinct Populations Segment of the Canada Lynx, 71 Fed. Reg. 66,008, 66,008 (Nov. 9, 2006). The decades-long saga of the lynx listing is a story I take up elsewhere. See Jamison E. Colburn, *Gray Wolf and Grizzly Recovery Under the ESA: Taking the Measure of an Eroding Statute*, 23 NAT. RES. & ENVT. (forthcoming 2007).

¹⁴² Designation of Critical Habitat for the Contiguous United States Distinct Populations Segment of the Canada Lynx, 71 Fed. Reg. at 66,012.

¹⁴³ *Id.* at 66,040.

So, in FWS's final rulemaking designating the lynx's "critical habitat," it simply excluded all of Maine—indeed, it excluded virtually everything but the two National Parks within the lynx's range in the contiguous United States.¹⁴⁴ Because the ESA's own habitat acquisition program has long been beside the point,¹⁴⁵ public acquisition and/or regulation of land for the lynx is virtually nonexistent at the federal level.¹⁴⁶

Restoration of species long extirpated locally is usually out of the question. For example, the agency stated explicitly in its lynx critical habitat rulemaking that *no* areas were being designated "solely because they provide habitat for dispersing animals."¹⁴⁷ In fact, the agencies have said they will seek to restore historically occupied habitat to the range of a species "only when a designation limited to its present range would be inadequate to ensure the conservation of the species."¹⁴⁸ It is perhaps not surprising, then, to learn that the Northern Forest has *no* designated critical habitat today.¹⁴⁹ Indeed, its forests lack virtually any listed species, including predators—the lynx being the exception.¹⁵⁰ Of course, *most* extant predators

¹⁴⁴ *Id.* at 66,012–54.

¹⁴⁵ Funding for ESA § 5 acquisitions has been sporadic at best. See Frank W. Davis et al., *Renewing the Conservation Commitment, in THE ENDANGERED SPECIES ACT AT THIRTY: RENEWING THE CONSERVATION PROMISE* 296, 297 (Dale D. Goble et al. eds., 2006).

¹⁴⁶ See Hagen & Hodges, *supra* note 136, at 404 ("Even when we have substantial knowledge, turning biological understanding into critical habitat designation can be difficult. For example, literally dozens of scientific papers, including many on habitat use, have been published on the lynx. . . . Despite [a] rich knowledge base it is not clear how to . . . designate appropriate critical habitat."). Just the incidental catch of lynx by trappers seeking bobcats or other furbearers could be a significant cause of concern—or not—depending on key assumptions. Since 2001, some fifteen Maine lynx were *reported* caught in traps. Phyllis Austin, *Rising Lynx Take Worries Advocates*, ME. ENVTL. NEWS, May 12, 2005, *available at* <http://www.meeepi.org/files05/pa051205.htm> (commenting on the difficulty of determining the level of incidental catch of lynx).

¹⁴⁷ 71 Fed. Reg. at 66,025. Moreover, no habitat was even considered for designation without a documented presence of lynx as of 1995. *Id.* at 66,010. This is curious given the agency's initial findings that the population within the contiguous United States is possibly comprised entirely of dispersers from Canada. See Determination of Threatened Status for the Contiguous U.S. Distinct Population Segment of the Canada Lynx and Related Rule, 65 Fed. Reg. 16,052, 16,053 (Mar. 24, 2000).

¹⁴⁸ 50 C.F.R. § 424.12(e) (2006). Lynx abundance throughout Alaska and Canada precludes such a finding in this case. See Endangered and Threatened Wildlife and Plants; Notice of Remanded Determination of Status for the Contiguous United States District Population Segment of the Canada Lynx, 68 Fed. Reg. 40,076, 40,082 (July 3, 2003) (codified at 50 C.F.R. pt. 17 (2006)).

¹⁴⁹ U.S. Fish and Wildlife Sources, FWS Critical Habitat for Threatened and Endangered Sources, <http://criticalhabitat.fws.gov> (last visited Apr. 15, 2007). My own quite unsystematic confirmation of the absence of designated critical habitat in forested New England and the Adirondacks is a page-by-page search of the two C.F.R. volumes laying out all the designated geography. See 50 C.F.R. Part 17, Vols. 2–3 (2005). Not a *single* designation listed in the C.F.R. applies to upland, forested New England or the Adirondacks, although listed species of the region include several raptors, the lynx, several Atlantic salmon populations, dozens of insects, and soon the New England cottontail. See Fish and Wildlife Service, Candidate Notice of Review, 71 Fed. Reg. 53,756, 53,757–58 (2006).

¹⁵⁰ The eastern cougar is another listed predator of the region (listed since 1973), although its probable extinction was finally acknowledged indirectly in 2006. See Notice of availability,

are listed.¹⁵¹ Peregrine falcons recovered remarkably (and in unexpected places) when captive breeding and other extraordinary measures were funded and implemented—when it became strictly *verboten* even to bother them and where extraordinary restorative work was done.¹⁵²

Thus, the “harm” prohibition and the geography of listing both encapsulate a broader structural reality of federal and state habitat protection law: it is only the *exceptional* constituents of nature that trigger federal (and most state) land use controls. At those junctures, administrative agencies usually view local land use authorities as *obstacles* to—not as essential elements of—an eventual solution.¹⁵³ The statutory authorities that empower administrative agencies to control land uses, especially on private land, thus skew toward the “special”—to the exclusion of the “ordinary.”¹⁵⁴ No place is more ordinary in this sense than the northeastern United States.¹⁵⁵ Species on the brink of oblivion and habitats that are provably essential to their survival are ostensibly protected.¹⁵⁶ Everything else—everything more common, familiar, and adapted to disturbance—is mostly ignored.¹⁵⁷

In places like the Northern Forest, where the thinning of wildlife began generations ago, where fire has been suppressed for centuries, where so

Technical/Agency Draft of the Third Revision of the Florida Panther Recovery Plan for Review and Comment, 71 Fed. Reg. 5,066 (Jan. 31, 2006). The government never devoted serious attention to the restoration of the eastern cougar.

¹⁵¹ At its inception, the ESA reversed official policies on (most) predators because many were instantly candidates for listing. See MICHAEL J. ROBINSON, PREDATORY BUREAUCRACY: THE EXTERMINATION OF WOLVES AND THE TRANSFORMATION OF THE WEST 337–46 (2005). Counting up the mammalian predators that are now, were once, or will soon be listed endangered or threatened species is a potent reminder of the Anthropocene.

¹⁵² See, e.g., Stephanie Paige Ogburn, *Bred For Success*, HIGH COUNTRY NEWS, Nov. 13, 2006, at 4.

¹⁵³ See Colburn, *Localism's Ecology*, *supra* note 25, at 10–12. There is reason to believe that this is changing, especially under the FWS's current policy guiding the weighing of the factors in ESA §§ 4(a)(1)(D), (E) and 4(b)(1)(A) in listing determinations. See Policy for Evaluation of Conservation Efforts When Making Listing Decisions, 60 Fed. Reg. 15,100 (Mar. 28, 2003). But there is no reason to believe that the changes are improvements where habitat protection is concerned.

¹⁵⁴ Colburn, *Indignity*, *supra* note 25, at 457–60; Doremus, *Saving the Ordinary*, *supra* note 33, at 326.

¹⁵⁵ Others have documented this paradox at length. See, e.g., Holly Doremus, *Patching the Ark: Improving Legal Protection of Biological Diversity*, 18 ECOLOGY L.Q. 265 (1991); Daniel J. Rohlf, *Six Biological Reasons Why the Endangered Species Act Doesn't Work—And What to Do About It*, 5 CONSERVATION BIOLOGY 273 (1991).

¹⁵⁶ How effective ESA protections for such habitats have been in fact is the subject of some disagreement. Martin F.J. Taylor et al., *The Effectiveness of the Endangered Species Act: A Quantitative Analysis*, 55 BIOSCIENCE 360 (2005).

¹⁵⁷ Doremus, *Saving the Ordinary*, *supra* note 33, at 334.

Human beings simply are not wired to care about, or even to notice, the ordinary. We cannot attend to everything that competes for our attention. We have therefore developed a variety of filtering mechanisms to help us focus effectively on some things by more or less shutting out others. . . . The ordinary . . . provides a poor focal point.

Id.

much of what remains is adapted to traditional “multiple use,” and where real biodiversity planning is habitat dependent, federal wildlife law is a footnote.¹⁵⁸ Conservation in this environment is much more a question of *restoration* than it is maintaining a status quo. Yet species restoration always entails affirmative biological and physical intervention, not to mention protecting adequate landscape “permeability.”¹⁵⁹ For these, federal (and most state)¹⁶⁰ endangered species law is increasingly irrelevant.

B. Public Lands as Islands

To read most analyses of the law of biodiversity, one would think public lands are the answer. The facts are otherwise: the major federal public lands systems and the statutes governing them have been shaped to fit other priorities,¹⁶¹ and the potential connectivity between public lands as habitat is, as a rule, very low.¹⁶² Indeed, according to analyses of these systems keyed to conservation values, crippling deficiencies are the norm, especially east of the Rockies.¹⁶³ No landscapes better exemplify this condition than those of the Northern Forest. The Northern Forest has half a dozen units of the National Wildlife Refuge System, two National Forests, and no significant national parks. Each is managed by different planners with different priorities,¹⁶⁴ is many miles from the others, and is by itself, compared to the 40,000-plus *square miles* of the Northern Forest, a rounding error.¹⁶⁵

While state ownership in the region is rising, it is still improbable at best that the “islands” of public lands will ever grow to become a

¹⁵⁸ When a trigger does arise, it is big news. *See, e.g.*, Felicity Barringer, *With Scraggly Habitat Disappearing, So Is a Rabbit*, N.Y. TIMES, Sept. 1, 2004, at A14 (describing the conversion of scrub and new growth forests in New England as a principal threat to the New England cottontail and its imminent listing).

¹⁵⁹ Colburn, *Indignity*, *supra* note 25, at 421–36.

¹⁶⁰ *See* Susan George & William J. Snape III, *The State of State Endangered Species Acts, in* ENDANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES, at 503, 505 (Donald C. Bauer & William Robert Irvin eds., 2002) (“Most of the existing 45 state endangered species acts merely provide a mechanism for listing and prohibit the taking of or trafficking in listed species.”).

¹⁶¹ Robert B. Keiter, *Ecological Concepts, Legal Standards, and Public Land Law: An Analysis and Assessment*, 44 NAT. RESOURCES J. 943, 943–45 (2004); Colburn, *supra* note 120.

¹⁶² Colburn, *Indignity*, *supra* note 25, at 432–34.

¹⁶³ *See, e.g.*, J. Michael Scott et al., *National Wildlife Refuge System: Ecological Context and Integrity*, 44 NAT. RESOURCES J. 1041, 1041 (2004); J. Michael Scott et al., *Nature Reserves: Do They Capture the Full Range of America's Biological Diversity?*, 11 ECOLOGICAL APPLICATIONS 999, 999 (2001); J. Michael Scott et al., *Gap Analysis: A Geographic Approach to Protection of Biological Diversity* 5 (Wildlife Monograph No. 123) (1993).

¹⁶⁴ McGrory Klyza, *Public Lands and Wild Lands in the Northeast, in* WILDERNESS COMES HOME, *supra* note 67, at 75, 75.

¹⁶⁵ Even in regions where this equation is reversed and where public land managers have gradually committed to conservation planning, private lands are proving essential to regional objectives. *See* Joseph L. Sax & Robert B. Keiter, *The Realities of Regional Resource Management: Glacier National Park and Its Neighbors Revisited*, 33 ECOLOGY L.Q. 233, 258–65 (2006).

“continent.”¹⁶⁶ Many residents fought bitterly to prevent federal or state acquisitions throughout the NFLC process and would do so again today.¹⁶⁷ Linking the public lands together to make more continuous, permeable landscapes, thus, is a task increasingly fit only for private actors. And as the nonprofit sector has scaled up, it has become the driving force for habitat conservation in this region, as in many others.¹⁶⁸

C. Privatizing Governance: The Arc of Protecting Nature in America

Notwithstanding the American romance with wilderness, in most regions collecting enough land to join existing reserves together into meta-reserves (as conservation biology recommends)¹⁶⁹ will come, if at all, from the private sector.¹⁷⁰ The problem is not that federalism or anything else in the Constitution deprives the federal government of the authority needed to build larger or more integrated systems of public lands.¹⁷¹ It is not even that innovative structures joining public and private lands into landscape-scale partnerships have not been devised.¹⁷² It is that whatever Americans’ regard

¹⁶⁶ Simberloff et al., *supra* note 112. Public ownership in the Northern Forest in particular, contrary to the national norm, is lopsided and tilting further in favor of the states. In 1978, it was estimated that all conservation lands combined totaled about 5.1 million acres, with 3.4 million acres in New York, 240,000 in Vermont, 110,000 in New Hampshire, and 342,000 in Maine. See Gustav A. Swanson, *Wildlife on the Public Lands*, in *WILDLIFE AND AMERICA* 428, 436–37, tbl.4 (Howard P. Brokaw ed., 1978). While federal holdings have been roughly constant since, state holdings are rising. By 2001, the states of Vermont, New Hampshire, Maine, and New York combined held over 5.3 million acres for conservation, in addition to the roughly 1.3 million acres comprising the White Mountain and Green Mountain National Forests and the collection of wildlife refuges in the region. Klyza, *Problems, Politics, and Alternatives*, *supra* note 19, at 76 tbl.4.1).

¹⁶⁷ Large-scale public acquisitions were dismissed by NFLC commissioners, see Klyza, *Problems, Politics, and Alternatives*, *supra* note 19, at 44–46, continuing a long-standing New England tradition. JUDD, *supra* note 24, at 90–120. Most of what little federal land there is in New England was acquired through the Weeks Act early in the twentieth century at a moment of exceptional public interest in public lands acquisition. See SALLY K. FAIRFAX ET AL., *BUYING NATURE: THE LIMITS OF LAND ACQUISITION AS A CONSERVATION STRATEGY, 1780–2004*, 70–72 (2005) [hereinafter *BUYING NATURE*]. Conservation easements, being the modern alternative, BREWER, *supra* note 9, at 146–47, were encouraged instead.

¹⁶⁸ See *BUYING NATURE*, *supra* note 167, at 255–72; Emily Bateson & Nancy Smith, *Making It Happen: Protecting Wilderness on the Ground*, in *WILDERNESS COMES HOME*, *supra* note 67, at 182, 183–209.

¹⁶⁹ See Simberloff et al., *supra* note 112, at 68–71.

¹⁷⁰ See Jamie Sayen, *An Opportunity for Big Wilderness in the Northern Appalachians*, in *WILDERNESS COMES HOME*, *supra* note 67, at 124, 126.

¹⁷¹ See, e.g., *United States v. Albrecht*, 496 F.2d 906 (8th Cir. 1974) (upholding federal authority to create an easement not recognized at (state) common law and enforcing it against successors-in-interest); *Cappaert v. United States*, 426 U.S. 128 (1976) (upholding federal authority to reserve unappropriated water rights independent of state law restrictions on doing so).

¹⁷² See, e.g., Pub. L. No. 87–126, 75 Stat. 284 (1961) (act establishing Cape Cod National Seashore, empowering the Secretary of Interior to acquire title to lands within the designated “seashore” through various mechanisms, and empowering the Secretary to exercise veto authority over the zoning policies of six Massachusetts towns within the proclamation boundary).

for biodiversity (and I have argued before that it is wide but shallow), the American land ethic is basically private and divisionary in nature.¹⁷³ Thus, barring a seismic shift, the majority of Americans will support conservation by government if and only if it does not entail severe strictures on property rights (real or perceived).¹⁷⁴

With sprawl so obvious a threat to regional biodiversity and with no reconstitution of our land ethic in sight, there has been a growing urgency to private initiatives. Indeed, one of the NFLC's principal recommendations was the conservation easement,¹⁷⁵ a tool that has (coincidentally) become enormously popular since.¹⁷⁶ But the trend of groups like The Nature Conservancy and its local analogues purchasing fee and easement interests from willing sellers marks a transformation in our conservation politics¹⁷⁷—one that arguably *began* in the Northern Forest.¹⁷⁸ Whether by fee simple or through some kind of sub-fee interest to better leverage limited capital, these organizations are the leading edge of conservation today.¹⁷⁹ Fairfax and others link this turn to the neoconservative attack on the regulatory state.¹⁸⁰ Whatever its causes, it is bringing us an unmistakably privatized conservationism. Today, there are more than 1,600 groups nationwide “doing deals” for conservation easements and other interests in land.¹⁸¹ The largest and most sophisticated of them, of course, are at work in the Northern Forest: “[m]uch of [its] vast woods . . . is cheap, unpeopled, essential for restoring wilderness, and for sale.”¹⁸² Finding the capital is often viewed as a solution to its regional problems.

This is not just a shift in tactics. It is changing the structure of political power behind conservation. Private property managed to provide a public good like habitat is still *private* property.¹⁸³ Its management need never bear the exacting scrutiny heaped upon the Forest Service (or FWS, for that matter).¹⁸⁴ And, with no improvised mechanisms of accountability, private

¹⁷³ See Colburn, *supra* note 120.

¹⁷⁴ I am dubious that any such shift is likely notwithstanding some highly nuanced work arguing its necessity (and possibility). See, e.g., FREYFOGLE, *supra* note 14.

¹⁷⁵ See NFLC REPORT, *supra* note 20, at 51–52; Malmshiemer et al., *supra* note 26.

¹⁷⁶ See BUYING NATURE, *supra* note 167, at 203–43.

¹⁷⁷ See ADAMS, *supra* note 22, at 46–68; BIRCHARD, *supra* note 102, at 111 (“[S]ince the Great Ponds Act of 1647, Maine had guaranteed the passage of people across private lands to fish and fowl at “all great ponds.”).

¹⁷⁸ See BUYING NATURE, *supra* note 167, at 180–89.

¹⁷⁹ See *generally* ADAMS, *supra* note 22; Bateson & Smith, *supra* note 168, at 182; BUYING NATURE, *supra* note 167.

¹⁸⁰ See BUYING NATURE, *supra* note 167, at 203.

¹⁸¹ See BUYING NATURE, *supra* note 167, at 261. Collectively, local land trusts have over “one million members, many of them avid, hard-working volunteers.” BREWER, *supra* note 9, at 1.

¹⁸² Bateson & Smith, *supra* note 168, at 196.

¹⁸³ *But cf.* Federico Cheever, *Public Good and Private Magic in the Law of Land Trusts and Conservation Easements: A Happy Present and a Troubled Future*, 73 DENV. U. L. REV. 1077 (1996) (arguing that creating a government right to enforce conservation easements might protect against their abuse).

¹⁸⁴ In the context of characterizing particular environmental degradations, this can be extremely advantageous. See Saltzman, *supra* note 104, at 880.

deals can be of dubious merit, can be used to conceal sham transactions, and can even be contrary to the public interest.¹⁸⁵ Furthermore, concerned citizens who are willing to pay to protect nature paradoxically ensure that the price of doing so is always going up.¹⁸⁶ Thus, as more complex, finer-grained mosaics of public and private ownership emerge,¹⁸⁷ the individuated strategies driving these deals become ever more complicated and contingent.¹⁸⁸ Even the most impressive of such acquisitions are always separated by still more “unprotected” land that is fragmented in ownership, of sinking value as timber (or farmland), and beset by invasive species and other systemic disturbances. This all frames one simple deduction: conservation easements in themselves cannot constitute a complete, regional scale strategy for places like the Northern Forest.¹⁸⁹ Part IV presents the evidence.

IV. THE DEAL AND THE WOODLOT: BIOREGIONAL CONSERVATION IN PRIVATE

In March 2001, the nonprofit New England Forestry Foundation (NEFF) announced one of the largest conservation easements in U.S. history.¹⁹⁰ NEFF

In most cases, our scientific knowledge is inadequate to undertake meaningful marginal analysis—to predict with any certainty how specific local actions affecting these factors will impact the local ecosystem services themselves. For example, it is difficult to predict how developing thirty percent of *this* wetland will impact water quality, flooding events, or local bird populations.

Id. But it can also block needed transparency. *See* Part IV.

¹⁸⁵ A series of *Washington Post* articles in 2003 heaped suspicion on The Nature Conservancy with allegations that the organization was party to arguably fraudulent, tax sheltering deals. *See The Tax Code and Land Conservation: Hearing Before the S. Comm. on Finance*, 109th Cong. (2005) (statement of Steven J. McCormick On Behalf of The Nature Conservancy), available at <http://www.senate.gov/-finance/hearings/testimony/2005test/sm2test060805.pdf>; *infra* note 247 and accompanying text.

¹⁸⁶ *See* James Boyd et al., *The Law and Economics of Habitat Conservation: Lessons from an Analysis of Easement Acquisitions*, 19 STAN. ENVTL. L.J. 209, 235 (2000); *see infra* notes 226–46 and accompanying text.

¹⁸⁷ Innovative deal-making involving, for example, the use of conduit organizations to pass acquisitions into eventual public ownership, public/private partnerships, debt markets, and revolving fund financing, is becoming the stock-in-trade for the larger organizations like the Trust for Public Land and The Nature Conservancy. *See* Casey, *supra* note 13, at 40–44.

¹⁸⁸ *See* Kevin W. Schuyler, *Expanding the Frontiers of Conservation Finance*, in FROM WALDEN TO WALL STREET: FRONTIERS OF CONSERVATION FINANCE, *supra* note 13, at 109, 118–21 (James N. Levitt ed., Island Press 2005) (describing project financing).

¹⁸⁹ The result is more attention being paid to “limited development” schemes for finance and other purposes. *See* Ned Sullivan & Steve Rosenberg, *Employing Limited Development Strategies to Finance Land Conservation and Community-Based Development Projects*, in FROM WALDEN TO WALL STREET: FRONTIERS OF CONSERVATION FINANCE, *supra* note 13, at 90, 90–108 (James N. Levitt ed., Island Press 2005) (describing limited development strategies). *See generally* Jeffrey C. Milder, *An Ecologically-Based Evaluation of Conservation and Limited Development Projects* (2005) (unpublished masters’ thesis, Cornell University) [hereinafter *Milder Thesis*] (on file with author).

¹⁹⁰ At the time of the announcement, the Maine Governor heralded it as the largest timberland easement in U.S. history. New England Forestry Foundation, The Pingree Forest Partnership, <http://www.neforestry.org/conservation/pingree.shtml> (last visited Apr. 15, 2007)

presented a check to the Pingree family for more than \$28 million—the purchase price, at \$37.10 per acre, for an easement on 762,192 of the family’s 900,000-plus acres scattered across the unincorporated areas of Maine.¹⁹¹ That money had come from dozens of contributing foundations and a two-year, multilateral fundraising campaign that attracted national attention.¹⁹² It represented new hope for assembling and preserving permeable, continuous landscapes over the long term. This Part uses that deal, though, to show how *unsustainable* the game is under the current rules and the hard choices on the horizon.

By the time the “Pingree Partnership” was announced, it had become totemic to conservation in the Northern Forest. Harvard forest researchers, awed by its scale and its balance between “working forest” uses and prohibitions on subdivision and development, dubbed it “the next level” in private conservation.¹⁹³ The scale of the deal was undeniable. Inasmuch as markets dictated its terms, though, some argued the deal was just a continuation of the region’s last four centuries. Indeed, as subpart A argues, a general critique of conservation easements developed over the last decade seems to fit this deal—at least the parts of it that are public—all too well. subpart B suggests that its widespread emulation may eventually prove tragic.

A. Working Forests: “Sustainable” For How Long?

From 1998–2006, some 7 million of Maine’s 17 million acres of timberlands changed hands.¹⁹⁴ Indications are that this hyperactivity, with much of it aimed at subdivision and development, will continue for the foreseeable future.¹⁹⁵ Maine seems convinced that long-term ownership of timberlands is its own kind of conservation guarantee as evidenced by the fact that it has only reacted in recent years where quick turnaround of timberlands has occurred.¹⁹⁶ But where conservationists will muster the

[hereinafter Pingree Easement or Pingree Partnership].

¹⁹¹ *Id.*

¹⁹² See James N. Levitt, *The Next Level: The Pingree Forest Partnership as a Private Lands Conservation Innovation* (Harvard Forest Occasional Research Paper 03-01) [hereinafter Levitt, *The Next Level*].

¹⁹³ See *id.* at 5–41.

¹⁹⁴ Natural Resources Council of Maine, Major Land Sales in Maine Since 1998, http://www.nrcm.org/land_sales.asp (last visited Apr. 15, 2007). Incredibly, the Northern Forest from 1980–2005 saw 23.8 million acres change hands—an area almost as great as the region itself, although the figure includes several large ownerships that changed hands repeatedly. HAGAN ET AL., *supra* note 5, at iii.

¹⁹⁵ See HAGAN ET AL., *supra* note 5, at iii (noting that there is a trend toward more forest owners with smaller parcel sizes). Last year, a Brookings Institution study found that from 1980 to 2000 some 826,000 acres of rural land were actually converted to exurban and suburban uses in Maine—making it one of the fastest growing states in this category. BROOKINGS INSTITUTION METROPOLITAN POLICY PROGRAM, CHARTING MAINE’S FUTURE: AN ACTION PLAN FOR PROMOTING SUSTAINABLE PROSPERITY AND QUALITY PLACES 7 (2006), available at <http://www.brookings.edu/metro/maine>.

¹⁹⁶ Dobbs and Ober, writing in 1995 before the latest cyclone of exchanges and consolidation, maintained that Maine’s Forest Practices Act—targeting large-scale clearcutting

capital needed to encumber all these lands as their development potentials rise remains a mystery.

The Pingree deal came together without any real development pressure and it was done in collaboration with one of the first adopters of the notoriously stringent Forest Stewardship Council (FSC) sustainability protocols.¹⁹⁷ The Pingrees were noted for practicing conscientious forestry and probably did the deal in order to lessen tax burdens and other pressures to sell.¹⁹⁸ Its “success” is now taken for granted. Indeed, in the years since the NFLC Report, many Mainers have migrated from what had been categorical support for private conservation—including fee simple acquisition of large natural areas—to what now seems a clear preference for “working forest” easements.¹⁹⁹ Timber companies traditionally have allowed access to their land for sportsmen, trappers, snowmobilers, and others. While that is very popular with residents²⁰⁰—a fact not lost on the conservation community²⁰¹—whether timber planning and open-access recreation can be called “conservation” is contentious at best.²⁰² That debate was not had prior to the Pingree deal, though.

and “liquidation”—had done little to encourage conservative forestry. DOBBS & OBER, *supra* note 57, at 126–36. Many people like Lloyd Irland, an influential former state economist and instructor at the Yale School of Forestry and Environment, argued that the industrial landowners were (and still are) engaging in ruinous timber practices. *See id.* at 130–32; Irland, *supra* note 53, at 18–19. Just recently, Maine enacted new prohibitions on “liquidation” timber harvesting although the rules’ actual effectiveness is open to serious doubts. *See* Scott, *supra* note 22, at 263–65 (noting that numerous exemptions may weaken the rules’ effectiveness).

¹⁹⁷ Seven Islands, the partnership that manages the Pingree family lands, originally sought FSC certification in 1993 in hopes of earning a “green” premium on its timber. Norman Boucher, *How to Have Your Wood and Your Forest Too*, NAT’L WILDLIFE, Aug./Sept. 1997. So far, the strategy appears not to have worked very well as FSC certification has yet to generate real market premiums. *See* Misty L. Archambault, *Making the Brand: Using Brand Management to Encourage Market Acceptance of Forestry Certification*, 81 N.Y.U. L. REV. 1400, 1414–17 (2006) (noting that although customer surveys have indicated that customers are willing to pay a premium, statistical analyses and anecdotal evidence indicates that actual purchase patterns show otherwise); Meidinger, *supra* note 38.

¹⁹⁸ Levitt, *The Next Level*, *supra* note 192, at 4–5. Like most states, Maine law entitles an owner to a proportionate property tax reduction upon transfer of a conservation easement. *See* *Forbes v. Town of Southwest Harbor*, 763 A.2d 1183, 1185 (Me. 2001) (upholding a tax abatement decision where the land’s value was reduced by a conservation easement).

¹⁹⁹ Philanthropists acquiring large fees in the North Woods for habitat conservation alone, *see* Scott, *supra* note 22, at 275 n.124 (describing Roxanne Quimby), have actually become the subject of local scorn and hostility—including that of the sitting governor. *Id.* at 275–76.

²⁰⁰ Scott, *supra* note 22, at 260–63, 274–76.

²⁰¹ *See* BIRCHARD, *supra* note 102, at 108–12 (describing TNC strategies); Scott, *supra* note 22, at 271–72 (describing public support for Forest Society of Maine’s “working forest” easements). TNC in particular pioneered a “New Market Tax Credit” on these grounds, securing a \$30 million federal award to support a struggling paper mill in northern Maine. Schuyler, *supra* note 188, at 115.

²⁰² Complaints about how the Pingrees manage their lands pale in comparison with the publicly traded corporate owners of the region. DOBBS & OBER, *supra* note 57, at 132–33. Thus, the ecological restoration of Maine timberlands generally is quite another matter. *See generally* IRLAND, *supra* note 1, at 140–45 (describing Maine’s experience with industrial forestry); MORRISON, *supra* note 2, at xv–xvi (describing restoration of species assemblages and the enormity of reversing decades of disturbance).

Monitoring and enforcement of large-scale easements are often problematic, and the Pingree Partnership made a real advance on this front.²⁰³ NEFF's monitoring protocols, carried out with medium resolution satellite imagery, aerial photography, algorithmic analysis of GPS data, and confirmed with periodic "ground-truthing," are state of the art in balancing cost and accuracy.²⁰⁴ They minimize the need for "boots on the ground" in the actual enforcement of the restrictions. Yet, a potent critique of conservation easements that has matured over the last decade fits this deal all the same.²⁰⁵

The problem with the Pingree easement lay not just in its actual content (truly, the will of the "willing seller" drove this deal), but also in the legal durability of the bargain. First, the easement hardly controls forestry practices at all, even though industrial forestry has itself been a significant cause of habitat disturbance regionally.²⁰⁶ It never even mentions sensitive species or habitat concerns of any kind. From that, it may even be fair to argue that the deal's only "conservative" point was its exclusion of development. Second, the agreement specifically preserved all existing leases, mines, and dumps on the land,²⁰⁷ while saying nothing about vernal pools²⁰⁸ or other significant natural elements.²⁰⁹ Indeed, virtually all usage rights of the property are preserved

²⁰³ The Pingree easement is widely touted as a model. See Kenton Williams et al., *Application of Geospatial Technology to Monitor Forest Legacy Conservation Easements*, 104 J. FORESTRY 89 (March 2006); Steven A. Sader et al., *Pingree Forest Partnership: Monitoring Easements at the Landscape Level*, J. FORESTRY, Apr.–May 2002, at 20.

²⁰⁴ See James N. Levitt, *Conservation Via Satellite*, INNOVATIONS, Spring 2006, at 44. NEFF raised an endowment of over \$1 million to support the easement's annual monitoring costs (currently \$60,000–70,000) and can carry out that monitoring indefinitely if annual costs are reduced to around \$50,000. *Id.* at 58–59. NEFF has said, although it refuses detailed comment on the record, that *substantial compliance* is the norm for each of its industrial owners. Telephone interview with Frank Reed, NEFF Director of Development (notes on file with author). In the end, any dispute over easement compliance is subject to mandatory arbitration under American Arbitration Association (AAA) rules. See Pingree Easement, *supra* note 190, at § 8.2.

²⁰⁵ See King & Fairfax, *supra* note 10, at 98–103.

²⁰⁶ See Pingree Easement, *supra* note 190, at § 4.4 (defining permitted "forestry activities" as "all forest management practices allowable under law and the harvesting and removal of any and all forest products by any and all current and future harvesting and removal techniques allowable under law"). Besides requiring compliance with all laws (an easement could hardly be otherwise), the parties agreed to append certain "Landowner Guidelines" which were, notwithstanding a mandatory tone, quite *advisory* in nature given one guideline in particular: a proviso that the owners could seek "an after tax return that is comparable over the long-term with competitive uses of capital." Pingree Easement, *supra* note 190, at Exhibit C. It is far from clear, though, that *that* level of return on American timberlands, barring the development of unforeseen markets, is even possible. See Irland, *supra* note 53, at 19–21 ("The grim truth for forestry today is that at the prices suburbanites are ready to pay for 10 acres of rural land, no one can afford to grow wood on it.").

²⁰⁷ Pingree Easement, *supra* note 190, at §§ 3.1.4, 3.3, 3.4, 3.5. Each lease—which could be anything from a hunting camp to a mountain top resort—is set out and described in the baseline conditions documentation done at the time of the deal. The Pingree Clan specifically required that the baseline conditions information be kept confidential, though. Telephone Interview with Frank Reed, Dir. of Development, NEFF (Dec. 27, 2006) (notes on file with author).

²⁰⁸ Vernal pools are a unique and vital habitat element of the Northern Forest, particularly in northern Maine. COLBURN, *supra* note 83, at 3–11, 264–77.

²⁰⁹ It may be tempting to defer in such questions to Seven Islands' FSC certification because

indefinitely to the Pingrees' discretion. This could mean anything from an insignificant seasonal hunting camp to a built-out, modern resort. Without public access to the baseline conditions documentation, it is hard to say.²¹⁰

Furthermore, while it cost dearly, this instrument may turn out to have been, if not precatory, at least highly fungible on a key element. Notwithstanding its touted value, the \$28 million price tag was based on an *assumption* of the easement's perpetuity—not its guarantee. Perpetuity is, of course, disfavored in property law. Yet most conservation easements are supposedly forever,²¹¹ the one facet of these deals that has garnered nearly universal skepticism.²¹² Indeed, very few restrictions on land are ever permanent in any true sense. Twenty-five states (including Maine) adopted the provision of the UCEA allowing wholesale termination of these instruments in equity.²¹³ Thus, even setting aside doubts that such "easements" may not run

FSC requires adherence to several stringent protocols where conservation is concerned. See Meidinger, *supra* note 38, at 61. But FSC certification is not *required* by the easement and, in its most recent FSC compliance audit, one of Seven Islands' weakest scores (bordering failure, in fact) was for principle nine, "maintenance of high conservation value forests." SCIENTIFIC CERTIFICATION SYSTEMS, CERTIFICATION EVALUATION REPORT FOR THE PINGREE LANDS MANAGED BY SEVEN ISLANDS 22 (2006) http://www.scs-certified.com/PDFS/forest_seven.pdf (last visited Apr. 15, 2007) [hereinafter FSC Recertification Audit].

²¹⁰ Owners in the region—including the Pingrees—bear an unfortunate history of excluding scientists and others who have sought to survey their lands for flora, fauna, and other natural elements. Sayen, *supra* note 170, at 142.

²¹¹ Cheever, *supra* note 183, at 1083. To take advantage of the federal tax deduction for a conservation easement, it must be granted "in perpetuity." See 26 U.S.C. § 170(f)(3) (2000). Regrettably, this has incentivized the creation of perpetual easements notwithstanding the fact that the IRS's interest in the deal usually "ends three years after the donor contributes the easement." Todd D. Mayo, *A Holistic Examination of the Law of Conservation Easements*, in PROTECTING THE LAND: CONSERVATION EASEMENTS PAST, PRESENT, AND FUTURE 26, 42 (Julie Ann Gustanski & Roderick H. Squires eds., 2000) [hereinafter PROTECTING THE LAND].

²¹² See generally, e.g., Julia D. Mahoney, *Perpetual Restrictions on Land and the Problem of the Future*, 88 VA. L. REV. 739 (2002) (challenging the perpetual nature of conservation servitudes as being inflexible and imposing a heavy burden on the next generation); Jeffrey M. Tapick, *Threats to the Continued Existence of Conservation Easements*, 27 COLUM. J. ENVTL. L. 257, 263–64 (2002); McLaughlin, *supra* note 11, at 424–25 (discussing the problems of perpetual conservation easements). In a nutshell, many think conservation "easements" are actually contracts in disguise (not property) and that they are therefore vulnerable to dissolution in all the ways that contracts may be dissolved. Cf. Thomas W. Merrill & Henry R. Smith, *The Property/Contract Interface*, 101 COLUM. L. REV. 773 (2000) (discussing the difficulty and importance of distinguishing the boundary between property and contracts and suggesting that many deals could be viewed as creating either).

²¹³ See McLaughlin, *supra* note 11, at 446; ME. REV. STAT. ANN. tit. 33 § 478 (3) (1998) ("A court may deny equitable enforcement of a conservation easement when it finds that change of circumstances has rendered that easement no longer in the public interest."). Very little of the uncertainty about how our legal system will treat this *statutory* servitude has been eliminated in the years of its explosive growth in popularity. See McLaughlin, *supra* note 11, at 425 ("There is considerable confusion and uncertainty regarding whether, when, and how ostensibly "perpetual" conservation easements may be modified or terminated to respond to changed conditions."); Andrew Dana & Michael Ramsey, *Conservation Easements and the Common Law*, 8 STAN. ENVTL. L.J. 2 (1989) (making the same claim). At issue remains the fact that the common law discouraged negative servitudes where no discrete dominant estate was benefited and that the easement's perpetuity leaves it otherwise ambiguous as any form of *in personam* right. *Id.*

with the land at all,²¹⁴ the restrictions might just be dissolved one day by court order. Maine law expressly provides for this very contingency.²¹⁵ Finally, some of the conservation value in the deal turns on the lands not being *condemned* for development—a possibility that is, though difficult to quantify, probably more than *de minimis*.²¹⁶

The agreement contains language addressing some of these questions, but no deal can hide from the equitable power of the courts²¹⁷ or from the sovereign authority over land indefinitely.²¹⁸ Moreover, for all the goodwill and promotion of sustainable forestry as the means of keeping the region's landscapes intact, this may turn out to be economically impossible—*notwithstanding* hefty subsidies from organizations like NEFF.²¹⁹ In fact, the Pingree easement expressly contemplates subdivision and development under certain circumstances.²²⁰ The current generation of Pingrees may wish to practice conscientious forestry and forego sales and subdivision. But there are

²¹⁴ See, e.g., Dana & Ramsey, *supra* note 213, at 12–17; McLaughlin, *supra* note 11, at 423–26.

²¹⁵ See ME. REV. STAT. ANN. tit. 33, § 478(1) (1998) (providing “[a]n action affecting a conservation easement may be brought or intervened in by . . . a person having a 3rd-party right of enforcement”). Maine first adopted a statute removing the common law bar on negative servitudes in gross in 1969 and adopted a slightly amended version of the UCEA in 1985. Karin Marchetti & Jerry Cosgrove, *Conservation Easements in the First and Second Circuits, in PROTECTING THE LAND*, *supra* note 211, at 78, 86. Maine's statute is regarded by many as more restrictive of the equitable power to dissolve these easements, but it does not foreclose the possibility. *Id.* at 89. McLaughlin argues convincingly that charitable trust law can and should serve to modulate easements when they are no longer in the beneficiaries' or the public's interest and argues persuasively that many easements are actually charitable trusts. McLaughlin, *supra* note 11; see also Alexander R. Arpad, *Private Transactions, Public Benefits, and Perpetual Control Over the Use of Real Property: Interpreting Conservation Easements as Charitable Trusts*, 37 REAL PROP. PROB. & TR. J. 91 (2002) (arguing that conservation easements are substantial enough to be interpreted as trusts).

²¹⁶ See Robert H. Levin, *When Forever Proves Fleeting: The Condemnation and Conversion of Conservation Land*, 9 N.Y.U. ENVTL. L.J. 592 (2000). “Because governments and private condemnors have an incentive to look for the least expensive and least controversial means of constructing a project, conservation properties are singularly vulnerable to condemnation.” *Id.* at 601.

²¹⁷ See Mayo, *supra* note 211, at 40–48; Cheever, *supra* note 183, at 1098–1100.

²¹⁸ See Levin, *supra* note 216, at 601–08. While condemnation of conservation easements has thus far been thought of exclusively in terms of their extinguishment, Part V turns the tables and considers the use of eminent domain to *create* conservation easements. See *infra* notes 259–283 and accompanying text.

²¹⁹ The steady decline in domestic sourcing notwithstanding a steady increase in U.S. forest products demand, see Stephen R. Shifley, *Sustainable Forestry in the Balance*, 104 J. FORESTRY 187, 187–88 (2006), has left many in the U.S. timber industry anxious about its future. See Irland, *supra* note 53, at 17–19.

²²⁰ See Pingree Easement, *supra* note 190, § 3.2 (“There shall be no subdivision or division of any of the Property in any township into tracts of less than 1,000 acres without the prior written consent of the Grantee, which approval shall be granted only upon a determination of the Grantee, in its reasonable judgment, that the action will not be inconsistent with the purpose of this Easement.”). Putting aside the discretion this gives NEFF to interpret the easement's “purpose” as against individual development ideas, there are many forms of development that would be completely exempt from NEFF's veto under § 3.2 as written. The applicable subdivision and development controls permit owners to seek rezoning for large-scale condominium construction—perhaps on a several-thousand-acre parcel. See ME. REV. STAT. ANN. tit. 22, § 685-B(2) (1998).

no guarantees about the *next* generation and, should they change course, it is unclear how the law will respond.²²¹

Nonetheless, as the next section shows, the price for restrictions on land use in the Northern Forest is going up at the same time their overall conservation value is going down. Forestry can be better and worse for wildlife, depending on a complicated set of trade-offs that turn on how different species' needs are weighed.²²² Some species, such as the lynx, can benefit from fast-rotation forestry and clearcutting if it is limited in scale and combined with other, less intensive uses.²²³ Other species, like migratory birds, often depend on the absence of such disturbances.²²⁴ Indeed, *very* few threats to a whole species assemblage's resilience are recognizable as such. Thus, because recreationists and others are free to use private timberlands in the region,²²⁵ the costs of industrial forestry are easy to discount. This explains Maine's pronounced public support of the timber industry. What will be a sure setback to regional biodiversity, though, is if timberlands, wetlands, and shorelands are fragmented and crosshatched by more development—a possibility that is *not* foreclosed in deals like the Pingree Partnership.²²⁶

B. Misgivings: A Game-Theoretic Critique of Privatization

Since the Pingree deal, the flaws in the easement strategy for the Northern Forest have become clearer on another front, too. More land is changing hands more often, creating more volatility and more inflationary

²²¹ Indeed, Seven Islands has already sold a "significant" parcel in the northern portion of the ownership. See FSC Recertification Audit, *supra* note 209, at 37. Cf. BREWER, *supra* note 9, at 171 ("It wouldn't be surprising if half of the 11,700 properties on which local land trusts hold easements were to be sold in the next ten years."). Clearly, the advantages of regional (or global) nonprofits holding easements, should purchasers wish to break them, are the resources they can bring to bear in defending these interests. See *id.* at 172–74.

²²² See Bernardos et al., *supra* note 79, at 164–68 (discussing how individual taxa are typically on a variety of population trajectories as a result of changing environmental conditions, rather than being tightly linked).

²²³ "Forest practices in lynx habitat that result in or retain a dense understory provide good snowshoe hare habitat that in turn provides good foraging habitat for lynx. In Maine, extensive clear cutting over the past 25 years has resulted in a large amount of the forest currently in a stage of regeneration that is optimal for snowshoe hares and lynx." Notice of Remanded Determination of Status for the Contiguous United States District Population Segment of the Canada Lynx, Clarification of Findings, 68 Fed. Reg. 40,076, 40,083 (July 3, 2003).

²²⁴ DEGRAAF & YAMASAKI, *supra* note 58, at 400–16. For habitat purposes, clearcutting is probably of less concern, assuming scale and location are planned at regional scales, than the use of fertilizers and herbicides, fire suppression, road building, and many other aspects of industrial forestry. See Colburn, *Habitat and Humanity*, *supra* note 120, at 30–32.

²²⁵ For example, Maine "boasts one of the most broadly applicable, and effective, landowner liability protection acts in the nation, an act that encourages landowners to allow others access to their land for outdoor recreation and traditional harvesting activities." Marchetti & Cosgrove, *supra* note 211, at 86.

²²⁶ The complexity of the 300,000-plus acre deal buying out Champion International's holdings in the region, a deal brokered by the highly secretive Conservation Fund in 1998–99 for some \$76 million, likewise raised concerns, both in its sticker price and in the nature of the restrictions purchased. See Bateson & Smith, *supra* note 168, at 190.

pressures on the price of easements. At the outset, let us stipulate that “[t]he value of an easement is the appropriately discounted difference in land value, over the time period that difference is enjoyed, times the probability the development occurs.”²²⁷ And, “[s]ince the probability and timing of development are always speculative, easement appraisals should be expected to exhibit a large degree of variability and error.”²²⁸ “Speculative” only begins to describe the probability and timing of development where the Pingree lands were concerned.²²⁹ In another deal now pending, though, all of this is moot because the easement and the sprawl come hand-in-hand.

Interspersed with the Pingree lands lay a substantial ownership of timberlands surrounding Moosehead Lake and linking it to the 320 square-mile Baxter State Park. In a deal rivaling the Pingree Partnership’s scale, The Nature Conservancy (TNC) and the nation’s largest landowner/developer announced a proposal in late 2006 that would take the dealmaking in the Northern Forest to yet another level again. But this one has some in the region voicing serious misgivings about the future of conservation easements. The 920,000-plus acres at issue were being shopped a lot before the Plum Creek Timber Company²³⁰ hatched its plan.²³¹

²²⁷ Boyd et al., *supra* note 186, at 237.

²²⁸ *Id.* at 238.

²²⁹ As Boyd and colleagues observe, “there are 5.6 billion ways to choose twelve of forty parcels, and thirty trillion (3×10^{25}) ways to choose thirty of one hundred parcels.” *Id.* at 247. Given the legal questions about the actual durability of such instruments, the duration of conservation easements is yet another variable—one more variable ensuring that the search for a strictly rational acquisition strategy is virtually hopeless. “Conservation planning [by private acquisition] at the regional scale is complicated immensely by the sheer number of different parcel selection combinations facing planners. The number of possibilities grows astronomically large as parcels become smaller and more numerous.” *Id.* Strategic behavior undermining the effectiveness of conservation purchases, thus, becomes quite likely. See MORTON D. DAVIS, *GAME THEORY: A NONTECHNICAL INTRODUCTION* 6 (1997).

²³⁰ Plum Creek, a real estate investment trust (REIT), has quietly become the nation’s largest landowner with some 8.2 million acres in eighteen states. See Plum Creek: Growing Value from Exceptional Resources, <http://www.plumcreek.com/> (last visited Apr. 15, 2007). It is gaining a reputation for acquiring timberlands with high development potential and breaking them up. See *The Spread of Private Forests*, THE ECONOMIST, June 8, 2006 (describing Plum Creek’s “Suncadia,” a \$1 billion venture subdividing Washington timberlands into ultra-premium house lots, golf courses, and retail).

²³¹ At the time of the NFLC research in 1990, this particular holding was owned by S.D. Warren Company. But Warren sold it to South African Pulp & Paper Industries (SAAPI) in 1994. SAAPI liquidated tens of thousands of acres of timber before selling in 1998. See Phyllis Austin, *Plum Creek’s Big Plan*, ME. ENVTL. NEWS, Feb. 10, 2005.

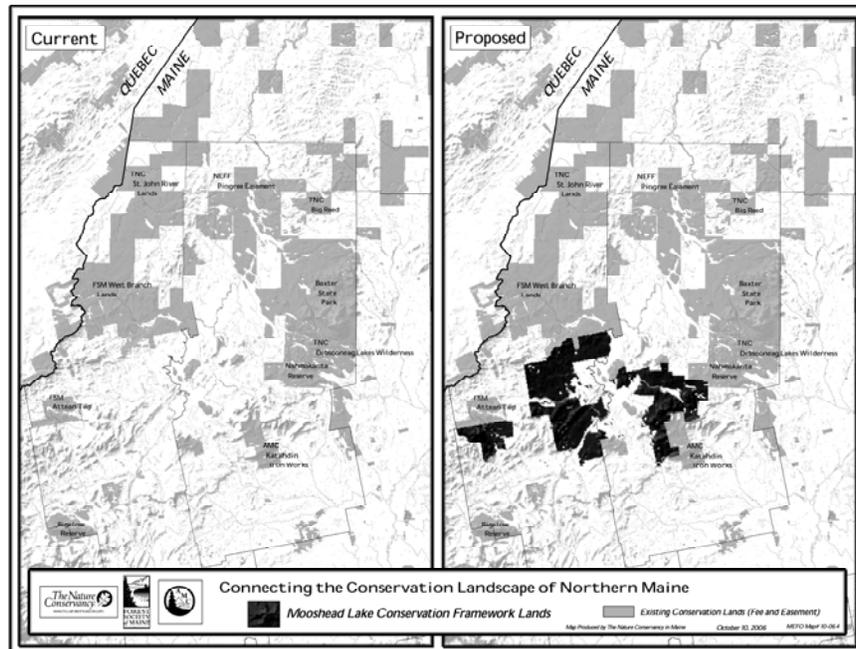


Figure 1: *Depicting How the Moosehead Forest Project Fits Into the Northern Maine Landscape.*²³²

Plum Creek bought this portfolio in 1998 for almost \$180 million—*after* much of it had been logged.²³³ Why pay top dollar for heavily logged timberlands with depressed value *as timber* and with rising taxes? For the chance to take \$35 million from TNC while simultaneously garnering credibility for a proposal about to be laid before the Land Use Regulation Commission (LURC), the state agency that hears such proposals, to build the region's largest resort/condo complex.²³⁴ The details of this deal have not yet been released, but its rudiments are enough as it is.

The parties' "Conservation Framework" would transfer two parcels in fee simple (45,200 acres along the Moose River, and 28,320 acres in the Roach Ponds area), together with a 270,000 acre "Moosehead Legacy" conservation

²³² The Nature Conservancy, Connecting the Conservation Landscape of Northern Maine, available at <http://www.nature.org/wherewework/northamerica/states/maine/preserves/art19508.html>.

²³³ *Id.*; see also Scott, *supra* note 22, at 253 (discussing Plum Creek's "Liquidation Harvesting" practices). According to the National Association of State Foresters, the purchase price of the land was approximately \$180 million. NATIONAL ASSN. OF STATE FORESTERS NEWSLETTER 11, available at <http://www.stateforesters.org/newsletter/1405.pdf>.

²³⁴ Maine's Land Use Regulation Commission (LURC) is the state agency that oversees land use planning in the vast region of Maine (all of which lies within the NFLC study area) because the region lacks any incorporated local government. See ME. REV. STAT. ANN. tit. 12, § 683 (2005).

easement, to TNC, the Appalachian Mountain Club, and a local organization.²³⁵ But the land would be transferred in exchange for the \$35 million *and* permission to develop 975 house lots, three RV parks, two mega-resorts, a large golf course, and a 1,000 acre commercial district.²³⁶ The whole deal, that is, rides on LURC's approval of Plum Creek's "Concept Plan," which will require rezoning the land from eleven different kinds of "protection zone" into a zoning category that delegates land use authority to the plan adopted for the area.²³⁷

Of course, Plum Creek still has enough land in Maine to threaten to develop and eventually sell another one or perhaps two more of these easements—supposing it could find buyers with \$70 million to spend there.²³⁸ Perhaps most troublingly, though, this deal is what gives Plum Creek's proposal a real chance with Maine's LURC.²³⁹ LURC requires that plans like Plum Creek's be "at least as protective of the natural environment as those standards which would otherwise be applicable."²⁴⁰ That requirement could

²³⁵ Curiously, the easement costs come to \$37 per acre—the price NEFF paid in the Pingree deal. *See supra* notes 190–204 and accompanying text.

²³⁶ *See* CONCEPT PLAN FOR PLUM CREEK'S LANDS IN THE MOOSEHEAD LAKE REGION: 1 CONCEPT PLAN I-3 to I-6 (2006) [hereinafter CONCEPT PLAN VOL. 1]. The price of the deal has been broken down as \$25 million for the two fee simples and \$10 million (or about \$37 per acre) for the easement—with a separate 72,000 acre conservation easement, yet to be described or delineated, that would be "donated." *Id.*

²³⁷ *See* DEP'T OF CONSERVATION, COMPREHENSIVE LAND USE PLAN FOR AREAS WITHIN THE JURISDICTION OF THE MAINE LAND USE REGULATION COMMISSION 147 (1997) [hereinafter COMPREHENSIVE PLAN]. Both TNC and Plum Creek bizarrely maintain that the Concept Plan is being proposed on its own merits and that their Conservation Framework should play no role in LURC's deliberations. But it is clear from the terms of the deal and the documents backing up the proposal that it was heavily influenced by LURC and LURC's standards. *See* CONCEPT PLAN VOL. 1, *supra* note 236, at I-2 (listing the changes made to the proposal based on LURC input).

²³⁸ In this regard, Plum Creek is not unlike other owners who can create demand for their own product by threatening to develop large fractions of a landscape unilaterally. *See, e.g.,* Sullivan & Rosenberg, *supra* note 189, at 103–05; Sax & Keiter, *supra* note 165, at 261–65. Northern Maine may be among the lowest-priced land markets in the nation, but the conservation community cannot be expected to invest there at current levels—the scarcity of conservation capital globally is forcing hard choices that are now being driven by opportunity costs as much or more than biology. *See* Robin Naidoo & Wiktor L. Adamowicz, *Modeling Opportunity Costs of Conservation in Transitional Landscapes*, 20 CONSERVATION BIOLOGY 490, 491 (2006) (noting that resources for biodiversity conservation are scarce and that opportunity costs include those associated with foregone alternatives, including benefits from turning natural habitat into profitable land). As their cost/benefit analyses grow in sophistication and internal significance, it is increasingly unlikely that global organizations like TNC will commit resources to environments as heavily disturbed as the Northern Forest where the risks of global extinctions is comparatively low. *Id.*

²³⁹ With the totality of encumbrances, Plum Creek is able to maintain in its LURC filing that "residential development" is confined to 2.5% of the plan area. *See, e.g.,* CONCEPT PLAN VOL. 1, *supra* note 236, at 18-2. Of course, this statistic does not speak to the plan's overall potential to *disturb* the "plan area," its potential to degrade the area's natural *resilience*, or its potential for broad scale habitat degradation in its attraction of people and infrastructure to the region. *See* Simberloff et al., *supra* note 112, at 71 (noting that activities at the local level might potentially disturb other activities in the region).

²⁴⁰ *See* COMPREHENSIVE PLAN, *supra* note 237, at ch. 10 § 23(H) (2002).

hardly be met absent the so-called “Conservation Framework.”²⁴¹ The deal is, after all, the outgrowth of a proposal to fragment and disturb the Moosehead region to an unprecedented degree.²⁴²

Such a deal, even (or perhaps *especially*)²⁴³ involving a repeat player like TNC, raises the hard questions. Did TNC play as powerful a role as local reporting suggests in FWS’s decision to exclude the region from an endangered species’ critical habitat designation?²⁴⁴ More basically, why is the price point on TNC’s easement the same as that paid in the Pingree Partnership? One easement was far in advance of the landscape’s disturbance and fragmentation while the other accompanies it. Indeed, if anything, the probability of development on the lands to be encumbered in the Plum Creek deal is *greater* than that of the comparatively remote Pingree lands.²⁴⁵ Supposing the Moosehead region is developed as proposed, the land within the Conservation Framework seems much more prone to conversions of various kinds than any of the Pingree lands were.²⁴⁶ Of course, if organizations like TNC now raise their capital in conjunction with *fear*, then this particular deal may be a benchmark.²⁴⁷ But that proves too much about the extortionate future such organizations face and the ethical dilemmas they are framing for all of us.²⁴⁸

²⁴¹ Maine law is thus far silent on the point (the “concept plan” alternative was only put into the law in 1997). 04-061-10 ME. CODE R. § 10.23(h) (2005).

²⁴² TNC’s “Conservation by Design” philosophy generally seeks to minimize this kind of fragmenting development. See GROVES ET AL., *supra* note 6.

²⁴³ An argument can be made that TNC’s governance troubles stem from its having internalized a somewhat desperate need to raise the capital that deals of this magnitude demand. See *infra* notes 247–48; BUYING NATURE, *supra* note 167, at 259–60 (referring to government as being less able to broker land trust deals and private efforts needing to fill the gap).

²⁴⁴ The Maine Forest Products Council, on behalf of “15 to 20 members who own about 5.5 million of the roughly 6 million acres” at issue in the lynx critical habitat proposal—including Plum Creek and Seven Islands—lobbied furiously opposing the critical habitat designation. John Richardson, *Landowners Fight Lynx Habitat Designation*, PORTLAND PRESS HERALD, Sept. 25, 2006, at B1. In its finalization of the lynx critical habitat rule, the Fish and Wildlife Service seemed to oblige. See *supra* notes 142–44 and accompanying text.

²⁴⁵ Real comparability between the Pingree lands and the Plum Creek lands, assuming the development of Moosehead as envisioned in the Concept Plan, seems *extraordinarily* unlikely. Cf. Boyd et al., *supra* note 186, at 241 (“A property is comparable for the purposes of easement evaluation if its current use and future development use are the same as the property for which the easement has been purchased, and if its *likelihood* of future development is equivalent to that of the property subject to easement.”).

²⁴⁶ Sprawl is, by all accounts, an incremental phenomenon in which preexisting, proximate infrastructure can serve as an attractant. BRUEGMANN, *supra* note 3, at 17–30.

²⁴⁷ In 2003, the *Washington Post* ran a series of ten stories over three days purporting to expose ill-conceived and underhanded work by the Nature Conservancy. David B. Ottaway & Joe Stephens, *Nonprofit Land Bank Amasses Billions*, WASH. POST, May 4, 2003 at A1. In response to charges that the organization’s “bucks and acres” focus had produced ethical lapses and undue corporate influence, TNC CEO Steven McCormick said: “By working with corporations, which control a lot of land, which are very influential, we think we make a big difference.” *Id.* Nonetheless, after exhaustive investigations by the Senate Finance Committee and the IRS, not a single prosecutable offense was discovered. BIRCHARD, *supra* note 102, at 218–33.

²⁴⁸ I am dubious of the WASHINGTON POST’s rhetoric (to say nothing of its innuendo)

Hobbled by staff and budget cuts,²⁴⁹ and unable to do even its routine permitting work,²⁵⁰ LURC is at a big disadvantage in this episode, wondering aloud whether it even has the resources to consider the merits of so gigantic a proposal.²⁵¹ Understandably, the state is given pause when confronted with the chance to delegate real oversight responsibility to the world's largest, most sophisticated conservation organization.²⁵² Doing so on these terms, though, would draw into question the very sovereignty of the state—not to mention that of the United States if the critical habitat rulemaking really was as heavily influenced by timber interests as seems evident.²⁵³

At broad scales, easements are a powerful tool for a critical public problem—a so-called tragedy of the anticommons where habitat is undervalued because private ordering predictably fails to produce optimal development.²⁵⁴ And while most public structures atrophy over time because they are polycentric and inherently rigid,²⁵⁵ the easement strategy is adaptive and problem-oriented by nature. Yet, at a bioregional scale, the strategy can generate a kind of moral hazard where opportunists can threaten landscape permeability, only to exact their price from conservationists—who are at the mercy of any “willing seller” should they harbor ambitions of achieving broad scale habitat objectives.²⁵⁶ Indeed, because third-party reactions to

regarding TNC's ethical judgment, not just because it failed to uncover a single deal that was even arguably illegal, but because it failed even to find one clearly contrary to the organization's purposes. See Max Stephenson, Jr. & Elisabeth Chaves, *The Nature Conservancy, the Press, and Accountability*, 35 NONPROFIT & VOL. SECTOR Q. 345 (2005) (exploring the merit of the WASHINGTON POST investigative stories about TNC and the stories' political and social impacts).

²⁴⁹ Scott, *supra* note 22, at 266; see also UNORGANIZED TERRITORY STUDY COMMISSION, FINAL REPORT - EXECUTIVE SUMMARY, THE COMMISSION TO STUDY THE COST OF PROVIDING CERTAIN SERVICES IN THE UNORGANIZED TERRITORIES II-III (2006), available at <http://www.maine.gov/legis/ofpr/UTSTUDY/utFINALExecsum.pdf>.

²⁵⁰ Scott, *supra* note 22, at 266.

²⁵¹ See Phyllis Austin, *Plum Creek's Big Plan*, ME. ENVTL. NEWS, Feb. 10, 2005 (“As Plum Creek's application looms, there's a real question about LURC's ability to handle a project of this size. In recent years, the agency has been downsized so much that director Catherine Carroll doesn't know at this point how the staff will handle such an enormous proposal.”).

²⁵² See *id.* “[M]easured by revenues,” TNC is “the largest environmental group in the world, bringing in over \$800 million each year. It employs 3,450 people operating from four hundred offices in fifty states and twenty-eight countries.” BIRCHARD, *supra* note 102, at 2.

²⁵³ Similar doubts are being raised as to other ESA programs, including habitat conservation planning. See Matthew E. Rahn et al., *Species Coverage in Multispecies Habitat Conservation Plans: Where's the Science?*, 56 BIOSCIENCE 613, 615 (2006).

²⁵⁴ Milder Thesis, *supra* note 188; BREWER, *supra* note 9, at 219–26. “When resources are so fragmented that internal governance mechanisms predictably fail and multiple owners cannot productively manage the resources with respect to the external world, then the ownership fragments are no long usefully protected as private property.” Heller, *supra* note 42, at 1201.

²⁵⁵ See Charles F. Sabel & William H. Simon, *Destabilization Rights: How Public Law Litigation Succeeds*, 117 HARV. L. REV. 1016, 1053–62 (2004); Lowell Pritchard Jr. and Steven E. Sanderson, *The Dynamics of Political Discourse in Seeking Sustainability*, in PANARCHY, *supra* note 34, at 147, 166 (“Part of the puzzle of adaptive management is how to build a nonbureaucratic bureaucracy. Is it possible to have a legitimate, capable, and responsible management organization that is constantly reforming and reinventing itself, undergoing revolt?”).

²⁵⁶ TNC's achievements of scale and its fundraising aims for ever larger scales are a function of the new politics our privatized conservation movement has made. But, as Milder and others have argued, it is only the acquisition of land and easements with measurable conservation

conservation restrictions in a region can *reduce* the habitat values of encumbered land, conservationists may actually be incentivizing the very economic behavior they are trying to overcome. After all, people seeking their access to “nature” pay premiums to be near it, i.e., “away from civilization.”²⁵⁷ Thus, in a sense, a perverse flaw of the easement strategy in places like the Northern Forest is that the legal interests buyers are acquiring with their easements can actually be devalued by strategic actors who simply shift *their* plans to other, adjacent owners.²⁵⁸ Part V argues that exacting appropriate restrictions from those with the means to convert landscapes and jeopardize regional biodiversity may be the only way to neutralize this increasingly corrosive variable in conservation work.

V. EXACTIONS: TAKING HABITAT FOR BIOREGIONAL GOALS

Professor Cheever and some others have already chronicled the crumbling wall separating “public” from “private” conservation land acquisition.²⁵⁹ But this Part diagrams the constitutional issues raised by a specific vehicle for those efforts: the exaction of land and interests in land from those who would convert a landscape by developing it. Again, the Northern Forest (and Maine in particular) is exemplary—with one exception. In most locales, it is a municipal structure of some kind possessed of the authority to regulate land use, not a state agency like LURC. This simplifies the analysis here but, in my view, does not alter it fundamentally. Part V argues that exacting landscape scale conservation easements from parties like Plum Creek is legal and increasingly necessary.

benefits that set this program apart from the “greenwashing” of large-lot subdivisions, et cetera. Milder Thesis, *supra* note 189, at 14–17.

²⁵⁷ Colburn, *Localism's Ecology*, *supra* note 25, at 23–45; Andrew O. Finley & David B. Kittredge, Jr., *Thoreau, Muir, and Jane Doe: Different Types of Private Forest Owners Need Different Kinds of Forest Management*, 23 N. J. APPLIED FORESTRY 27 (2006). The irony about such buyers, of course, is that they bring civilization with them. Cf. FREDERICK JACKSON TURNER, *THE FRONTIER IN AMERICAN HISTORY* (1920). It does not seem unfair to criticize, then, that actors like NEFF or TNC give their neighbors an incentive to devalue their own property interests. Admittedly, the incentive stems at least in part from the culture's obsession with access to authentic nature. But that obsession is pronounced and growing among the 70-plus million people proximate to this region. Finley & Kittredge, *supra*, at 30; Bateson & Smith, *supra* note 167, at 192–205.

²⁵⁸ The disturbance and fragmentation of habitat can be as threatening to system resilience as all out conversion. See *supra* notes 107–12 and accompanying text. In this connection, it is worth acknowledging that the region where private conservation arguably began a century ago, see JUDD, *supra* note 24, at 90–120; BUYING NATURE, *supra* note 167, at 157–58, arguably faces the same risks of fragmentation and disturbance today that it did a century ago.

²⁵⁹ See Federico Cheever, *Property Rights and the Maintenance of Wildlife Habitat: The Case for Conservation Land Transactions*, 38 IDAHO L. REV. 431 (2002); see also Jessica Owley Lippmann, *Exacted Conservation Easements: The Hard Case of Endangered Species Protection*, 19 J. ENVTL. L. & LITIG. 293 (2004); FREYFOGLE, *supra* note 14.

A. Zoning Discretion Into Existence: The Takings Issues

Zoning favored land uses into mapped districts based on prospective plans instead of findings of harm *per se* began as an urban extension of police power.²⁶⁰ In about a century, these zoning preferences have become a ubiquitous element of title to real property, even in places as rural as the Northern Forest.²⁶¹ Being as broadly and deeply regulated a commodity as land is has meant that regulatory takings challenges are virtually formless until an adjudicative process of some kind applies local law to a given parcel of land and articulates the precise restrictions thereon.²⁶² And, with comprehensively zoned entitlements set and a right to seek adjustments, it quickly became routine to condition the grant of further use rights on an exchange of considerations.²⁶³ The Supreme Court has said that such

²⁶⁰ See DANIEL R. MANDELKER, *LAND USE LAW* 1–4 (LexisNexis ed. 2003) (explaining that “[z]oning ordinances comprehensively assign compatible land uses to zoning districts throughout the community. The zoning ordinance contains a text and a map. The map designates the location of zoning districts.”).

²⁶¹ See, e.g., *Agins v. City of Tiburon*, 598 P.2d 25, 29 (Cal. 1979) (stating that “[t]he expanding developments of our cities and suburban areas coupled with a growing awareness of the necessity to preserve our natural resources, including the land around us, has resulted in changing attitudes toward the regulation of land use”), *aff’d*, 447 U.S. 255 (1980). Given the prevalence of twentieth century land use cases in the Court’s regulatory takings case law, this reality of property in land may explain why the Court has failed to elaborate any coherent concept of property for purposes of the Takings and Due Process clauses. See GREGORY S. ALEXANDER, *THE GLOBAL DEBATE OVER CONSTITUTIONAL PROPERTY: LESSONS FOR AMERICAN TAKINGS JURISPRUDENCE* 71, 100–01 (2006) (stating that the Supreme Court has had a difficult time explaining the concept of a “taking” and that property rights have not been treated as a fundamental right under substantive due process for decades and has not been adequately dealt with by the Supreme Court for decades). But this tradition’s long and gradual evolution is the best reason to conclude that its wholesale upset by the Roberts Court is unlikely. Cf. Robert C. Ellickson, *Property in Land*, 102 *YALE L.J.* 1315, 1400 (1993) (stating that “[a] land institution that has evolved over time is far more subtle than the mind of any single individual”).

²⁶² See *Williamson County Reg’l Planning Comm’n v. Hamilton Bank*, 473, U.S. 172, 186 (1985) (stating that “a claim that the application of government regulations effects a taking of a property interest is not ripe until the government entity charged with implementing the regulations has reached a final decision regarding the application of the regulations to the property at issue”); *MacDonald, Sommer & Frates v. County of Yolo*, 477 U.S. 340, 348 (1986) (stating that “[i]t follows from the nature of a regulatory takings claim that an essential prerequisite to its assertion is a final and authoritative determination of the type and intensity of development legally permitted on the subject property”).

²⁶³ See ALAN A. ALTSHULER & JOSE A. GOMEZ-IBANEZ, *REGULATION FOR REVENUE: THE POLITICAL ECONOMY OF LAND USE EXACTIONS* (1993). Such exactions, indeed, expanded dramatically as federal subsidies to localities declined, eventually becoming highly variable in character and magnitude. See Lee Anne Fennell, *Hard Bargains and Real Steals: Land Use Exactions Revisited*, 86 *IOWA L. REV.* 1, 3–5 (2000); Ann E. Carlson & Daniel Pollak, *Takings on the Ground: How the Supreme Court’s Takings Jurisprudence Affects Local Land Use Decisions*, 35 *U.C. DAVIS L. REV.* 103, 119 (2001) (stating that “[l]ocalities in California [a state bearing a disproportionate share of development pressures nationally] have used exactions for an array of purposes including streets, parks, school construction, sewage, public art, low income housing, environmental mitigation and child care centers”). Critics argue that zoning authorities have a real incentive to zone well below the qualitative and quantitative optima of use intensities in order to create the needed discretion that can occasion such exactions. Fennell, *supra*, at 33–37.

“exactions” must be germane to the policy underlying the general use restriction(s) and bear a “rough proportionality” to the externalities the proposed use(s) could generate.²⁶⁴ Several state high courts had arrived at about this doctrinal point well in advance of the Supreme Court.²⁶⁵

Importantly, though, it seems as if only those exactions involving *coerced* dedications of *possessory* interests in real property need meet the Court’s nexus and proportionality tests.²⁶⁶ In *Nollan*, the California Coastal

²⁶⁴ See *Nollan v. Cal. Coastal Comm’n*, 483 U.S. 825, 837 (1987) (stating that “unless the permit condition serves the same governmental purpose as the development ban, the building restriction is not a valid regulation of land use but “an out-and-out plan of extortion.”); *Dolan v. City of Tigard*, 512 U.S. 374, 391 (1994) (self-consciously adopting the verbal formulation “rough proportionality” for the tailoring element of its test to avoid confusion with traditional rational basis scrutiny).

²⁶⁵ See, e.g., *Pioneer Trust & Savings Bank v. Village of Mt. Prospect*, 176 N.E.2d 799, 802 (Ill. 1961) (determining that the question is “whether the state of law is such that a mandatory dedication of the land without cost to the public may be sustained in the regulation of proposed subdivision when it is admitted that such land may well be needed”); *Aunt Hack Ridge Estates, Inc. v. Planning Comm’n of Danbury*, 273 A.2d 880, 886 (Conn. 1970) (stating that a “developer may be required to set aside a park or playground area in his proposed subdivision” if the public need dictates it); *Collis v. City of Bloomington*, 246 N.W.2d 19, 20 (Minn. 1976) (stating that when land has value to the city, “the statement in the ordinance regarding a 10-percent dedication or donation does not render the ordinance unconstitutional”). Other courts had refused to take that path. See, e.g., *Ayres v. City Council of Los Angeles*, 207 P.2d 1 (Cal. 1949). Of the four NFLC states, New York and New Hampshire had adopted a nexus test, too. See *Fred F. French Investing Co. v. City of New York*, 350 N.E.2d 381, 383 (N.Y. 1976), *cert. denied* 429 U.S. 990 (stating that “[w]hile the police power of the State to regulate the use of private property by zoning is broad indeed, it is not unlimited.” For example, “[t]he State may not, under the guise of regulation by zoning, deprive the owner of the reasonable income productive or other private use of his property and thus destroy all but a bare residue of its economic value”); *J.E.D. Assocs. v. Town of Atkinson*, 432 A.2d 12, 15 (N.H. 1981), overruled by *Town of Auburn v. McEvoy*, 553 A. 2d 317 (N.H. 1988) (stating that municipal officials “may not attempt to extort from a citizen a surrender of his right to just compensation for any part of his property that is taken from him for public use as a price for permission to exercise his right to put his property to whatever legitimate use he desires subject only to reasonable regulation”). Indeed, New York courts have traditionally been skeptical of any exchanged consideration (including fees) for favorable zoning changes. See, e.g., *Mun. Art Soc’y v. City of New York*, 552 N.Y.S.2d 800, 803–04 (App. Div. 1987) (stating that “[a] proper *quid pro quo* for the grant of the right to increase the bulk of a building may not be the payment of additional cash into the City’s coffers for citywide use”). But even New York’s courts seem to have softened substantially in their skepticism of this kind of bargaining. See *Smith v. Town of Mendon*, 822 N.E.2d 1214 (N.Y. 2004) (upholding town’s conditions on final approval of site plan requiring donation of a conservation easement). Vermont and Maine have long taken a more sympathetic view of exactions. See, e.g., *Robes v. Town of Hartford*, 636 A.2d 342, 348–349 (Vt. 1993) (declining to engage even in rational basis scrutiny of town’s impact fee exaction); *Curtis v. Town of South Thomaston*, 708 A.2d 657, 659 (Me. 1998) (articulating a deferential review of exacted land dedication for fire protection purposes. For example, the court states it reviews a taking to ensure that it constitutes a lawful exercise of the police power.).

²⁶⁶ The Court has explicitly refused to extend its exactions test to generally applicable land use restrictions, see *Monterey v. Del Monte Dunes at Monterey, Ltd.* (Del Monte Dunes), 526 U.S. 687, 702–04 (1999), and seems unlikely to extend the test to impact fees or other non-possessory exactions. See *Lingle v. Chevron, U.S.A., Inc.*, 125 S. Ct. 2074, 2086–87 (2005); J. David Breemer, *The Evolution of the “Essential Nexus”: How State Courts Have Applied Nollan and Dolan and Where They Should Go From Here*, 59 WASH. & LEE L. REV. 373 (2002). *But see Ehrlich v. Culver City*, 911 P.2d 429, 444–47 (Cal. 1996) (interpreting *Nollan* and *Dolan* to extend

Commission proposed to Fred Nollan that he dedicate a lateral right of way to beachgoers in exchange for permission to dramatically expand his beach home—a permission California’s Coastal Act required in all cases.²⁶⁷ The Court distinguished the proposed exchange as one justifying searching judicial scrutiny. “[W]here government action results in ‘[a] permanent physical occupation’ of the property, by the government itself or by others,”²⁶⁸ the taking occurs irrespective of the size of the owner’s loss or of the public purposes served.²⁶⁹ Indeed, the coercion and the physicality of the interest at issue seemed of signal importance to the narrow *Dolan* majority.²⁷⁰ But if the “greater power” (denying permission altogether) does not necessarily include the “lesser” (imposing conditions the applicant is free to reject), neither does the constitutional protection of property require that “nexus” or “proportionality” be proven with much precision.²⁷¹ Even if covered by *Nollan/Dolan*, that is, there is significant room for municipalities to avoid Takings Clause liability for exactions. The Court has shown time and again that its ad hoc analyses in regulatory takings cases are easily resolved in the government’s favor,²⁷² and the *Nollan/Dolan* tests are no exception.

There are three questions. First, would the exaction of a conservation easement trigger *Nollan/Dolan*? Second, if so, what could establish the

to fees).

²⁶⁷ *Nollan*, 483 U.S. at 830. Without this or some other limit, any permitting requirement could become a prohibited “exaction” drawing the nexus and proportionality scrutiny and that does not seem to be the Court’s intention. *Cf. Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1027 (1992) (“It seems to us that the property owner necessarily expects the uses of his property to be restricted . . . by various measures newly enacted by the State in legitimate exercise of its police powers”).

²⁶⁸ *Nollan*, 483 U.S. at 831 (quoting *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 432 (1982)).

²⁶⁹ *Id.* at 831–33 (“Had California simply required the Nollans to make an easement across their beachfront available to the public on a permanent basis in order to increase public access to the beach, rather than conditioning their permit to rebuild their house on their agreeing to do so, we have no doubt there would have been a taking.”). The Court has several times since emphasized that this scrutiny is particularly fit to the “adjudicative” context of exactions, where the coercion of particular parties is at issues. *See, e.g., Del Monte Dunes*, 526 U.S. 687, 702 (1999). And there is no need here to dwell on the fact that the now defunct means-ends test identified with *Agins v. City of Tiburon*, 447 U.S. 255 (1980) (requiring that the law “substantially advance a legitimate state interest”), overruled by *Lingle*, 544 U.S. 528, underlay the reasoning and result in *Nollan*. *See Nollan*, 483 U.S. at 833–36.

²⁷⁰ *See Dolan*, 512 U.S. at 392–96 (1994); *Parking Ass’n of Georgia, Inc. v. City of Atlanta*, 450 S.E. 200 (Ga. 1994), *cert. denied*, 515 U.S. 1116 (1995) (Thomas & O’Connor, JJ., dissenting) (criticizing the legislative/adjudicative distinction limiting *Nollan/Dolan* to exactions). The majority in *Dolan* deliberately limited its test to adjudicative exactions (not those set generally by rule) at least partly because of the perceived risk of power abuses. *See* 512 U.S. at 385; *Tex. Manufactured Hous. Assn., Inc. v. City of Nederland*, 101 F.3d 1095, 1105 (5th Cir. 1996); Fennell, *supra* note 261, at 13–27.

²⁷¹ The *Dolan* majority twice emphasized the “roughness” of its proportionality prong. *See Nollan*, 512 U.S. at 391, 395–96 (“No precise mathematical calculation is required.”). Indeed, at the close of its opinion, the Court even suggested that the traditional dedication requirements of “streets, sidewalks, and other public ways” were generally reasonable. *Id.* at 395.

²⁷² *See* Jeremy Paul, *The Hidden Structure of Takings Law*, 64 S. CAL. L. REV. 1393 (1991); ALEXANDER, *supra* note 261, at 80–95.

requisite nexus and proportionality? Finally, supposing the two thresholds are crossed—that the tests are applicable and that an exaction lacks an essential nexus or proportionality—what would just compensation entail?²⁷³ This last prong of the analysis is appropriate following *Lingle v. Chevron*,²⁷⁴ where the Court recently and unanimously (albeit in dicta) affirmed that *Nollan* and *Dolan* are takings precedents.²⁷⁵ Violating the nexus/proportionality norm is not grounds for undoing the exaction, but rather only for requiring payment of just compensation for the taking.²⁷⁶ While neither of the opinions in *Nollan* or *Dolan* explicitly specified that just compensation could fix the constitutional violation, neither case presented the question of a land use authority seeking to bargain further for a dedication.²⁷⁷ The logical extension of the Court's takings doctrine, as clarified in subsequent cases including *Lingle*, is just so.²⁷⁸

Developers, of course, expect to pay a price for their approvals and it is usually more a matter of setting that price.²⁷⁹ Furthermore, while the police

²⁷³ While the matter is contentious, and one could take the Court at its (most recent) word that “just compensation” is measured by the “owner’s pecuniary loss,” see *Brown v. Legal Found. of Washington*, 538 U.S. 216, 240 (2003), this rule seems unfit to the exactions context. See Fennell, *supra* note 263, at 41–67. Measuring the “compensation” that would offset a dedication/exaction, thus, must look to the costs and risks being guarded against by the authority seeking the exaction. *Id.*

²⁷⁴ 544 U.S. 528 (2005).

²⁷⁵ See *id.* at 546–48.

²⁷⁶ *First English Evangelical Lutheran Church of Glendale v. County of Los Angeles*, 482 U.S. 304, 314 (1987) (observing that the Takings Clause “is designed not to limit the governmental interference with property rights *per se*, but rather to secure *compensation* in the event of otherwise proper interference amounting to a taking”).

²⁷⁷ The City of Tigard, in fact, did eventually settle the case with Dolan after the Supreme Court ruling, paying her \$1.5 million for the dedication it sought. See RICHARD H. CHUSED, *CASES, MATERIALS AND PROBLEMS ON PROPERTY* 1039–40 (2d ed. 1999).

²⁷⁸ Cf. ALEXANDER, *supra* note 261, at 239 (“The [Takings Clause] is not primarily aimed at preventing the state from redistributing wealth. Rather, its objective is to secure a realm of personal governance concerning particular assets, not to assure that the level of wealth individuals enjoy is unaffected by governmental action.”). The Court has made clear that “just compensation” is a legal remedy, like any other damages award for constitutional purposes. See *Del Monte Dunes*, 526 U.S. 687, 710 (1999). Condemning or exacting an easement that itself raises a nexus or proportionality issue, thus, might be *remedied* with some added consideration offsetting the exaction. See Douglas T. Kendall & James E. Ryan, “Paying” for the Change: Using Eminent Domain to Secure Exactions and Sidestep *Nollan* and *Dolan*, 81 VA. L. REV. 1801, 1867–75 (1995) (proposing the use of transferable development rights as a means of paying for exactions and/or condemnation). In *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Reg’l Planning Agency*, 535 U.S. 302 (2002), where the Court held that the “interest in protecting the decisional process” of planners engaged in a regional planning exercise must be weighed in the analysis, *id.* at 340, it at least implicitly acknowledged that the regulatory bargain with any certain landowner is an inherently contextual proposition, adjustable by a wide array of considerations at the planners’ disposal. *Id.* at 337–40. Given the uniqueness of interests that easements can protect, offering offsets as a counterbalance for an exaction may be necessary and planners typically have power to do so through side agreements of various kinds. See MANDELKER, *supra* note 260, at § 6.23; Frona M. Powell, *Challenging Authority for Municipal Subdivision Exactions: The Ultra Vires Attack*, 39 DEPAUL L. REV. 635, 645–70 (1990).

²⁷⁹ See Gus Bauman & William H. Ethier, *Development Exactions and Impact Fees: A Survey of American Practices*, 50 L. & CONTEMP. PROBS. 51 (1987). The Court has said that they should

power easily embraces the protection of habitat and other natural resources,²⁸⁰ the political and institutional complexities of *regulating* for something so intricate, dynamic, and critical as habitat protection/restoration are enormous and growing.²⁸¹ Large nonprofits like TNC, NEFF, and others offer a unique vehicle to state and local governments that are usually lacking in scale, scope, or both. When facing the challenges that confront regions like the Northern Forest, these firms can face developers as peer-to-peer land advocates, continuously improving their monitoring and enforcement methods while helping to structure deals to make them eventually workable for local oversight.²⁸² Indeed, these organizations have both the incentive and capacity to appreciate human disturbance in multiple spatial and temporal scales—and to counteract it.²⁸³ Section B argues that condemning easements into their hands may prove to be a significant innovation.

B. Taking Easements and Choosing Partners

In Schattschneider's words, "people are not apt to fight if they are sure to lose,"²⁸⁴ and taking even nonpossessory property interests (like conservation easements) into the hands of third parties raises political as well as constitutional issues, certainly. The *realpolitik* of property rights rhetoric alone may confine the practice of taking easements to the special context of threats to develop.²⁸⁵ This proposal is thus aimed at those

also expect substantial delays for regulatory approvals. *See Tahoe-Sierra Preservation Council*, 535 U.S. at 337–40, 338 n.31. Some state courts have even widened the scrutiny of exactions (including legislated fee schedules, for example) without deepening it by finding that the "important factor in determining the constitutionality of an [impact fee] ordinance is whether the ordinance is unduly burdensome in application." *Homebuilders Ass'n v. City of Beavercreek*, 729 N.E.2d 349, 353 (Ohio 2000).

²⁸⁰ *See, e.g., Caspersen v. Town of Lyme*, 661 A.2d 759 (N.H. 1995); *Droste v. Bd. of County Comm'rs of Pitkin*, 85 P.3d 585 (Colo. App. 2003).

²⁸¹ *See Colburn, Habitat and Humanity*, *supra* note 120; *Colburn, Localism's Ecology*, *supra* note 25.

²⁸² *See BREWER, supra* note 9, at 204–14. Ducks Unlimited has been a critical catalyst in coordinating habitat acquisitions at a *continental* scale, both in maximizing the leverage of federal matching funds like those available through the North American Wetlands Conservation Act, and in selecting properties as high habitat priorities for particular migratory bird species. *See Gildo Tori, Birds Beyond Borders*, 56 MASS. WILDLIFE 30 (No. 4 2006). Like the Trust for Public Land, TNC is increasingly serving a brokering role whenever it can find mobilized and capable land trusts at the local level to assume monitoring and enforcement responsibilities. *See Patrick Coady, Conservation Finance Viewed as a System: Tacking the Financial Challenge*, in *FROM WALDEN TO WALL STREET: FRONTIERS OF CONSERVATION FINANCE* 22, 29–34 (James N. Levitt ed., 2005)

²⁸³ *See GROVES ET AL., supra* note 6.

²⁸⁴ E.E. SCHATTSCHNEIDER, *THE SEMI-SOVEREIGN PEOPLE: A REALIST'S VIEW OF DEMOCRACY IN AMERICA* 4 (1975).

²⁸⁵ For example, in the context used for this study, the Northern Forest, it is easy to imagine a timberlands development proposal provoking such a conservative reaction at some point in the future. *See DOBBS & OBER, supra* note 57, at *xix–xxvi*.

situations framed by such a threat.²⁸⁶ But those situations are increasingly common.²⁸⁷

Each exaction, of course, must be weighed on its own terms, but there are a few points to be made generally. The first issue, whether the transference of such a property interest would run afoul of the “public use” requirement and thus be entirely void, seems easily resolved.²⁸⁸ Except for state constitutional precedents in a handful of states,²⁸⁹ the public use requirement, restated in *Kelo v. City of New London*,²⁹⁰ is highly deferential when property is transferred to a third party for bona fide reasons.²⁹¹ Nevertheless, while conservation easements are, strictly speaking, nonpossessory interests,²⁹² any instrument allowing for monitoring and enforcement—periodic entry still being a necessary element of most easements for now²⁹³—will almost certainly be a *Nollan/Dolan* trigger.²⁹⁴

²⁸⁶ By no means, however, should it be implied that general statutory amendments clarifying when and how easements may be condemned in advance of a development proposal are any more constitutionally suspect than exactions. Indeed, the Court’s case law suggests just the opposite. See, e.g., *Palazzolo v. Rhode Island*, 533 U.S. 606, 633 (O’Connor, J., concurring) (stating that, under the Court’s *Penn Central* balancing test, “interference with investment-backed expectations [such as through the change in background principles of property law] is one of a number of factors that a court must examine.”). Conservation easements are, furthermore, creatures of statutes that themselves are amenable to adjustment for the public’s needs. See Julie Ann Gustanski, *Protecting the Land: Conservation Easements, Voluntary Actions and Private Lands*, in *PROTECTING THE LAND*, *supra* note 211, at 9, 14–18.

²⁸⁷ See Lippmann, *supra* note 259, at 1094–1106.

²⁸⁸ For example, challenges on these grounds to the condemnation of “scenic” easements behind highway beautification were easily rejected. See, e.g., *Kamrowski v. Wisconsin*, 142 N.W.2d 793 (Wis. 1966).

²⁸⁹ Lately, some state high courts, in confronting takings done with the intent to transfer to a third party, have invalidated them as inconsistent with the constitutional requirement that condemned property be for “public use.” See *Sw. Ill. Dev. Auth. v. Nat’l City Envtl., LLC*, 768 N.E.2d 1 (Ill. 2002); *County of Wayne v. Hathcock*, 684 N.W.2d 765 (Mich. 2004); *City of Norwood v. Horney*, 853 N.E.2d 1115 (Ohio 2006).

²⁹⁰ 125 S. Ct. 2655 (2005).

²⁹¹ In a concurrence offering further “observations,” Justice Kennedy characterized the majority’s rational basis review of the “public use” justification of a condemnation as not entirely without substance.

A court applying rational-basis review under the Public Use Clause should strike down a taking that, by a clear showing, is intended to favor a particular private party, with only incidental or pretextual public benefits, just as a court applying rational-basis review under the Equal Protection Clause must strike down a government classification that is clearly intended to injure a particular class of private parties, with only incidental or pretextual public justifications.

See *id.* at 2669. Even with this gloss, the scrutiny *Kelo* aims at the public justification for condemnation is deferential. See John D. Echeverria, *The Triumph of Justice Stevens and the Principle of Generality*, in *THE SUPREME COURT AND TAKINGS: FOUR ESSAYS* 22, at 35–40 (2005)

²⁹² See UCEA, § 1(1), 12 U.L.A. 163 (1981), *supra* note 10, § 1(1) (providing that “[c]onservation easement’ means a nonpossessory interest of a holder in real property”); Dana & Ramsey, *supra* note 213, at 7–21 (describing conservation easements as nonpossessory interests and considering the common law consequences and the statutory solutions to restrictive nonpossessory interests in land).

²⁹³ The New England Forestry Foundation’s innovative monitoring and enforcement protocols (satellite imagery, etc.), point to a future where physical entry may not be necessary.

The question is basically one of tailoring: is the particular easement to be taken (and are the receiving organization's purposes) germane to the government's underlying policies restricting use, and is the scale of the easement roughly proportionate to the risks the development presents? Consider the Plum Creek easement. Barring intensive study of the region's biogeography, resident species, and imminent threats, a detailed accounting of the easement's proportionality would be impossible. Indeed, notwithstanding a maturing literature on "ecosystem services," attempts to quantify the benefits of continuous, unfragmented landscapes as habitat are probably misguided given our ignorance of how nature is organized and functions.²⁹⁵ Structuring and justifying any such exaction according to provable "harms," thus, invites several kinds of confusion.

While conservation biologists have established the importance of genetic and structural "permeability" across landscapes,²⁹⁶ with climate change on the horizon that project is only growing more urgent at the same time it is becoming less certain in execution.²⁹⁷ Habitat protection is, thus, justifiably identified with the exclusion—or, more likely, the *correction*—of humanity's urbanizing influences to the greatest extent feasible.²⁹⁸

See supra notes 203–04 and accompanying text. At present, however, an effective conservation easement is one that provides for periodic entry for monitoring and verification purposes—and one where that monitoring and enforcement is actually carried out. *See Mayo, supra* note 211, at 31 ("The effectiveness of a conservation easement is largely dependent on the commitment of the easement holder. The holder's diligence in monitoring the easement and its willingness and ability to enforce the easement are two of the cornerstones of an effective easement.").

²⁹⁴ In both *Nollan* and *Dolan*, the "physical invasion" element was pivotal. *Nollan*, 483 U.S. 825, 853 (1987); *Dolan*, 512 U.S. 374, 406 (1994). That some third party's rights are augmented by a change in the law is immaterial standing alone because most property is, by nature, a division of common resources and is therefore subject to frequent adjustment. *See, e.g., Andrus v. Allard*, 444 U.S. 51, 65 ("[G]overnment regulation—by definition—involves the adjustment of rights for the public good. Often this adjustment curtails some potential for the use or economic exploitation of private property."). *Cf. FREYFOGLE, supra* note 14, at 143–56 (explaining that viewing land as a community provided that "the private rights of individual owners were appropriately constrained by the good of the whole" and exploring the resulting implications). An easement is functionally indistinct from any other use restriction under the Constitution *except* insofar as it may allow a third party to enter upon the premises, i.e., a "physical invasion." Moreover, not all imposed physical invasions have risen to the level of a taking. *See, e.g., Pruneyard Shopping Ctr. v. Robins*, 447 U.S. 74, 82 (1980) (explaining that although the government had "taken" the right of the property owner to exclude others, "it is well established that 'not every destruction or injury to property by governmental action has been held to be a "taking" in the constitutional sense'").

²⁹⁵ *See MORRISON, supra* note 2, at 41–66 (explaining that because of a chronic failure to define "habitat" as a species specific term habitat studies have failed to recognize vital spatial and temporal aspects of habitat and thus have failed to give clear quantifications of habitat). In fact, it is beginning to seem as if the whole ideal of planning in terms of "ecosystem services" may be misguided. *See Kai M. A. Chan et al., Conservation Planning for Ecosystem Services*, 4 PUB. LIBR. SCI. BIOLOGY 2138 (2006), available at http://biology.plosjournals.org/archive/1545-7885/4/11/pdf/10.1371_journal.pbio.0040379-L.pdf.

²⁹⁶ *See Colburn, Indignity, supra* note 25, at 431–36 (explaining the importance of connectivity and the role that habitat fragmentation has played in decreasing overall species diversity).

²⁹⁷ *See supra* notes 87–90 and accompanying text.

²⁹⁸ *See Simberloff et al., supra* note 112, at 66 (explaining that much of restoration biology is

Establishing that an easement's terms bear a rough proportionality to the risks a development proposal like Plum Creek's presents, in short, is a question of biogeography.²⁹⁹ Now, the power to conform land use to the local public will (the power that has made exactions pervasive) is a sovereign power, to be sure. But easements are possibly the best tool for achieving or safeguarding landscape permeability, at least where they are coordinated at broader scales. Piecemeal set-aside requirements by planners boxed into small jurisdictions may, with this tool, be transformed into a vehicle for reaching broader scales, depending on which nonprofit partners are chosen. Thus, habitat and broad scale coordination seem to be the best framework for public officials justifying such easements in the face of litigation.

There are no objective criteria for selecting "focal" species to these ends.³⁰⁰ But in framing the dialogue that would unfold between developer, planner, and nonprofit, the species of the region facing the most tangible threats—predators and migratory birds in the Northern Forest's case—are perhaps the best starting point as their habitat needs must be key.³⁰¹ Such a dialogue could serve, especially if easements were granted on a term basis,³⁰² as a means of keeping regional land use policies open to continuous integration and improvement. The selection of focal species and identification of their habitat needs could be a politically integrative and transformative exercise because of the learning involved. However, the agency's chief role, if any, is to pool and distribute information.³⁰³ Past

aimed at correcting locally created problems); JORDAN, *supra* note 60, at 28–53 (describing that the great drawback of human involvement in nature was the utilitarian nature of the interaction, that humans saw nature "as a source of goods and services for human benefit, . . . [and] typically had little interest in conserving other species or natural ecosystems for their own sake"). The exclusion of roads or road improvements and land parcelization are, at least generally speaking, perhaps the strongest indicia in such efforts. See FORMAN ET AL., *supra* note 110, at 351–74 (considering the ecological effects of roads in different natural areas and considering the ecological importance of such roads).

²⁹⁹ Cf. Sax & Keiter, *supra* note 165, at 246–58 (finding in a twenty year retrospective on threats to Glacier National Park that national forest lands with decreased timber harvest had essentially become a de facto buffer zone to the park and a migration corridor for wildlife).

³⁰⁰ "Focal" species are the conservation indicia chosen when developing explicit guidelines for "determining the composition, quantity, and configuration of habitat patches at the landscape scale for restoration purposes." GROVES ET AL., *supra* note 6, at 94.

³⁰¹ Cf. MORRISON, *supra* note 2, at 41 ("Habitat is considered one of the few unifying concepts in contemporary wildlife ecology."). See Terborgh et al., *supra* note 69, at 39–44 (describing the importance that top predators play in balanced ecosystems).

³⁰² The perpetuity element of conservation easement statutes today is a remnant of concerns over authenticity (and tax consequences) that are readily resolvable through other means (or are absent). See Dana & Ramsey, *supra* note 213, at 23–31 (describing the issues raised by the perpetuity aspect of conservation easements and examining the policy considerations that face courts in deciding whether to invalidate conservation easements on the basis uncertainty). Thus, in this context, there is no good reason to rule out the use of term easements.

³⁰³ For example, the Forest Service has for years supported work by several of its scientists studying regional habitat overlaps and incompatibilities. See, e.g., RICHARD M. DEGRAAF ET AL., LANDOWNER'S GUIDE TO WILDLIFE: FOREST MANAGEMENT FOR THE NEW ENGLAND REGION (2005). However, it has done virtually nothing to publicize or distribute this work, or use it as a federal benchmark of any kind.

broad-scale changes in use have resulted in whole Northern Forest resident populations being extirpated, and others being “released” from the checks that regulated them.³⁰⁴ To be sure, selection of the right focal species and keying its appropriate use inclusions and exclusions would necessarily be complex and context-dependent. But if LURC were to condition its approval of the Concept Plan on Plum Creek’s transfer of the easement it negotiated with TNC—minus the \$35 million—as well as make calibrated findings linking the easement to any of several goals articulated in its Plan,³⁰⁵ the move would fit within a reasonable interpretation of many states’ general exactions statutes³⁰⁶—including Maine’s.³⁰⁷

More important are the differences between traditional use restrictions and the entrepreneurial step of condemning or exacting an interest in land into a nonprofit’s hands. The connection of large nonprofits and their technical acumen to such processes could be, with the right networking and information pooling,³⁰⁸ an important mode of accountability for all parties—

³⁰⁴ See Foster et al., *supra* note 82 (describing the effects of long-term climate, landscape, and vegetation changes on ecological patterns and processes). On the concept of species “release” in the elimination of natural checks such as predation, see Terborgh et al., *supra* note 69.

³⁰⁵ See, e.g., COMPREHENSIVE PLAN, *supra* note 237, at 139 (Natural Resource Goal L) (“Conserve and protect the aesthetic, ecological, recreation, scientific, cultural, and economic values of wildlife and fisheries resources.”); *id.* at 138 (Natural Resource Goal J) (“Preserve, protect and enhance the quality and quantity of surface and ground waters.”).

³⁰⁶ See Mark Fenster, *Regulating Land Use in a Constitutional Shadow: The Institutional Contexts of Exactions*, 58 HASTINGS L.J. *27–30 (forthcoming 2007). To be sure, several states have statutes that would prohibit such an exaction. See, e.g., *Thompson v. Village of Newark*, 768 N.E.2d 856, 859 (Ill. App. 2002) (Illinois statute limits authority for exactions to areas “around and belonging to a house or other building,” and not the structures themselves). In fact, Professor Fenster argues persuasively that state statutes are, in light of *Nollan* and *Dolan*’s deferential posture, “the most significant mechanism for controlling local discretion to impose exactions.” Fenster, *supra*, at *27. I have argued that, where necessary and proper in light of development pressure and public support for conservation, states should amend their law to allow exactions of conservation easements if they hope to achieve landscape scale conservation objectives in the near and medium term.

³⁰⁷ See ME. REV. STAT. ANN. tit. 30-A, § 4354 (2005) (authorizing municipal exactions where they are “reasonably related” to the public infrastructure needs and other public costs a development proposal may generate). The novelty of LURC’s jurisdiction over Maine’s unincorporated territory arguably sets it apart from most of the rest of the East in that it is a state agency, not a municipality. However, Maine has provided analogous authority to LURC. See ME. REV. STAT. ANN. tit. 12, § 685-A(8-B) (2005) (“Adoption or amendment of land use standards may not be approved unless there is substantial evidence that the proposed land use standards would serve the purpose, intent and provisions of [the Use Regulation Statute] and would be consistent with the comprehensive land use plan.”). And, in any event, LURC’s decision making *capacity* is apparently no greater than most municipalities; it uses its authority to charge large processing fees, presumably in order to pay consultants to evaluate such proposals. See *id.* § 685-B(2). Admittedly, though, my conclusion assumes that the easement’s terms are based in sound biology. By not making the details of the deal public, TNC and Plum Creek have made it impossible to determine whether the easement is that sound. However, I see no reason in the abstract (i.e., because of its scale) that the easement is either disproportionate or lacking an essential nexus.

³⁰⁸ See YOCHAI BENKLER, *THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM* (2006) (describing the competitive advantages of social production in a digitally networked environment and arguing that a networked public sphere would

one that transcends the turgid and ritualistic forms of “public participation” generally endemic to land management planning.³⁰⁹ Improvised procedures for doing such deals and noticing them to the wider public³¹⁰ could be more than just novel public/private partnering: they could be a new mode of integrating science and politics. Distributed design and production, after all, are the only *imaginable* paths to the kind of adaptive management that will be required for sustaining ecological and social systems’ resilience.³¹¹ Perhaps just as important, condemning or exacting these easements instead of expecting cash payments from the nonprofit sector would free up precious capital its agents are always acquiring for other uses, especially for research, capacity building, and further innovation.³¹² It would also acknowledge that the public service these organizations provide in enforcing conservation easements is compensation enough for fairness’s sake.

VI. CONCLUSION

Forestry and agriculture in this country are struggling not just in how to define “sustainability” or how to ensure it one landowner at a time. They are struggling with their very nature as land uses worthy of public subsidy. The economics of owning timberlands (or farmland) in America have encouraged subdivision and sale for many years, and no fundamental change in that market condition is likely anytime soon.³¹³ Yet, while the easement strategy was a subtle, adaptive response to that reality, it is beginning to generate monumental risks for conservation³¹⁴ at the same time it is rising in cost and giving developers incentives to undermine its effectiveness.³¹⁵

Of course, “multiple use” is exactly the standard of care by which the vast majority of land in America, including the Northern Forest, is and has always been managed.³¹⁶ But easements condemned or exacted and

dramatically enhance public welfare and freedom).

³⁰⁹ BUYING NATURE, *supra* note 167, at 255–72; Colburn, *Habitat and Humanity*, *supra* note 120 at *30–34.

³¹⁰ See, e.g., Cheever, *supra* note 259, at 439–43 (describing the use of a conservation easement which allowed agencies to purchase the land quickly and organize their uses); Lippmann, *supra* note 259, at 321–30 (describing the procedures that have been used in habitat conservation plan (HCP) easements).

³¹¹ See BENKLER, *supra* note 308, at 212–72 (describing an “institutional ecology” of peer-to-peer collaboration in which the influences of state coercion are of diminished importance because collective creativity and private initiative are harnessed to demand, thereby driving production).

³¹² See Patrick Coady, *Conservation Finance Viewed as a System: Tackling the Financial Challenge*, in FROM WALDEN TO WALL STREET: FRONTIERS OF CONSERVATION FINANCE, *supra* note 13, at 22, 28–31 (suggesting methods, including research and building capacity, to address gaps in funding for conservation organizations)

³¹³ Irland, *supra* note 53, at 19–20.

³¹⁴ BREWER, *supra* note 9, at 175 (“[A] prudent observer is drawn to the position that many land trusts have begun to rely too much on a single land-protection device whose durability has yet to be established. Easements are becoming the monoculture of the land trust community.”).

³¹⁵ See *supra* notes 227–58 and accompanying text (discussing how cost and privatization are rendering the easement strategy unsustainable).

³¹⁶ See generally Bradley C. Karkkainen, *Biodiversity and Land*, 83 CORNELL L. REV. 1 (1997)

transferred into the hands of third parties like NEFF can allow for “working forests” as easily as they can be made more stringent. Professor Costonis long ago mused that easements could be a middle ground between uncompensated regulatory takings and condemnations with “just compensation.”³¹⁷ He was more right than he knew, and easement exactions should be considered a vital link in the connectedness of conservation efforts, whether public, private, or something new under the sun.

(explaining that land management has almost always been for “multiple use”).

³¹⁷ John J. Costonis, *“Fair” Compensation and the Accommodation Power*, in REGULATION V. COMPENSATION IN LAND USE CONTROL: A RECOMMENDED ACCOMMODATION, A CRITIQUE, AND AN INTERPRETATION 3, 4 (John J. Costonis et al. eds., 1977).