

THE NEW NUISANCE: AN ANTIDOTE TO WETLAND LOSS, SPRAWL, AND GLOBAL WARMING

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Abstract: Marking the fifteenth anniversary of *Lucas v. South Carolina Coastal Council*—the modern U.S. Supreme Court’s seminal regulatory takings decision—this Article surveys *Lucas*’s impact upon regulations that restrict wetland filling, sprawling development, and the emission of greenhouse gases. The *Lucas* Court set forth a new categorical rule of governmental liability for regulations that prohibit all economically beneficial use of land, but also established a new defense that draws upon the states’ common law of nuisance and property. Unexpectedly, that defense has taken on a life of its own—forming what this Article calls the *new nuisance* doctrine. As this Article explains, nuisance is *new* in at least two important ways. First, it has taken on a new posture, evolving from defense, to offense, to catalyst for legislative change. Second, nuisance has taken on new substance, triggered in part by *Lucas*’s explicit recognition that “changed circumstances or new knowledge may make what was previously permissible no longer so.”

INTRODUCTION: FROM NEW PROPERTY TO NEW NUISANCE

In 1992, the U.S. Supreme Court decided the foundational modern case on regulatory takings, *Lucas v. South Carolina Coastal Council*.¹ In holding that a state law forbidding construction in certain coastal zones required compensation, the Court created a new *total takings* categorical rule, requiring governments to compensate landowners whenever regulation “deprives land of all economically beneficial use.”² Just three years before, Hurricane Hugo had struck the very island in dispute—the Isle of Palms—leading to thirty-five fatalities and \$7 bil-

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¹ *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1026–27 (1992).

² *Id.*

lion in damage.³ Drawing upon this experience, South Carolina presented evidence that undeveloped lands provide valuable protection against coastal storms and hurricanes, and that for “roughly half of the last 40 years, all or part of [the Lucas] property was part of the beach or flooded twice daily.”⁴ Rejecting such evidence, the Court accepted the premise that oceanfront lands are “valueless” in their natural state.⁵ In so doing, the Court gave little weight to the state legislature’s finding that coastal development must be regulated to prevent harm to the community.⁶ The Court reasoned, “[because] such a justification can be formulated in practically every case, this amounts to a test of whether the legislature has a stupid staff.”⁷

The Court tempered its new categorical rule with a new defense, planting the seed for the *new nuisance* doctrine that is the focus of this Article. Under the *Lucas* defense, regulations that deprive property of all economically beneficial use “cannot be newly legislated or decreed (without compensation), but must inhere in . . . the restrictions that background principles of the State’s law of property and nuisance already place upon land ownership.”⁸ The Court also provided an important reminder that nuisance law is fundamentally evolutionary, such that “changed circumstances or new knowledge may make what was previously permissible no longer so.”⁹ As Justice Kennedy noted in concurrence, “the State should not be prevented from enacting new regulatory initiatives in response to changing conditions.”¹⁰

This Article unpacks what I call the new nuisance doctrine, applying it to the environmental challenges posed by wetland destruction, sprawling development patterns, and global warming.¹¹ Overall, *Lucas* triggered an unanticipated revitalization of the link between property and torts. By explicitly measuring the contours of *property* rights against the evolving backdrop of nuisance—primarily a *tort* doctrine—the Court restored an important degree of flexibility to property

³ S.C. STATE CLIMATOLOGY OFFICE, SOUTH CAROLINA HURRICANE CLIMATOLOGY, http://www.dnr.sc.gov/climate/sco/Tropics/hurricanes_affecting_sc.php (last visited Sept. 18, 2007).

⁴ *Lucas*, 505 U.S. at 1038–39 (Blackmun, J., dissenting).

⁵ *Id.* at 1007, 1009, 1018–19 (majority opinion).

⁶ *Id.* at 1020–26.

⁷ *Id.* at 1025 n.12.

⁸ *Id.* at 1029.

⁹ *Lucas*, 505 U.S. at 1031.

¹⁰ *Id.* at 1035 (Kennedy, J., concurring).

¹¹ See *infra* notes 244–536 and accompanying text.

rights.¹² Moreover, the *Lucas* defense weakened the insularity of property rights, instead balancing the rights of the individual against the interests of the community.¹³ This Article suggests that *Lucas* initiated a revolution in the way we think about property. Such a change has not been seen, perhaps, since 1964 when Charles Reich published *The New Property*.¹⁴ More than four decades and hundreds of citations later, *The New Property* has been recognized as a seminal work that has changed our conception of property.¹⁵

This Article contends that the new nuisance doctrine of *Lucas* has moved from defense, to offense, to legislative catalyst. As others have noted, *Lucas* left a legacy surprisingly favorable to governmental defendants in the form of a new “categorical” defense.¹⁶ I add to this discovery by tracing the spillover effect of *Lucas* beyond the bounds of regulatory takings defense, into the realm of affirmative claims for common law nuisance.¹⁷ That is, as new ecological and other learning begins to connect the dots between cause and effect, more aggressive nuisance claims, facilitated by *Lucas*, will become viable. Even more far-reaching—as nuisance liability becomes more likely in growing areas of study such as global warming—industry leaders themselves have begun to call for uniform, federal legislation that may limit how their property may be used.¹⁸ These are unexpected, proregulatory developments, stimulated at least in part by the purportedly antiregulatory *Lucas* decision.

Part I examines the modern property rights movement, with its emphasis upon individual rights relatively unfettered by public interest regulation.¹⁹ Part II describes how the Supreme Court’s *environmental cynicism* led it to create a new total takings categorical rule in *Lucas*, which is tempered by the new nuisance defense.²⁰ The discussion also roots *Lucas* in a geophysical context, between the bookends of Hurri-

¹² See *infra* notes 259–275 and accompanying text.

¹³ See *infra* notes 259–275 and accompanying text.

¹⁴ See generally Charles A. Reich, *The New Property*, 73 YALE L.J. 733 (1964).

¹⁵ See Fred R. Shapiro, *The Most-Cited Law Review Articles Revisited*, 71 CHI.-KENT L. REV. 751, 760 (1996) (describing *The New Property* as “one of the genuinely original breakthroughs in legal thought” and listing it as the fourth most-cited law review article with 728 citations); see also *infra* notes 211–213 and accompanying text.

¹⁶ See *infra* notes 244–258 and accompanying text (discussing the work of Professors Michael Blumm, Richard Lazarus, and others); *infra* notes 259–275 and accompanying text.

¹⁷ See *infra* notes 276–281 and accompanying text.

¹⁸ See *infra* notes 503–536 and accompanying text.

¹⁹ See *infra* notes 28–82 and accompanying text.

²⁰ See *infra* notes 83–120 and accompanying text.

cane Hugo and Hurricane Katrina.²¹ Noting the continuing vulnerability of the southeastern coastal region to severe storms, this Section ponders whether the Court would decide *Lucas* differently today in light of new learning on wetlands, hurricanes, and global warming.²² Part III places the *Lucas* decision into historical context, delineating periods of roughly thirty to fifty years during which either private rights or the community welfare claimed a position of ascendancy.²³ As discussed in Part IV, after *Lucas*, nuisance law is “new” in two critical respects.²⁴ First, it has developed from a defense to takings liability into an offensive claim for common law nuisance, and beyond to a catalyst for legislative action.²⁵ Second, nuisance has a new substantive aspect. As the *Lucas* Court made clear, the doctrine should evolve in conformity with changed circumstances or new knowledge.²⁶ Part V considers the applicability of the new nuisance doctrine to three of the most crucial environmental problems of our time—wetland destruction, sprawling development patterns, and global warming.²⁷

I. THE PROPERTY RIGHTS IMBALANCE

Rights are not the language of democracy. Compromise is what democracy is about. Rights are the language of freedom, and are absolute because their role is to protect our liberty. By using the absolute power of freedom to accomplish reforms of democracy, we have undermined democracy and diminished our freedom.

—Philip K. Howard, *The Death of Common Sense: How Law Is Suffocating America*²⁸

In a healthy society, there is a rough give-and-take between individual autonomy and community well-being. For centuries, nuisance law has been assigned the task of balancing such competing interests, weighing the common law property rights of individuals against those

²¹ See *infra* notes 121–151 and accompanying text.

²² See *infra* notes 121–151 and accompanying text.

²³ See *infra* notes 152–243 and accompanying text.

²⁴ See *infra* notes 244–311 and accompanying text.

²⁵ See *infra* notes 259–284 and accompanying text.

²⁶ See *infra* notes 285–311 and accompanying text.

²⁷ See *infra* notes 312–536 and accompanying text.

²⁸ PHILIP K. HOWARD, *THE DEATH OF COMMON SENSE: HOW LAW IS SUFFOCATING AMERICA* 168 (1994) (condemning modern society as excessively bureaucratic and law-driven). Although the author’s criticism was directed at what he perceives to be excessive governmental regulation, it might be applied with equal force to the excesses of modern property rights advocates.

of the neighboring landowner or community. More recently, statutes designed to protect public health, safety, welfare, and the environment have supplemented (or even supplanted) nuisance law. Both nuisance law and public interest legislation are, at their core, enterprises involving balance and compromise.

Increasingly, however, advocates have employed the language of “rights” to lend moral heft to their side of the scale.²⁹ In 1985, Professor Richard Epstein laid the groundwork for expanding the constitutional dimension of property, arguing that individual rights should be limited by a governmental police power no broader than the power of eminent domain.³⁰ In 1992, the U.S. Supreme Court embraced Epstein’s philosophy, at least in part, in *Lucas v. South Carolina Coastal Council*.³¹ Critics of Epstein and *Lucas* assert that “[n]otwithstanding the typical rhetoric of the takings debate, government officials are defenders of property rights.”³² Arguing for a more evenhanded application of “rights” language, these critics contend that “[a]n aggressive use of the Takings Clause to undermine land use controls does not promote property rights generally, but rather promotes the property rights of a select few at the expense of the majority of property owners.”³³

Today, the absolutist language of rights—particularly when linked to the constitutional regulatory takings doctrine—has the potential to stifle the discussion of important social and environmental policies. As commentators have warned, unyielding “rights talk” should be used with care to avoid the suppression of democratic debate.³⁴ This Part

²⁹ See *infra* notes 36–82 and accompanying text.

³⁰ See RICHARD A. EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN 332 (1985) (asking “what minimum of additional power . . . must be added for the state to become more than a voluntary protective association and to acquire the exclusive use of force within its territory?” and concluding that “the only additional power needed is the state’s right to force exchanges of property rights [through eminent domain] that leave individuals with rights more valuable than those they have been deprived of”).

³¹ *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1015 (1992) (citing to Epstein’s work for general propositions of regulatory takings law). Epstein was also one of the authors of a *Lucas* amicus brief filed on behalf of the Institute for Justice. See *id.* at 1005. For a discussion of *Lucas*, see *infra* notes 83–151 and accompanying text.

³² DOUGLAS KENDALL ET AL., TAKINGS LITIGATION HANDBOOK: DEFENDING TAKINGS CHALLENGES TO LAND USE REGULATIONS 9 (2000), available at <http://communityrights.org/legalresources/Handbook/HBintro.asp>. See generally ELIZABETH BRUBAKER, PROPERTY RIGHTS IN THE DEFENCE OF NATURE (1995), available at <http://www.environmentprobe.org/enviroprobe/pridon/index.html>.

³³ KENDALL ET AL., *supra* note 32, at 10.

³⁴ See generally MARY ANN GLENDON, RIGHTS TALK: THE IMPOVERISHMENT OF POLITICAL DISCOURSE (1991) (arguing that modern political discourse focuses excessively on rights to the exclusion of duties and responsibilities).

surveys the modern property rights movement, highlighting the techniques it uses to shape public opinion in a manner solicitous of private landowners and distrustful of public interest regulation.³⁵

A. *Supersizing Property Rights*

The modern property rights movement is an important social phenomenon, and it would be little exaggeration to consider it a manifestation of the American propensity toward “supersizing.”³⁶ Property rights—particularly those relating to real property—have expanded in at least three important dimensions.³⁷

First, the size of homes—perhaps the most important type of real property—has been increasing over time.³⁸ Between 1987 and 2001, the size of the average new home in the United States increased by over twenty percent, from 1900 square feet to 2300 square feet.³⁹ By 2003, approximately twenty percent of new homes exceeded 3000

³⁵ See *infra* notes 36–82 and accompanying text. As one who teaches Property in the law school curriculum, I must acknowledge that property professors may contribute to this distrust of governmental regulation. As Professor Myrl Duncan has written, the traditional “bundle of sticks” metaphor may discount the value of public interest regulation:

One individual’s interest in land cannot be defined without taking into account the interests of neighbors and the larger human and natural communities. For example, filling (or draining) a wetland might be considered a property interest belonging to the owner of tract on which it lays—a stick in his bundle. Yet in wiping out the wetland the owner affects drainage on the rest of his land—his whole bundle of sticks—and may well affect the drainage of his neighbors’ lands, represented by their bundles. . . . [F]rom a social and ecological perspective, the [bundle of sticks] metaphor presents a false reality, one that cannot be squared with the values that underlie the present day understanding of what it means to own land.

Myrl L. Duncan, *Reconceiving the Bundle of Sticks: Land as a Community-Based Resource*, 32 ENVTL. L. 773, 775–76 (2002).

³⁶ The word “supersize” appeared in the 2003–05 edition of *Webster’s New Millennium Dictionary of English*, defined as a verb meaning “to increase the size of something ordered, esp. a food item” and as an adjective meaning “extremely large; enormous.” See WEBSTER’S NEW MILLENNIUM DICTIONARY OF ENGLISH (Barbara Ann Kipfer ed., version 0.9.6 2005) (online edition), available at <http://dictionary.reference.com>. The word received considerable media attention when it was used in the title of Morgan Spurlock’s 2004 documentary, *Super Size Me: A Film of Epic Proportions*. See A.O. Scott, *Film Review: When All Those Big Macs Bite Back*, N.Y. TIMES, May 7, 2004, at E18 (describing film as an “affable, muckraking documentary”).

³⁷ See *infra* notes 38–48 and accompanying text.

³⁸ See *infra* notes 39–41 and accompanying text.

³⁹ Jennifer Evans-Cowley, *McMansions: Supersized Houses, Supersized Regulations*, TIERRA GRANDE, Jan. 2005, available at <http://recenter.tamu.edu/TGrande/vol12-1/1713.html> (citing a 2002 study by the National Association of Home Builders).

square feet in size.⁴⁰ Simultaneously, household size has decreased, thereby inflating the average per capita square footage of homes.⁴¹

Second, the profile of property owners has changed over time, increasingly including individuals with expansive property portfolios encompassing more than the traditional family home.⁴² In 2005, for example, second home sales (including vacation homes and investment property) comprised forty percent of the residential market.⁴³ Similarly, many farms today are owned by large agribusinesses, rather than by families: between 1900 and 1990, the average farm grew from 147 to 461 acres, as the percentage of farmers in the national labor force declined from 38% to 2.6%.⁴⁴

Finally, property rights have become “supersized” in terms of political influence.⁴⁵ Numerous advocacy groups oppose government regulation that restricts the use of private property.⁴⁶ Following the blueprint of Richard Epstein, property advocates argue:

[The] regulatory bureaucracy has become so large, unaccountable, and powerful that Congress effectively has forfeited meaningful oversight. . . . This leaves victimized private citizens, especially smaller landowners and business persons, with the near-insurmountable burden of challeng-

⁴⁰ *Id.* This represents an almost 100% increase in large home construction between 1988 (11% of new homes exceeded 3000 square feet) and 2003 (20% of new homes exceeded 3000 square feet). *Id.* (citing U.S. Census Bureau data).

⁴¹ *Id.* (citing U.S. Census Bureau data showing that average household size decreased from 3.11 persons in 1970 to 2.59 persons in 2000).

⁴² *See infra* notes 43–44 and accompanying text.

⁴³ Press Release, Nat'l Ass'n of Realtors, Second Home Sales Hit Another Record in 2005; Market Share Rises (Apr. 5, 2006), available at http://www.realtor.org/press_room/news_releases/2006/secondhomesales05.html.

⁴⁴ A History of American Agriculture: Farmers & the Land, http://www.agclassroom.org/gan/timeline/farmers_land.htm (last visited Sept. 14, 2007).

⁴⁵ *See infra* notes 46–47 and accompanying text.

⁴⁶ Critics have dubbed as the “Takings Project” the aggressive use of the regulatory takings doctrine to oppose property regulation. *See* Douglas T. Kendall & Charles P. Lord, *The Takings Project: A Critical Analysis and Assessment of the Progress So Far*, 25 B.C. ENVTL. AFF. L. REV. 509, 510–11 (1998) (identifying as “blueprint” for takings doctrine Richard Epstein’s *Takings, Private Property and the Power of Eminent Domain*). They argue that the Project has been supported by an annual budget of approximately \$15 million, supplied by prodevelopment foundations, associations, attorneys, and individuals. *See id.* at 539–45. Kendall and Lord assert that the Project’s budget is dedicated, in part, to the staging of meetings, workshops, and all-expense paid seminars for judges. *See id.* at 546–49. *See generally* Ann Southworth, *Conservative Lawyers and the Contest over the Meaning of “Public Interest Law,”* 52 UCLA L. REV. 1223 (2005).

ing the government's intrusive land-use control in the courts.⁴⁷

Accordingly, Epsteinian reformers promote an agenda expanding the force of property rights, thereby seeking to invalidate many modern health, safety, and environmental regulations.⁴⁸

B. *Sanctifying Property Owners*

Our God-given property rights are being stolen from us little by little.

—The Constitution Party of Oregon⁴⁹

The property rights movement has derived much of its force from a careful choice of rhetoric.⁵⁰ Despite the modern “supersizing” of property rights and landowners, advocates strategically employ language that evokes the sympathetic image of small landowners as a vulnerable “David” struggling against an oppressive governmental “Goliath.”⁵¹ At least two rhetorical techniques have been employed in an attempt to advance the position of property owners who desire to be free from government regulation.⁵²

First, property advocates sanctify landowners by linking the goal of unfettered land use to other noble causes.⁵³ The Defenders of

⁴⁷ M. David Stirling, *Move over Saddam: Overzealous Regulators Also Threaten Freedom*, PLF SENTRY, Feb. 21, 2003 (on file with author).

⁴⁸ Kendall & Lord, *supra* note 46, at 513. As an example of this increasing political influence, voters in two western states, Oregon and Arizona, have recently passed “regulatory takings initiatives” that require state and local governments to pay compensation or waive land use regulations that reduce the value of real property by any amount. *See Regulatory Takings Ballot Measures Across America: Attack of the Measure 37 Clones*, AM. PLANNING ASS’N, Dec. 6, 2006, <http://www.planning.org/legislation/measure37/>. These initiatives have been backed by prominent property rights groups such as the PLF and Oregonians in Action. *See id.*; Press Release, Pac. Legal Found., PLF Asks Oregon Supreme Court to Uphold Measure 37 (Dec. 15, 2005), *available at* [http://www.pacificlegal.org/?mvcTask=pressReleases&id=364;Yes on 37, Measure 37: Restoring Fairness and Balance in Oregon's Land Use Laws](http://www.pacificlegal.org/?mvcTask=pressReleases&id=364;Yes%20on%2037,Measure%2037:RestoringFairnessandBalanceinOregon'sLandUseLaws), <http://measure37.com/why.htm> (last visited Sept. 30, 2007).

⁴⁹ Press Release, The Constitution Party of Or., Petition Drive for Recall, Judge James PAC (Nov. 9, 2005) [hereinafter Petition Drive for Recall], *available at* <http://www.constitutionpartyoregon.net/modules.php?op=modload&name=News&file=article&sid=85>. This statement was made by Constitution Party of Oregon to garner support for an effort to recall Oregon trial court Judge Mary James, who decided that Measure 37, an Oregon property rights initiative, was unconstitutional. *See id.* *See generally* MacPherson v. Dep’t of Admin. Serv., No. 05CI0444 (Or. Cir. Ct. Marion County Oct. 14, 2005), *rev’d*, 130 P.3d 308 (2006).

⁵⁰ *See infra* notes 51–82 and accompanying text.

⁵¹ *See infra* notes 53–66 and accompanying text.

⁵² *See infra* notes 53–66 and accompanying text.

⁵³ *See infra* notes 54–56 and accompanying text.

Property Rights, for example, compares its mission to that of the civil rights movement: “Just as segregation led to the civil rights movement in the 1960s, government intrusion on property rights—largely in the name of protecting the environment—has sparked a new crusade to protect an individual’s right to use and own all forms of and interests in private property.”⁵⁴ Similarly, the Washington Legal Foundation’s chief legal counsel explains, “I look upon us as the bearers of the torch of the civil rights movement. . . . I see us as successors to Martin Luther King and Thurgood Marshall.”⁵⁵ Other advocates search for an even higher moral ground, describing the protection of property rights in religious terms. The Constitution Party of Oregon, for example, sought to recall a state judge who had held unconstitutional a voter approved property rights initiative, complaining that “[o]ur God-given property rights are being stolen from us little by little, and unless we take action now, there will remain little left to us but the priveledge [sic] of paying property taxes.”⁵⁶

As a second method of sanctifying landowners, advocates employ a victimization technique, choosing particularly sympathetic landowners as clients and portraying them as martyrs for their cause.⁵⁷ For example, the Pacific Legal Foundation (the “PLF”)⁵⁸ took up the appeal of an ailing widow before the U.S. Supreme Court in the 1997 case *Suittum v. Tahoe Regional Planning Agency*.⁵⁹ In its press release de-

⁵⁴ Kendall & Lord, *supra* note 46, at 540 n.133 (quoting Nancie G. Marzulla, *The Property Rights Movement: How It Began and Where It Is Headed*, in LAND RIGHTS: THE 1990s PROPERTY RIGHTS REBELLION 24 (Bruce Yandle ed., 1995)). Marzulla is the founder and president of Defenders of Property Rights, an organization that describes itself as “[t]he only national public-interest legal foundation dedicated exclusively to the protection of constitutionally guaranteed rights in property.” See Defenders of Property Rights Website (last visited Jan. 3, 2006) (website no longer active, hard copy on file with author).

⁵⁵ Kendall & Lord, *supra* note 46, at 540 n.135 (quoting Richard Perez-Pena, *A Rights Movement That Emerges from the Right*, N.Y. TIMES, Dec. 30, 1994, at B5).

⁵⁶ See Petition Drive for Recall, *supra* note 49.

⁵⁷ See *infra* notes 58–66 and accompanying text.

⁵⁸ The Pacific Legal Foundation is a prodevelopment, nonprofit legal foundation that has been a “leading force” in the litigation campaign for private property rights. Kendall & Lord, *supra* note 46, at 539–40. PLF terms itself a “representative in the courts for Americans who have grown weary of overregulation by big government, over-indulgence by the courts, and excessive interference in the American way of life.” Pacific Legal Foundation, About Us, <http://pacificlegal.org/?mvcTask=about> (last visited Aug. 11, 2007).

⁵⁹ *Suittum v. Tahoe Reg’l Planning Agency*, 520 U.S. 725, 727 (1997); Petitioner’s Brief on the Merits, *Suittum*, 520 U.S. 725 (No. 96-243) (filed by PLF attorneys), 1996 WL 695505. The Agency’s land use planning process was challenged more recently in *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*, 535 U.S. 302, 331–32 (2002), where the court rejected a claim that moratoria prohibiting virtually all development for a thirty-two month period constitute a categorical taking.

scribing Suitum's challenge before the Court to land use regulations promulgated by the Tahoe Regional Planning Agency, the PLF referred to its client as "a wheelchair-bound old widow who is rapidly losing her sight."⁶⁰ To explain its client's twelve year delay in seeking a building permit, the PLF argued:

In 1972, John and Bernadine Suitum bought an 18,300 square foot lot in a residential subdivision in Incline Village, not far from Lake Tahoe. The only reason why hers is the last lot that has not yet been developed is because Mrs. Suitum's late husband spent the last years of his life battling illness.⁶¹

Similarly in 2006, in the Supreme Court case *Rapanos v. United States*, the PLF represented a Michigan commercial developer who drained and filled wetlands without applying for the requisite federal permit under the Clean Water Act, proceeding in defiance of several federal cease and desist orders.⁶² The PLF portrayed its client sympathetically, describing him as "a 70-year-old Michigan grandfather who for nearly two decades has fought overzealous government prosecutors seeking prison time and more than \$10 million in fees and fines because he failed to get a federal permit before moving soil on his own property."⁶³

⁶⁰ James S. Burling, *Widow Suitum Fights a "Strange Doctrine,"* FEDERALIST SOC'Y, 2001 (on file with author).

⁶¹ *Id.*

⁶² *Rapanos v. United States*, 126 S. Ct. 2208, 2238–39 (2006) (Kennedy, J., concurring); Petitioner's Reply Brief, *Rapanos*, 126 S. Ct. 2208 (No. 04-1034) (filed by PLF attorneys), 2005 WL 914477.

⁶³ Press Release, Pac. Legal Found., Supreme Court to Hear Landmark Wetlands Case: PLF Asks High Court to Set Wetlands Law Straight (Oct. 11, 2005) [hereinafter PLF Wetlands Press Release], available at <http://pacificlegal.org/?mvcTask=pressReleases&id=283>. The U.S. Court of Appeals for the Sixth Circuit described *Rapanos* in less sympathetic terms. *United States v. Rapanos*, 376 F.3d 629, 632 (6th Cir. 2004), *vacated and remanded sub. nom.*, 126 S. Ct. 2208 (2006). In observing that *Rapanos* had been displeased by the report of his own consultant, Dr. Goff, which found between forty-eight and fifty-eight acres of protected wetlands on one of *Rapanos*' commercial properties, the court noted:

Upset by the report, Mr. *Rapanos* ordered Dr. Goff to destroy both the report and map, as well as all references to Mr. *Rapanos* in Dr. Goff's files. However, Dr. Goff was unwilling to do so. Mr. *Rapanos* stated he would "destroy" Dr. Goff if he did not comply, claiming that he would do away with the report and bulldoze the site himself, regardless of Dr. Goff's findings.

Id. Compare J. David Breemer, *The Wisdom of Growth: What Can California Learn from a Recent Property Rights Proposition in Oregon—the State Long Viewed As an Anti-Sprawl Mecca?*, SACRAMENTO BEE, Dec. 12, 2004 (PLF staff attorney criticizes local forest ordinance, complaining "[a]ll Thomas and Doris Dodd wanted to do was build a retirement home on 40 acres of

The victimization technique has not been confined to individual landowners, but has been applied to large corporations as well.⁶⁴ In attempting to portray Wal-Mart as the victim of city planning, the PLF asserted in a press release that “city officials’ relentless attacks on Wal-Mart [represent] paternalistic poli[cies] that do[] nothing but deny entry-level employment opportunities to those who need them the most; an attempt to keep out basic goods at affordable prices; and an assault on the right of Wal-Mart to do business.”⁶⁵ The PLF concludes, “Free markets and freedom of choice: These American values are the true victims of this war on the Wal-Marts of this world. Consumers must . . . tell their city representatives to stop discriminating against businesses, large and small. It’s the American thing to do.”⁶⁶

C. *Demonizing the Public Interest*

[W]etlands regulations, like the Endangered Species Act, have been used to rob citizens of the use of millions of acres of private land.

—Jane Chastain, *How “Wetlands” Threaten Freedom*⁶⁷

As a corollary to the sanctification of landowners, property advocates try to diminish the importance of the public interest.⁶⁸ Drawing support from those who criticize “big government,” advocates conflate environmental regulation with the size of government.⁶⁹ Such rhetoric taps into the privatization movement that seeks to replace numerous government programs with private sector operations.⁷⁰ In recent times, the call for privatization has influenced such stalwart govern-

land they purchased in 1983. . . . But the county wanted the land as a forest preserve, so it passed an ordinance banning construction on the Dodd’s property, destroying their American dream”), available at <http://pacificlegal.org/?mvcTask=opinion&id=377>, with *Dodd v. Hood River County*, 136 F.3d 1219, 1230 (9th Cir. 1998) (denying Dodds’ claim that application of zoning ordinance worked a regulatory taking, in part because the landowners’ own six-year delay in pursuing the construction of their home defeated their claim to reasonable, investment-backed expectations).

⁶⁴ See *infra* notes 65–66 and accompanying text.

⁶⁵ Paul J. Beard II, Op-Ed., *In Defense of Wal-Mart*, CAPITALISM, Oct. 2, 2004, available at <http://www.pacificlegal.org/?mvcTask=opinion&id=390>.

⁶⁶ *Id.*

⁶⁷ Jane Chastain, *How “Wetlands” Threaten Freedom*, WORLDNETDAILY, June 29, 2006, http://worldnetdaily.com/news/article.asp?ARTICLE_ID=50830 (describing petitioners in *Rapanos* as “modern-day freedom fighters” who “fought the federal government for the right to develop land they owned in the state of Michigan”).

⁶⁸ See *infra* notes 69–82 and accompanying text.

⁶⁹ See *infra* notes 73–77 and accompanying text.

⁷⁰ See *infra* notes 73–77 and accompanying text.

ment programs as welfare, Medicare, and Social Security. Even the conduct of war has been privatized to some extent.⁷¹ Supporters of both privatization and strong individual property rights distrust—and at times, even scorn—government regulation conducted in the name of the public interest.⁷²

At least two techniques promote the demonization of the public interest.⁷³ First, property advocates portray the government as a bully. In *Rapanos*, for example, the PLF asserted, “Mr. Rapanos’ case is about federal power, not protecting wetlands. Federal officials have been exploiting the Clean Water Act to bully and take land and money from property owners for far too long.”⁷⁴ Likewise, property groups have variously criticized land use regulations as “[the embodiment of the] selfish demands of established neighborhood groups or single issue environmental constituencies”⁷⁵ and as “nothing more than an attempt to control at the federal level how and where people live, work, and travel by depriving homeowners and small businesses of choice.”⁷⁶ Large corporations seeking a more liberal regulatory environment have employed similar tactics. For example, Wal-Mart has cast local zoning regulations affecting its stores as tantamount to Nazi book burnings in the 1930s.⁷⁷

⁷¹ See Greg Guma, *Privatizing War*, COMMON DREAMS NEWS CTR., July 7, 2004, available at <http://www.commondreams.org/views04/0707-14.htm>. In a progressive critique of privatization, Guma notes that:

[d]uring the first Gulf War, about two percent of U.S. military personnel were private workers. As of 2003, it had reached 10 percent. The Pentagon employs more than 700,000 private contractors, and at least \$33 billion of the \$416 billion in military spending overwhelmingly approved by the Senate [in June 2004] will go to [private military corporations].

Id. See generally Clifford J. Rosky, *Force, Inc.: The Privatization of Punishment, Policing, and Military Force in Liberal States*, 36 CONN. L. REV. 879 (2004).

⁷² See *infra* notes 73–82 and accompanying text.

⁷³ See *infra* notes 74–82 and accompanying text.

⁷⁴ PLF Wetlands Press Release, *supra* note 63 (quoting Reed Hopper, principal PLF attorney).

⁷⁵ Brief of the National Association of Home Builders & the International Council of Shopping Centers as Amici Curiae in Support of Petitioner at *6, *Lucas*, 505 U.S. 1003 (No. 91–453) [hereinafter NAHB *Lucas* Brief], 1991 WL 11004084.

⁷⁶ Property Rights and “Smart Growth” Policies, Defenders of Property Rights Website (last visited Jan. 3, 2006) (website no longer active, hard copy on file with author) (criticizing “smart growth” regulations as “stifl[ing] property rights, economic development, and civil rights” and “den[ying] the dream of home ownership”).

⁷⁷ See WAL-MART WATCH, SHAMELESS: HOW WAL-MART BULLIES ITS WAY INTO COMMUNITIES ACROSS AMERICA 17 (2005), available at http://walmartwatch.com/img/features/bully_report/bully_report.pdf. In response to a ballot referendum in Flagstaff, Arizona opposing the construction of a new Wal-Mart store, the company placed an ad in the *Arizona*

As a second method of demonizing the public interest, property advocates employ a “no harm” technique, denying that the actions of individual landowners have adverse consequences upon the community and its natural environment.⁷⁸ In *Suitum*, for example, the PLF complained that government regulators “never presented any evidence that there would be any environmental harm [to the Lake Tahoe Basin] if Mrs. Suitum is allowed to build the properly constructed modest retirement home of her dreams.”⁷⁹ Similarly, in *Lucas*, the National Association of Home Builders (the “NAHB”) submitted an amicus brief in support of landowner/developer Lucas, denying that the development of certain coastal land would cause any harm.⁸⁰ The NAHB argued, “As the united voice of the home building industry in America, the NAHB cannot let pass the central idea in the legislation before this Court, i.e., that there is something so nefarious about the building of a home that home construction can be condemned as a nuisance.”⁸¹ Although petitioner Lucas developed expensive homes in one of the nation’s wealthiest communities, the NAHB portrayed his actions as both harmless and noble: “In an economic era when people find themselves compelled to seek large packing crates for shelter, there seems something oddly surreal in condemning the construction of homes as a nuisance which is so heinous that it can be prevented without any thought of compensating the landowner.”⁸²

Daily Sun, featuring a photo of a 1933 Nazi book burning in Berlin, with the caption, “Should we let government tell us what we can read? . . . So why should we allow local government to limit where we shop? Or how much of a store’s floor space can be used to sell groceries? . . . Choice is a freedom worth keeping.” See *id.*

⁷⁸ See *infra* notes 79–82 and accompanying text.

⁷⁹ Burling, *supra* note 60. *Contra Tahoe-Sierra*, 535 U.S. at 307–08 (recounting how “[t]he lake’s unsurpassed beauty . . . is the wellspring of its undoing” and noting that the “upsurge of development in the area has caused ‘increased nutrient loading of the lake largely because of the impervious coverage of land in the Basin resulting from that development’”).

⁸⁰ See generally NAHB *Lucas* Brief, *supra* note 75. The parties to the litigation had stipulated to the contrary. In particular, for purposes of the litigation, petitioner Lucas stipulated the following about the subject “beach/dune area of South Carolina’s shores”:

[It] is an extremely valuable public resource; that the erection of new construction contributes, *inter alia*, to the erosion and destruction of this public resource; and that discouraging new construction in close proximity to the beach/dune area is necessary to prevent a great public harm.

Lucas, 505 U.S. at 1022 (quoting *Lucas v. S.C. Coastal Council*, 404 S.E.2d 895, 898 (S.C. 1991)).

⁸¹ NAHB *Lucas* Brief, *supra* note 75, at *4.

⁸² *Id.*

II. *LUCAS V. SOUTH CAROLINA COASTAL COUNCIL*: THROUGH THE EYE OF THE HURRICANE

This Part describes how the U.S. Supreme Court's *environmental cynicism* led it to create a new *total takings* categorical rule in 1992, in *Lucas v. South Carolina Coastal Council*, which is tempered by the *new nuisance* defense.⁸³ Next, it places *Lucas* in a geophysical context, punctuated by Hurricanes Hugo and Katrina, and considers whether the Court would decide *Lucas* differently today in light of new learning on wetlands, hurricanes, and global warming.⁸⁴

A. *The Lucas Rule: Environmental Cynicism*

[R]egulations that leave the owner of land without economically beneficial or productive options for its use—typically, as here, by requiring land to be left substantially in its natural state—carry with them a heightened risk that private property is being pressed into some form of public service under the guise of mitigating serious public harm.

—Justice Antonin Scalia⁸⁵

Lucas represents one of the modern Supreme Court's most important applications of the regulatory takings doctrine. It also illustrates what this Article calls *environmental cynicism*, the Court's inability to appreciate the value of undisturbed nature, and the Court's doubt that the destruction of natural landscapes through development causes measurable harm to neighboring communities.⁸⁶

The facts of *Lucas* are straightforward: The plaintiff/petitioner, David Lucas, claimed that a South Carolina statute limiting development of his beachfront property on the Isle of Palms worked a regulatory taking for which the state owed compensation.⁸⁷ For purposes of the litigation, Lucas conceded that "discouraging new construction in close proximity to the beach/dune area is necessary to prevent a great

⁸³ See *infra* notes 85–120 and accompanying text.

⁸⁴ See *infra* notes 121–151 and accompanying text.

⁸⁵ *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1018 (1992) (emphasis added).

⁸⁶ See generally Richard J. Lazarus, *Restoring What's Environmentally About Environmental Law in the Supreme Court*, 47 UCLA L. REV. 703 (2000) (arguing that the Supreme Court has failed to appreciate environmental law as a distinct area of law during the past three decades).

⁸⁷ *Lucas*, 505 U.S. at 1007. The relevant statute was the South Carolina Beachfront Management Act. See *id.*; S.C. CODE ANN. § 48–39–290(A) (1990) (amended 1990 & 2002). As applied to the Lucas property, the statute "had the direct effect of barring petitioner from erecting any permanent habitable structures on his two parcels." *Lucas*, 505 U.S. at 1007.

public harm.”⁸⁸ However, Lucas convinced the lower court that the challenged development restrictions had rendered his lots “valueless,” a finding the Supreme Court did not disturb.⁸⁹ Under traditional regulatory takings analysis—as outlined by the Supreme Court in 1978, in *Penn Central Transportation Co. v. City of New York*—the severe economic impact to Lucas’s property caused by South Carolina’s regulation might be offset by the critical governmental safety objective it served.⁹⁰ As the *Penn Central* Court suggested in 1978, “a ‘taking’ may more readily be found when the interference with property can be characterized as a physical invasion by government . . . than when interference arises from some public program adjusting the benefits and burdens of economic life to promote the common good.”⁹¹ In holding for the petitioner, the *Lucas* Court declined to apply the traditional *Penn Central* analysis. Instead, the Court created a new *total takings* categorical rule, requiring governments to compensate landowners whenever regulation “deprives land of all economically beneficial use.”⁹²

The Isle of Palms was no ordinary community, rendering *Lucas* a tale of supersized property rights.⁹³ In 2000, the area boasted a median household income eighty-one percent above the national average.⁹⁴ For his part, David Lucas was no ordinary landowner. In 1984, Lucas headed up a development partnership that purchased the Wild Dunes Beach and Racquet Club on the Isle of Palms for \$25 million.⁹⁵ The partnership, Wild Dunes Associates, developed an exclusive 1500-acre gated community that included 2500 residences and vacation homes, two golf courses, and a large marina.⁹⁶ The project made Lucas a wealthy man, generating \$100 million in sales by its second

⁸⁸ *Lucas*, 505 U.S. at 1020.

⁸⁹ *Id.* at 1007, 1009, 1018–19.

⁹⁰ *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978) (identifying several analytical factors of “particular significance,” including “the economic impact of the regulation on the claimant,” “the extent to which the regulation has interfered with distinct investment-backed expectations,” and “the character of the governmental action”).

⁹¹ *Id.*

⁹² *Lucas*, 505 U.S. at 1026–27, 1030.

⁹³ See *infra* notes 94–100 and accompanying text.

⁹⁴ Epodunk.com, Community Profiles, <http://www.epodunk.com/cgi-bin/genInfo.php?locIndex=13199> (last visited Oct. 1, 2007) (citing U.S. Census Bureau’s 2000 Census, which reported the local median household income in Isle of Palms, South Carolina as \$76,170 and the national median household income as \$41,994).

⁹⁵ Vicki Been, *Lucas v. The Green Machine: Using the Takings Clause to Promote More Efficient Regulation?*, in *PROPERTY STORIES* 221, 225 (G. Korngold & A. Morriss eds., 2004).

⁹⁶ *Id.* The golf courses were ranked among the best in the world, and the marina is one of the largest facilities in the southeastern United States. *Id.*

year.⁹⁷ In 1986, Lucas sold off his interest in the partnership.⁹⁸ Just months later, he repurchased for himself two of the last undeveloped beachfront lots for the sum of \$975,000.⁹⁹ The fate of these two lots—severed from some 2500 other lots in the resort—would become the limited focus of the Supreme Court litigation.¹⁰⁰

The Court's environmental cynicism led it to create a new categorical rule of governmental liability, rejecting the state's argument that it had acted to mitigate serious public harm when it refused to approve Lucas's building plans.¹⁰¹ For example, South Carolina presented evidence that undeveloped lands provide valuable protection against coastal storms and hurricanes, and that for "roughly half of the last 40 years, all or part of [the Lucas] property was part of the beach or flooded twice daily"¹⁰² In addition, petitioner Lucas conceded the validity of the statutory purpose, accepting legislative findings that an undisturbed beach/dune zone "protects life and property by serving as a storm barrier which dissipates wave energy and contributes to shoreline stability in an economical and effective manner."¹⁰³ Despite such evidence, the Court accepted the premise that oceanfront lands are

⁹⁷ *Id.* at 225–26.

⁹⁸ *Id.* at 226.

⁹⁹ *Id.*

¹⁰⁰ *See* Been, *supra* note 95, at 226–28. Some have speculated that the bifurcation of the sale and purchase transactions was a strategic decision to frame Lucas's position in more sympathetic terms, should litigation erupt:

Although it is hard to understand why Lucas would have acquired the lots at the high end of fair market value after he had cashed out of the partnership, it's much easier to understand why he might want to describe his acquisition that way if attention were ever focused on the transaction. . . . [I]f one were trying to "position" the transaction for purposes of a subsequent takings lawsuit, it undoubtedly would be preferable to be seen as a "little guy" with just two lots whose value was destroyed than to be cast as a wealthy developer of more than 2500 homes, prevented from building on just two lots.

Id. at 227.

¹⁰¹ *Lucas*, 505 U.S. at 1018–19, 1025.

¹⁰² *Id.* at 1038 (Blackmun, J., dissenting). Justice Blackmun noted in dissent:

The area is notoriously unstable. . . . Between 1957 and 1963, petitioner's property was under water. Between 1963 and 1973, the shoreline was 100 to 150 feet onto petitioner's property. In 1973, the first line of stable vegetation was about halfway through the property. Between 1981 and 1983, the Isle of Palms issued 12 emergency orders for sandbagging to protect property in the Wild Dune[s] development [and a state agency determined] that habitable structures were in imminent danger of collapse.

Id. at 1038–39 (citations omitted).

¹⁰³ *Id.* at 1021 n.10 (majority opinion).

“valueless” in their natural state.¹⁰⁴ The majority dismissed as meaningless legislative findings that coastal development must be regulated to prevent harm to the community, concluding that “[because] such a justification can be formulated in practically every case, this amounts to a test of whether the legislature has a stupid staff.”¹⁰⁵

As it announced its new rule, the Court also sowed the seeds of the rule’s destruction.¹⁰⁶ The Court predicted that the rule would apply in only “extraordinary” or “relatively rare” circumstances.¹⁰⁷ The concurring and dissenting Justices went farther; they doubted even that the new rule applied to the case at bar, describing the lower court’s finding that the development regulation had rendered Lucas’s lots valueless as “curious”¹⁰⁸ and “almost certainly erroneous.”¹⁰⁹ Moreover, the Court was quick to establish a defense to its new rule.¹¹⁰ As Justice Stevens noted wryly in dissent, “Like many bright line rules, the categorical rule established in this case is only ‘categorical’ for a page or two in the U.S. Reports. No sooner does the Court state that ‘total regulatory takings must be compensated,’ than it quickly establishes an exception to that rule.”¹¹¹

B. *The Lucas Defense: New Nuisance as an Evolutionary, Antecedent Inquiry*

The Court tempered its new categorical rule with a governmental defense of apparently limited scope.¹¹² Relying heavily upon judges,

¹⁰⁴ *Id.* at 1007, 1009, 1018–19. The majority stated, “Whether Lucas’s construction of single-family residences on his parcels should be described as bringing ‘harm’ to South Carolina’s adjacent ecological resources thus depends principally upon whether the describer believes that the State’s use interest in nurturing those resources is so important that *any* competing adjacent use must yield.” *Id.* at 1025. *But see id.* at 1065 n.3 (Stevens, J., dissenting) (complaining that “the Court offers no basis for its assumption that the only uses of property cognizable under the Constitution are *developmental* uses”).

¹⁰⁵ *Id.* at 1026 n.12 (majority opinion); *see also id.* at 1010 (suggesting that main legislative goals were to promote tourism and to create natural habitat, rather than to prevent development amounting to a public nuisance).

¹⁰⁶ *See infra* notes 107–111 and accompanying text.

¹⁰⁷ *Lucas*, 505 U.S. at 1017, 1018. Ten years later, the Court clarified that the *Lucas* rule applies to *permanent* regulatory takings only: “*Lucas* carved out a narrow exception to the rules governing regulatory takings for the ‘extraordinary circumstance’ of a permanent deprivation of all beneficial use.” *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg’l Planning Agency*, 535 U.S. 302, 324 n.19 (2002).

¹⁰⁸ *Lucas*, 505 U.S. at 1034 (Kennedy, J., concurring).

¹⁰⁹ *Id.* at 1043–44 (Blackmun, J., dissenting).

¹¹⁰ *Id.* at 1027–32 (majority opinion).

¹¹¹ *Id.* at 1067 (Stevens, J., dissenting) (citation omitted).

¹¹² *See infra* notes 113–120 and accompanying text.

rather than legislators, to establish the proper balance between private rights and the public interest, the Court set forth the *new nuisance* defense that is the focus of this Article:

[R]egulations that prohibit all economically beneficial use of land . . . cannot be newly legislated or decreed (without compensation), but must inhere in . . . the restrictions that background principles of the State's law of property and nuisance already place upon land ownership. A law or decree with such an effect must, in other words, do no more than duplicate the result that could have been achieved in the courts—by adjacent landowners . . . under the State's law of private nuisance, or by the State under its complementary power to abate nuisances that affect the public generally, or otherwise.¹¹³

In traditional nuisance terms the Court explained that “the owner of a lake-bed, for example, would not be entitled to compensation when he is denied the requisite permit to engage in a landfilling operation that would have the effect of flooding others' land.”¹¹⁴ In dissent, Justice Blackmun chastised the Court for its elevation of longstanding judicial judgments above legislative judgments, arguing that “[t]here is nothing magical in the reasoning of judges long dead. They determined a harm in the same way as state judges and legislators do today.”¹¹⁵

The Court added two brief qualifications to its new defense that would prove to be surprisingly beneficial to future government defendants.¹¹⁶ First, the Court explained that to resist compensation, the state must demonstrate that “the logically *antecedent inquiry* into the nature of the owner's estate shows that the proscribed use interests were not part of his title to begin with.”¹¹⁷ This reference to an “antecedent inquiry” would develop into an important affirmative defense for government litigants.¹¹⁸ Moreover, the Court provided a critical reminder that nuisance law is fundamentally *evolutionary*, such that “changed circumstances or new knowledge may make what was previously permissible no longer so.”¹¹⁹ As Justice Kennedy explained in

¹¹³ *Lucas*, 505 U.S. at 1029.

¹¹⁴ *Id.* at 1029.

¹¹⁵ *Id.* at 1055 (Blackmun, J., dissenting).

¹¹⁶ See Michael C. Blumm & Lucas Ritchie, *Lucas's Unlikely Legacy: The Rise of Background Principles as Categorical Takings Defenses*, 29 HARV. ENVTL. L. REV. 321, 322 (2005).

¹¹⁷ *Lucas*, 505 U.S. at 1027 (emphasis added).

¹¹⁸ See *infra* notes 259–275 and accompanying text.

¹¹⁹ *Lucas*, 505 U.S. at 1031.

concurrence, “The State should not be prevented from enacting new regulatory initiatives in response to changing conditions”¹²⁰

C. *The Lucas Bookends: From Hurricane Hugo to Hurricane Katrina*

By viewing *Lucas* through the lens of the region’s recurrent experience with hurricanes, this Section brings the Court’s environmental cynicism into sharp focus.¹²¹ From Hurricane Hugo (1989) to Hurricane Katrina (2005) and beyond, the southeastern United States has been pummeled repeatedly by coastal storms and hurricanes.¹²² The site at issue in *Lucas*—the Isle of Palms, South Carolina—was particularly vulnerable. As a barrier island, the area was “notoriously unstable.”¹²³ As defined by one South Carolina state agency, barrier islands are “tidewater landforms that protect the mainland from the effects of sea storms, [and] are characterized by an ever-changing beach, sand dunes, maritime forest and salt marsh.”¹²⁴

Prior to the 1992 decision in *Lucas*, South Carolina had a long history as a target of deadly storms, including significant activity in 1893, 1916, 1940, 1954 (Hurricane Hazel), 1959 (Hurricane Gracie), and 1989 (Hurricane Hugo).¹²⁵ Just three years prior to the Court’s decision in *Lucas*, Hurricane Hugo had struck the very island in dispute—the Isle of Palms—leading to thirty-five fatalities and over \$7 billion in damage.¹²⁶ Given the seriousness of these storms, the dissenting Justices in *Lucas* would have upheld the application of South Carolina’s protective legislation.¹²⁷ Drawing from “the hard lessons of experience,”¹²⁸ Justice Stevens found that the state’s argument that the “beach/dune sys-

¹²⁰ *Id.* at 1035 (Kennedy, J., concurring). Justice Stevens’s dissenting opinion expanded upon this evolutionary potential, asserting that a new appreciation of the “importance of wetlands and the vulnerability of coastal lands shapes our evolving understandings of property rights.” *Id.* at 1069–70 (Stevens, J., dissenting) (citations omitted).

¹²¹ See *infra* notes 122–151 and accompanying text.

¹²² See *infra* notes 125–126 and accompanying text.

¹²³ See *Lucas*, 505 U.S. at 1038 (Blackmun, J., dissenting).

¹²⁴ S.C. Dep’t of Parks, Recreation & Tourism, Discover Carolina: Life and Death of a Barrier Island—Vocabulary List, <http://www.discovercarolina.com/html/s05nature104a01e.html> (last visited Feb. 4, 2007).

¹²⁵ S.C. STATE CLIMATOLOGY OFFICE, *supra* note 3.

¹²⁶ *Id.*

¹²⁷ See *infra* notes 128–131 and accompanying text.

¹²⁸ Respondent’s Brief on Writ of Certiorari to the Supreme Court of the State of South Carolina at *31, *Lucas v. S.C. Coastal Council*, 424 S.E.2d 484 (S.C. 1992) (No. 91-453), 1992 WL 672613 (arguing that legislative policies regulating coastal development “are not based upon abstract conclusions that building on barrier islands like the Isle of Palms is dangerous to life and property and significantly damaging to the fragile beach/dune system”).

tem [acts] as a buffer from high tides, storm surge, [and] hurricanes” had “much science on its side.”¹²⁹ Likewise, dissenting Justice Blackmun argued that “uncontrolled beachfront development can cause serious damage to life and property” by “destroy[ing] the natural sand dune barriers that provide storm breaks.”¹³⁰ He worried that “beachfront buildings are not only themselves destroyed [by hurricanes], but they are often driven, like battering rams, into adjacent inland homes.”¹³¹

After *Lucas*, the storm pattern continued, both in South Carolina and in the broader southeastern region of the United States.¹³² Less than one month after the Court decided *Lucas*, Hurricane Andrew made landfall along the Gulf Coast of Louisiana and Florida, leading to forty deaths and \$30 billion in property damage.¹³³ Subsequent years witnessed additional deadly storms.¹³⁴ In 2004, nine tropical storms caused over \$42 billion in damage, more than one hundred deaths along the Atlantic coast of the United States, and some three thousand deaths in Haiti.¹³⁵ The 2005 storm season would be even more severe for the United States, when Hurricanes Katrina and Rita struck the Gulf Coast on August 29th and September 24th, respectively.¹³⁶ Hurricane Katrina covered approximately eighty percent of New Orleans with six to twenty feet of water.¹³⁷ The storm resulted in the deaths of 1400 people¹³⁸ and caused \$80 billion in damage.¹³⁹ Hurricane Rita,

¹²⁹ *Lucas*, 505 U.S. at 1075 (Stevens, J., dissenting).

¹³⁰ *Id.* at 1037 n.1 (Blackmun, J., dissenting) (drawing lessons from the deaths and property damage caused by Hurricane Hugo in 1989).

¹³¹ *Id.* (internal quotation marks omitted).

¹³² See *infra* notes 133–141 and accompanying text.

¹³³ *After the Storm: Hurricane Andrew Ten Years Later*, ST. PETERSBURG TIMES, 2002, <http://www.sptimes.com/2002/webspecials02/andrew> (last visited Oct. 1, 2007) (describing Hurricane Andrew’s path across south Florida and Louisiana).

¹³⁴ See *infra* notes 135–141 and accompanying text.

¹³⁵ NAT’L CLIMATIC DATA CTR., U.S. DEP’T OF COMMERCE, CLIMATE OF 2004: ATLANTIC HURRICANE SEASON (2004), <http://www.ncdc.noaa.gov/oa/climate/research/2004/hurricanes04.html> [hereinafter CLIMATE OF 2004].

¹³⁶ NAT’L CLIMATIC DATA CTR., U.S. DEP’T OF COMMERCE, CLIMATE OF 2005: ATLANTIC HURRICANE SEASON (2006), <http://www.ncdc.noaa.gov/oa/climate/research/2005/hurricanes05.html> [hereinafter CLIMATE OF 2005].

¹³⁷ REPORT TO THE PRESIDENT FROM THE ASSISTANT TO THE PRESIDENT FOR HOMELAND SECURITY AND COUNTERTERRORISM, THE FEDERAL RESPONSE TO HURRICANE KATRINA: LESSONS LEARNED 2 (2006), available at <http://purl.access.gpo.gov/GPO/LPS67263>.

¹³⁸ LA. DEP’T OF HEALTH & HOSPITALS, HURRICANE KATRINA, DECEASED REPORTS, <http://www.dhh.louisiana.gov/offices/page.asp?ID=192&Detail=5248> (2006) (counting 1464 deaths in Louisiana from Hurricane Katrina).

¹³⁹ Nat’l Oceanic & Atmospheric Admin. (NOAA), *Noteworthy Records of the 2005 Atlantic Hurricane Season*, NOAA NEWS ONLINE, Apr. 13, 2006, <http://www.noaanews.noaa.gov/stories2005/s2540b.htm> (placing Hurricane Katrina damage at a minimum of \$80 billion).

the fourth “strongest” hurricane ever recorded,¹⁴⁰ caused some \$10 billion in damage.¹⁴¹

Although analysis is ongoing, several lessons have emerged from these disasters.¹⁴² First, wetlands are valuable resources that moderate the impacts of coastal storms and hurricanes.¹⁴³ The General Accounting Office likens wetlands to “speed bump[s], slowing down storms almost as dry land does.”¹⁴⁴ Although not free from dispute, there is evidence that every 2.7 linear miles of coastal wetlands can reduce the height of storm surges by one foot.¹⁴⁵ Second, “natural” disasters such as hurricanes can be exacerbated by human activity.¹⁴⁶ For example, Louisiana and other Gulf States were rendered increasingly vulnerable to hurricanes as coastal wetlands were destroyed.¹⁴⁷ The Congressional Research Service reports that “[i]t is now believed that more than 1.2 million acres [of Gulf Coast] wetlands, an area approximately the size of Delaware, has been converted to open water since the 1930s.”¹⁴⁸

In light of these “changed circumstances” and this “new knowledge,” would the U.S. Supreme Court decide *Lucas* differently today?¹⁴⁹

¹⁴⁰ NOAA, *supra* note 139 (listing Hurricanes Wilma, Rita, and Katrina as “three of the six strongest hurricanes on record”).

¹⁴¹ CLIMATE OF 2005, *supra* note 136 (reporting over \$10 billion in total losses from Hurricane Rita).

¹⁴² See *infra* notes 143–148 and accompanying text. For a compilation of information about Louisiana’s coastal wetlands derived from experts in the field and sponsored by the “America’s Wetland” campaign, see America’s Wetland: Resource Center, <http://www.americaswetlandresources.com> (last visited Oct. 1, 2007).

¹⁴³ See *infra* notes 144–145 and accompanying text.

¹⁴⁴ *Hurricane Katrina: Providing Oversight of the Nation’s Preparedness, Response, and Recovery Activities: Hearing Before the H. Subcomm. on Oversight and Investigations*, 109th Cong. 7 (2005) (statement of Norman, J. Rabkin), available at <http://www.gao.gov/new.items/d051053t.pdf> (noting that wetlands, “once regarded as unimportant areas to be filled or drained . . . are now recognized for [a] variety of important functions . . . including providing flood control by slowing down and absorbing excess water during storms . . . and protecting coastal and upland areas from erosion”).

¹⁴⁵ Bob Sullivan, *Wetlands Erosion Raises Hurricane Risks*, MSNBC.COM, Aug. 29, 2005, <http://www.msnbc.msn.com/id/9118570> (quoting Sidney Coffee, executive assistant to the Governor of Louisiana for coastal activities).

¹⁴⁶ See *infra* notes 147–148 and accompanying text.

¹⁴⁷ Louisiana Sea Grant, Louisiana Hurricane Resources: Barrier Islands & Wetlands, Oct. 10, 2005, available at <http://www.laseagrant.org/hurricane/archive/wetlands.htm> (quoting Rex Caffey, Louisiana Sea Grant College Program, Louisiana State University AgCenter for the proposition that “At a minimum, we can say that the net loss of 1.2 million acres of coastal wetlands has definitely increased the vulnerability and exposure of Louisiana’s critical coastal infrastructure”).

¹⁴⁸ JEFFREY ZINN, CONG. RESEARCH SERV., HURRICANES KATRINA AND RITA AND THE COASTAL LOUISIANA ECOSYSTEM RESTORATION 2 (2005); see also *infra* notes 326–327 and accompanying text.

¹⁴⁹ See *Lucas*, 505 U.S. at 1031.

Some evidence suggests a negative response, indicating that the Court remains skeptical that wetlands function as natural flood control systems, at least in the context of noncoastal, interior wetlands. In its 2006 decision in *Rapanos v. United States*, for example, the Court was disappointingly simplistic—even hostile—in its unwillingness to recognize the national interest in preserving healthy wetland ecosystems.¹⁵⁰ Despite the Supreme Court's continued environmental cynicism, state courts and the lower federal courts appear more willing to incorporate new learning into their background principles of property law and nuisance.¹⁵¹

III. PROPERTY RIGHTS REFORM: *LUCAS* IN HISTORICAL CONTEXT

And so, my fellow Americans: ask not what your country can do for you—ask what you can do for your country.

—President John F. Kennedy¹⁵²

[W]e must be clear about our purposes. The aim here is efficiency, not austerity. . . . Conservation may be a sign of personal virtue, but it is not a sufficient basis all by itself for a sound, comprehensive energy policy.

—Vice President Dick Cheney¹⁵³

Society has long struggled to achieve a balance between individual autonomy and the welfare of the community. From the perspective of the individual, this represents a search for balance between rights and responsibilities, and between personal freedom and sacrifice for the commonwealth. From the perspective of political theory, this repre-

¹⁵⁰ See *Rapanos v. United States*, 126 S. Ct. 2208, 2215 (2006). Although wetland science has become a highly complex area of study, the Court relied upon a dictionary definition of wetlands. See *id.* at 2225.

¹⁵¹ See *infra* notes 244–311 and accompanying text. In a different environmental context, the Supreme Court has changed course in light of new learning about the danger of certain methods of coal extraction. Compare *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 413–16 (1922) (holding Kohler Act worked a regulatory taking, despite asserted public safety purpose of preventing mine-induced subsidence), with *Keystone Bituminous Coal Ass'n v. DeBenedictis*, 480 U.S. 470, 481–93 (1987) (holding state mining regulation does not work a regulatory taking, despite its striking similarity to the Kohler Act), and *M&J Coal Co. v. United States*, 47 F.3d 1148, 1154 (Fed. Cir. 1995) (holding that subsidence control plan was not a taking under *Lucas* nuisance defense). See generally Pa. Dep't of Env'tl. Prot., A Homeowner's Guide to Mine Subsidence, <http://www.dep.state.pa.us/MSIHomeowners/> (last visited Oct. 1, 2007).

¹⁵² President John F. Kennedy, Inaugural Address (Jan. 20, 1961).

¹⁵³ Vice President Dick Cheney, Remarks at the Annual Meeting of the Associated Press, Toronto, Canada (Apr. 30, 2001), available at <http://www.whitehouse.gov/vicepresident/news-speeches/speeches/print/vp20010430.html>.

sents a tension between the visions of government as laissez-faire-protector-of-vested-rights, and government as public-interest-regulator. As discussed in Part I, property advocates have undertaken a highly organized campaign over the past few decades to win public support for stronger individual rights, fewer individual responsibilities, and weaker governmental regulation.¹⁵⁴

This Part places the autonomy/community, rights/responsibilities tension into historical context, noting cycles during which one or the other of the competing philosophies has claimed a position of ascendancy.¹⁵⁵ As a very broad generalization, the discussion identifies the following dominant paradigms of the twentieth century: individualism (1900–1933);¹⁵⁶ communitarianism (1933–1981);¹⁵⁷ and individualism (1981–2000).¹⁵⁸ The discussion reviews the work of two influential scholars of the twentieth century—Charles Reich and Richard Epstein—whose ideas were introduced during the latter two periods, respectively.¹⁵⁹ Both Reich and Epstein used the language of individual “rights” in framing impassioned pleas for social reform and feared the power of the majority to impose its will upon lone individuals.¹⁶⁰ But beyond the common call for increased rights, their philosophies diverged.¹⁶¹ This Part concludes by observing signs of a return to the spirit of community responsibility, coinciding roughly with the end of both the twentieth century and the Rehnquist Court.¹⁶²

A. *The Industrial Revolution: Promoting Individual Rights (1900–1933)*

The rise of the modern industrialized world has dramatically changed the quality of life, in both positive and negative ways. The first wave of the industrial revolution occurred in Great Britain at the end of the 18th century, and by the end of the 19th century, a “second” indus-

¹⁵⁴ See *supra* notes 28–82 and accompanying text.

¹⁵⁵ See *infra* notes 163–243 and accompanying text.

¹⁵⁶ See *infra* notes 163–167 and accompanying text.

¹⁵⁷ See *infra* notes 168–213 and accompanying text.

¹⁵⁸ See *infra* notes 214–224 and accompanying text.

¹⁵⁹ See *infra* notes 183–213, 217–224 and accompanying text.

¹⁶⁰ See *infra* notes 183–213, 217–224 and accompanying text.

¹⁶¹ See *infra* notes 183–213, 217–224 and accompanying text.

¹⁶² See *infra* notes 225–243 and accompanying text. William H. Rehnquist was Chief Justice from September 26, 1986 to September 3, 2005. Supreme Court of the United States, Members of the Supreme Court of the United States, <http://www.supremecourtus.gov/about/members.pdf> (last visited Aug. 2, 2006) [hereinafter *Members of the Supreme Court*].

trial revolution was occurring in the United States.¹⁶³ Overall, America's industrialization spawned a rational, but perhaps over-exuberant embrace of economic and industrial growth, often at the expense of other social values. "Property rights" were of paramount value during this time, even if the rights holder was a vast industry or corporation, rather than an identifiable human being.¹⁶⁴ Popular culture reinforced this preference for autonomy and rights over community and responsibility. For example, the "flapper" society of the 1920s drew support from "the rebellious spirit of jazz" that functioned as an "alternative culture—a sort of anti-law."¹⁶⁵

Many judges of the early twentieth century embraced the new economic and social order with unquestioning faith in the virtue of "progress," zealously protecting individual property and autonomy through substantive due process analysis. As illustrated by the now-discredited 1905 decision in *Lochner v. New York*, the U.S. Supreme Court then looked with distrust upon public interest legislation designed to protect the health, safety, and welfare of laborers by limiting the rights of industrial employers.¹⁶⁶

The case of the developing railroads presents another example of judicial solicitude for the maintenance of industry relatively unfettered by governmental regulation. In articulating the well-known "stop, look, and listen" rule for railroad crossings, Justice Holmes's 1927 observation serves as a metaphor for the march of progress: "When a man goes upon a railroad track he knows that he goes to a place where he will be

¹⁶³ See Glenn Porter, *Industrial Revolution*, in MICROSOFT ENCARTA ONLINE ENCYCLOPEDIA (2007), http://Encarta.msn.com/text_761577952_0/Industrial_Revolution.html.

¹⁶⁴ See, e.g., *Lochner v. New York*, 198 U.S. 45, 64–65 (1905) (reversing conviction of bakery owner for violating labor safety law setting maximum hours for New York bakers), *overruled in part by* *Day-Brite Lighting, Inc. v. Missouri*, 342 U.S. 421 (1952).

¹⁶⁵ See Amy Leigh Wilson, Commentary, *A Unifying Anthem or Path to Degradation?: The Jazz Influence in American Property Law*, 55 ALA. L. REV. 425, 430 (2004) (asserting that "white youths used [jazz] to champion social rebellion and critique stringent adult standards" and that "[d]aring white women, known as 'flappers,' embraced the short bob hairstyle, danced freely, drove cars, and even openly frequented saloons").

¹⁶⁶ *Lochner*, 198 U.S. at 57. The Court indicated little interest in upholding laws "pertaining to the health of the individual engaged in the occupation of a baker," particularly where such laws might hinder economic productivity. *Id.* (concluding that "[clean] and wholesome bread does not depend upon whether the baker works but ten hours per day or only sixty hours a week"). *But see id.* at 70–71 (Harlan, J., dissenting) (claiming that bakery work was then notoriously difficult, involving "a great deal of physical exertion in an overheated workshop," the "constant inhaling of flour dust," and a reduced life span).

killed if a train comes upon him before he is clear of the track. He knows that he must stop for the train, not the train stop for him.”¹⁶⁷

B. *The New Deal and the Great Society: Promoting Community Welfare (1933–1981)*

The Government cannot get along without you [community leaders]. The Federal, State, local Governments can't. The whole period we are going through will come back in the end to individual citizens, to individual responsibility, to private organization, through the years to come.

—President Franklin D. Roosevelt¹⁶⁸

[The Great Society] is a place where the city of man serves not only the needs of the body and the demands of commerce but the desire for beauty and the hunger for community.

—President Lyndon B. Johnson¹⁶⁹

I. Social Legislation to Promote Community Welfare

As industrialization became more widespread, so also did its abuses. As a reaction to the excesses of the first wave of industrialization, the common law of negligence and nuisance evolved as remedies for torts, both direct and indirect.¹⁷⁰ By the end of the nineteenth century, the great leaders of industry—heading powerful railroad, steel, oil, and tobacco corporations—were simultaneously revered as “captains of industry” and scorned as “robber barons.”¹⁷¹ As an anti-

¹⁶⁷ *Balt. & Ohio R.R. Co. v. Goodman*, 275 U.S. 66, 69–70 (1927) (reversing judgment for estate of deceased automobile driver and establishing the rule that travelers must “stop, look, and listen” before crossing the tracks).

¹⁶⁸ President Franklin D. Roosevelt, An Extemporaneous Address Before the 1933 Conference on Mobilization for Human Needs (Sept. 8, 1933), available at <http://newdeal.feri.org/speeches/1933h.htm>.

¹⁶⁹ President Lyndon B. Johnson, Remarks at the University of Michigan (May 22, 1964), available at <http://www.lbjlib.utexas.edu/Johnson/archives.hom/speeches.hom/640522.asp>.

¹⁷⁰ PROSSER AND KEETON ON THE LAW OF TORTS 161, 617 (W. Page Keeton ed., West Publ'g Co. 5th ed. 1984) (1941). The authors observe that the rise of negligence during the first half of the nineteenth century in England “coincided in a marked degree with the Industrial Revolution; and it very probably was stimulated by the rapid increase in the number of accidents caused by industrial machinery, and in particular by the invention of railways.” *Id.* at 161. Nuisance “became fixed in the law as early as the thirteenth century” but, according to the authors, came into sharper focus with the publication of the First Restatement of Torts in 1939. *Id.* at 617; see RESTATEMENT (FIRST) OF TORTS §§ 822–840 (1939).

¹⁷¹ See Judith L. Maute, *Response: The Values of Legal Archaeology*, 2000 UTAH L. REV. 223, 241–42 (describing “the gilded era of robber barons who became fabulously wealthy in

dote to the latter, beginning with the Sherman Antitrust Act of 1890, Congress began to pass legislation to protect the public from anti-competitive behavior.¹⁷²

After the stock market crash of 1929, Congress turned its legislative attention to the restoration of the nation's economic and social wellbeing. During the so-called New Deal era of the 1930s and the presidency of Franklin D. Roosevelt, Congress passed a host of new public interest legislation, including the Social Security Act of 1935¹⁷³ and the Fair Labor Standards Act of 1938.¹⁷⁴

President Roosevelt's social legislation continued during the 1960s, as President Lyndon B. Johnson's "Great Society" program sought to bring an end to poverty and racial injustice.¹⁷⁵ Johnson's initiative led to the passage of the Civil Rights Act of 1964,¹⁷⁶ the Voting Rights Act of 1965,¹⁷⁷ and the creation of Medicare,¹⁷⁸ Medicaid,¹⁷⁹ Head Start,¹⁸⁰ the

railroads, industrial trusts, and industrial expansion"); Henry Morrison Flagler Museum, America's Gilded Age, http://flaglERMuseum.us/html/gilded_age.html (last visited Oct. 1, 2007) (describing the Gilded Age as a time when "[t]he captains of industry and commerce . . . became wealthy beyond what most can imagine today").

¹⁷² The Sherman Antitrust Act of 1890, 26 Stat. 209 (codified as amended at 15 U.S.C. §§ 1-7 (2000 & Supp. IV 2004)); *see also* Debra A. Valentine, Assistant Dir. Int'l Antitrust Div., Fed. Trade Comm'n, The Goals of Competition Law, Prepared Remarks for the Pacific Economic Cooperation Council, Conference on Trade and Competition Policy (May 13-14, 1997), *available at* <http://www.ftc.gov/speeches/other/dvspeech.shtm> (describing the Sherman Act as a congressional response to a "popular outcry" against the robber barons of the Gilded Age).

¹⁷³ Social Security Act of 1935, 49 Stat. 620 (codified as amended at 42 U.S.C.A. §§ 301-1397jj (West 2003 & Supp. 2007)). *See generally* Soc. Sec. Admin., Social Security History, <http://www.socialsecurity.gov/history> (last visited Oct. 1, 2007).

¹⁷⁴ Fair Labor Standards Act of 1938, 52 Stat. 1060 (codified as amended at 29 U.S.C.A. §§ 201-219 (West 1998 & Supp. 2007)). At first, during the so-called "*Lochner* era," the courts struck down many of these public interest statutes under substantive due process review designed to protect economic and property rights. *See, e.g., Lochner*, 198 U.S. at 64-65.

¹⁷⁵ *See The American Presidency: Lyndon Baines Johnson*, in *ENCYCLOPEDIA AMERICANA*, <http://ap.grolier.com/article?assetid=0224340-00> (last visited Oct. 1, 2007) (describing President Johnson's efforts to pass the Voting Rights Act of 1965 and his call for an "unconditional war on poverty"); *see also* The White House, Biography of Lyndon B. Johnson, <http://www.whitehouse.gov/history/presidents/lj36.html> (last visited Oct. 1, 2007).

¹⁷⁶ Civil Rights Act of 1964, Pub. L. No. 88-352, 78 Stat. 253 (codified as amended at 42 U.S.C.A. §§ 2000e-2000e-17 (West 2003 & Supp. 2007)).

¹⁷⁷ Voting Rights Act of 1965, Pub. L. No. 89-110, 79 Stat. 445 (codified as amended at 42 U.S.C.A. §§ 1971-1974e (West 2003 & Supp. 2007)).

¹⁷⁸ Health Insurance for Aged and Disabled, Pub. L. No. 89-97, 79 Stat. 291 (1965) (codified as amended at 42 U.S.C.A. §§ 1395-1395ggg (West 2003 & Supp. 2007)).

¹⁷⁹ Grants for States for Medical Assistance Programs, Pub. L. No. 89-97, 79 Stat. 343 (1965) (codified as amended at 42 U.S.C.A. §§ 1396-1396v (West 2003 & Supp. 2007)).

Job Corps,¹⁸¹ and the Community Action Program.¹⁸² Overall, the period from roughly 1933 to 1981 witnessed the formation of the modern welfare state. During this time, there was an increasing appreciation for the role of the federal government as an agent to promote and protect the public interest.

2. The New Property

As we move toward a welfare state, largess will be an ever more important form of wealth. And largess is a vital link in the relationship between the government and private sides of society. It is necessary, then, that largess begin to do the work of property.

—Charles Reich¹⁸³

During the contagious optimism and idealism of the Great Society era, Charles Reich wrote *The New Property*.¹⁸⁴ From his 1964 vantage point, Reich attempted to describe the emerging “new society.”¹⁸⁵ He focused particularly upon government largess—forms of wealth dispensed by the government to its citizens, including income, benefits, jobs, occupational licenses, franchises, contracts, subsidies, and services.¹⁸⁶ Reich observed that these new government benefits were “steadily taking the place of traditional forms of wealth—forms which are held as private property.”¹⁸⁷ But Reich worried that these new benefits failed to incorporate sufficient safeguards for their recipients. Instead, he feared, the government had broad discretion to withdraw these intangible rights at any time.¹⁸⁸ Reich accepted that the new “pub-

¹⁸⁰ Head Start Programs, Pub. L. No. 97-35, 95 Stat. 499 (1981) (codified as amended at 42 U.S.C. §§ 9831–9852 (2000 & Supp. IV 2004)).

¹⁸¹ Economic Opportunity Act of 1964, Pub. L. No. 88-452, 78 Stat. 508 (establishing, *inter alia*, the Job Corps) (repealed 1981).

¹⁸² Financial Assistance to Community Action Programs and Related Activities, Pub. L. No. 88-452, 81 Stat. 696 (1967) (repealed 1981).

¹⁸³ Reich, *supra* note 14, at 778; *see also* Charles A. Reich, *Beyond the New Property: An Ecological View of Due Process*, 56 BROOK. L. REV. 731, 733 (1990) [hereinafter Reich, *An Ecological View*] (asserting that “in a centrally managed economy, such as we have today, the due process clause gives every person in America a constitutional right to minimum subsistence and housing, to child care, education, employment, health insurance, retirement, and to a clean and healthy natural environment”).

¹⁸⁴ *See generally* Reich, *supra* note 14.

¹⁸⁵ *Id.* at 733.

¹⁸⁶ *Id.* at 734–37.

¹⁸⁷ *Id.* at 733.

¹⁸⁸ *Id.* at 768. Reich noted that “wealth that flows from the government is held by its recipients conditionally, subject to confiscation in the interest of the paramount state,” a result that “resembles the philosophy of feudal tenure.” *Id.* at 768–69.

lic interest state” was part of a “great and necessary movement for reform.”¹⁸⁹ He saw the “revised social contract” as a government promise to protect its citizens from “the extremes of economic dislocation.”¹⁹⁰ And he acknowledged that there was no turning back.¹⁹¹ Overall, however, Reich asserted that the “public interest” had been grossly misinterpreted, thereby distorting the high purposes of the reforms of the New Deal and the Great Society.¹⁹²

To compensate for the insecurity of benefits provided by the emerging welfare state, Reich proposed a solution cloaked in the language of rights and property. He argued not for the abolition of government welfare programs, but instead that individual entitlements under such programs should receive the protections enjoyed by private property.¹⁹³ In sum, he maintained that the conception of government benefits should move from largess to right. Reich more fully developed his views in three subsequent articles: *Beyond the New Property: An Ecological View of Due Process* (1990);¹⁹⁴ *The Liberty Impact of the New Property* (1990);¹⁹⁵ and *Property Law and the New Economic Order: A Betrayal of Middle Americans and the Poor* (1996).¹⁹⁶

Reich’s call for increased property rights may initially appear to be in alignment with the interests of the modern-day property rights movement. From this perspective, *The New Property* might be a precursor to the writings of Richard Epstein and other property rights advo-

¹⁸⁹ Reich, *supra* note 14, at 771.

¹⁹⁰ Charles A. Reich, *Property Law and the New Economic Order: A Betrayal of Middle Americans and the Poor*, 71 CHI.-KENT L. REV. 817, 817 (1996).

¹⁹¹ Reich, *supra* note 14, at 778. Reich wrote, “There can be no retreat from the public interest state. It is the inevitable outgrowth of an interdependent world. An effort to return to an earlier economic order would merely transfer power to giant private governments which would rule not in the public interest, but in their own interest.” *Id.*

¹⁹² *Id.* at 777.

¹⁹³ *Id.* at 771–87. In 1996, Reich summarized the thesis of *The New Property* this way:

[As a result of reform efforts], increased constitutional powers were assumed by the government in return for societal responsibility to the individuals who gave up their economic independence in recognition of the greater efficiency of large organizations. *The New Property* argued that, if the new social contract was to be respected, welfare state protections and benefits for the middle class and the poor must be treated as *entitlements*—a substitute for old forms of property.

Reich, *supra* note 190, at 817.

¹⁹⁴ See generally Reich, *An Ecological View*, *supra* note 183.

¹⁹⁵ See generally Charles A. Reich, *The Liberty Impact of the New Property*, 31 WM. & MARY L. REV. 295 (1990).

¹⁹⁶ See generally Reich, *supra* note 190.

cates.¹⁹⁷ At least three facets of Reich's writing, however, belie this preliminary impression.¹⁹⁸ First, Reich tempered his concern for private property with a firm underpinning of instrumentalism.¹⁹⁹ He was—first and foremost—a champion of society's weakest and most vulnerable members, deploring the inequalities that he observed throughout his life.²⁰⁰ Over twenty-five years after the publication of *The New Property*, Reich asserted passionately:

It is one thing to accept inequality as part of our system, where some enjoy luxury while other lives are comparatively spartan. But what we see today is not the kind of inequality that provides incentive to healthy ambition; it is misery that fills the rest of us with fear and horror. This is too great a punishment for fecklessness or failure; it falls below the line of what any society can morally tolerate.²⁰¹

A persistent critic of the concentration of wealth in the hands of a few,²⁰² Reich claimed, "Ownership' has allowed corporations to become empires, sometimes under the control of a single individual" ²⁰³ Far from favoring the autonomous rights advanced by property advocates, Reich concluded that as a result of economic disparity, "Property law has been turned upside down."²⁰⁴

¹⁹⁷ See *supra* notes 28–82 and accompanying text (discussing the modern property rights movement); *infra* notes 217–224 and accompanying text (discussing Epstein).

¹⁹⁸ See *infra* notes 199–213 and accompanying text.

¹⁹⁹ See *infra* notes 200–204 and accompanying text.

²⁰⁰ See, e.g., Reich, *An Ecological View*, *supra* note 183, at 737 ("Not for a minute should we concede that existence in a cardboard box on a city sidewalk is 'life' in the constitutional sense.").

²⁰¹ *Id.* at 743.

²⁰² Reich, *supra* note 190, at 823 (observing, "[a]s a result of the denial of true ownership to individuals, corporations, along with a small group of very rich individuals, have become the principal owners of the nation's wealth").

²⁰³ *Id.* at 819.

²⁰⁴ *Id.* In *The New Property*, Reich observed that previous reforms:

took away some of the power of the corporations and transferred it to government. In this transfer there was much good, for power was made responsive to the majority rather than to the arbitrary and selfish few. But the reform did not restore the individual to his domain. What the corporation had taken from him, the reform simply handed on to government. . . . Today it is the combined power of government and the corporations that presses against the individual.

Reich, *supra* note 14, at 773. Reich was quick to add that his view was not intended as "anti-institutional," but was simply a call to recognize that "the organizational revolution of the

As a second line of departure from modern property rights advocates, Reich's writings are communitarian rather than individualistic in tone, emphasizing responsibility as well as rights.²⁰⁵ He identified as fundamental the question of "how much responsibility . . . the community [should] take for the protection of the individual."²⁰⁶ In arguing for a broad duty, Reich exclaimed that "there is something grotesquely wrong with a society that denies individual life support while spending billions of dollars of public money on anything else. That even one person should be without shelter while the community's wealth is spent elsewhere is an abomination."²⁰⁷ In emphasizing responsibility as well as rights, he reasoned that society tolerates continued suffering in its midst because "we do not feel responsible ourselves, and we do not feel that society is responsible. . . . It is the premise of non-responsibility that allows us to look the other way."²⁰⁸

Finally, in sharp relief from the distaste for environmental regulation expressed by the modern property rights movement, Reich found a critical relationship between environmental and social wellbeing, believing that "the idea of the individual's property is ecological. . . . Human life developed in organic communities . . . [in which] the individual is not threatened by starvation or lack of shelter unless the entire community is similarly threatened" ²⁰⁹ Reich explained:

The crisis of the natural environment and the crisis of the unprotected individual are similar. . . . The lakes, trees, and wildlife dying from acid rain and the human beings dying on our city streets are alike in that they are victims of an economic system out of control in that it denies and displaces its costs.²¹⁰

The impact of *The New Property* has been profound, although Reich himself was pessimistic that his larger message had been received.²¹¹ Writing thirty years after publication of *The New Property*,

present time has its costs in individual liberty and security that now demand protection." Reich, *supra* note 195, at 305.

²⁰⁵ See *infra* notes 206–208 and accompanying text.

²⁰⁶ Reich, *An Ecological View*, *supra* note 183, at 731; see also *id.* at 733 (suggesting the community should make individual security an absolute, constitutional right "which must be honored ahead of the other goals of society").

²⁰⁷ *Id.* at 739.

²⁰⁸ *Id.* at 744 (suggesting that corrective action, and not blame, is necessary when unacceptable conditions "were created by many different public and private bodies, if not by all of us").

²⁰⁹ *Id.* at 737.

²¹⁰ *Id.* at 734.

²¹¹ See *infra* notes 212–213 and accompanying text.

Reich worried, “The concept of ‘new property’ for the great mass of working Americans has been rejected, and with it the promise of secure economic citizenship.”²¹² In contrast to Reich’s pessimism, supporters and critics alike have cited Reich’s writings hundreds of times, bearing testimony to the enduring legacy of his work, and to its influence upon the way scholars and jurists think about property.²¹³

C. *From New Property to New Nuisance: The Return of Individual Rights (1981–2000)*

[G]reed, for lack of a better word, is good. Greed is right, greed works. Greed clarifies, cuts through, and captures the essence of the evolutionary spirit. Greed, in all of its forms: greed for life, for money, for love, [for] knowledge has marked the upward surge of mankind . . .

—Gordon Gekko, *Wall Street*²¹⁴

By the 1980s, society had cast off the previous generation’s worrisome idealism, replacing it with the pragmatic pursuit of wealth and security. Like the powerful industrialists a century earlier, corporate executives of the period were tempted by opportunities to promote their individual well-being at the expense of the community welfare, a temptation that the popular culture satirized in films such as *Wall Street*.²¹⁵ During this era, Ronald Reagan served as president²¹⁶ and Richard Epstein advanced his property rights philosophy.²¹⁷

Epstein’s writings mark an historical shift from the philosophy of communitarianism to that of individualism. His work—which resonated with the Reagan era’s antipathy toward governmental regula-

²¹² Reich, *supra* note 190, at 819. Reich bemoaned, “Thirty years later, it is clear that the law has failed to protect the economic citizenship of individuals. After a few important but tentative steps, including *Goldberg v. Kelly*, the law has turned against the whole concept of individual economic rights.” *Id.* (citing *Goldberg v. Kelly*, 397 U.S. 254, 262 n.8 (1970) (requiring pretermination evidentiary hearing prior to the discontinuance of public assistance payments to welfare recipients, and citing with approval to the writings of Reich)).

²¹³ See *supra* note 15 and accompanying text; see also HOWARD, *supra* note 28, at 124–25 (asserting that rights “became a fad,” critically noting that “Reich got his wish” as expressed in *The New Property*).

²¹⁴ WALL STREET (Twentieth Century Fox 1987). In the film *Wall Street*, Gordon Gekko, a ruthless corporate raider played by Michael Douglas, advises a young Wall Street stockbroker how to achieve success in the corporate world of the 1980s. See *id.*

²¹⁵ See *id.*

²¹⁶ See The White House, Biography of Ronald Reagan, <http://www.whitehouse.gov/history/presidents/rr40.html> (last visited Oct. 1, 2007) [hereinafter Biography of Reagan].

²¹⁷ See generally EPSTEIN, *supra* note 30. Epstein’s most prominent work, *Takings: Private Property and the Power of Eminent Domain*, was published in 1985. See generally *id.*

tion²¹⁸—formed the intellectual blueprint for the modern property rights movement.²¹⁹ Whereas Reich saw a societal problem of nonresponsibility and looked for ways to employ the “community’s wealth” in the public interest, Epstein advanced a notion of property rights under which individuals should not be forced to bear community burdens.²²⁰ Epstein saw the state “not [as] the source of individual rights or of social community” but as a vehicle that acts “solely in response to the demands to preserve order.”²²¹

Epstein’s views influenced the Supreme Court, most notably in 1992, in *Lucas v. South Carolina Coastal Council*,²²² where the Court limited the permissible scope of uncompensated government regulation in certain cases to a seemingly narrow “new nuisance” defense.²²³ In contrast to Reich’s concern for the rights of society’s weakest members, the property reforms that Epstein championed (and echoed in *Lucas*) would cast a wider net, strengthening the rights of rich and poor alike.²²⁴

D. *From Lucas to Lingle: The Return of Community Safeguards?*

After *Lucas*, the U.S. Supreme Court decided six additional regulatory takings cases²²⁵ before the era of the Rehnquist Court came to a

²¹⁸ See generally Biography of Reagan, *supra* note 216 (stating that Ronald Reagan, President from 1981–89, sought to reduce reliance upon government).

²¹⁹ See *supra* notes 30–32 and accompanying text.

²²⁰ See *supra* notes 205–208 and accompanying text (discussing Reich’s philosophy); see also EPSTEIN, *supra* note 30, at 265. Epstein contends that:

[z]oning stands in stark contrast to a system of private property, which allows a single owner (within the confines of the nuisance limitation) to decide how to use his plot of land. Where property rights are enforced, owners can make choices on efficient land use without having to overcome the conundrums of collective choice.

Id.

²²¹ See EPSTEIN, *supra* note 30, at 333–34.

²²² See *supra* note 31 and accompanying text.

²²³ See *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1027–32 (1992); see *supra* notes 85–120 and accompanying text.

²²⁴ See, e.g., *supra* notes 95–100 and accompanying text (discussing application of Epsteinian philosophy to David Lucas, a wealthy land developer).

²²⁵ See generally *San Remo Hotel, L.P. v. City of San Francisco*, 545 U.S. 323 (2005); *Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528 (2005); *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg’l Planning Agency*, 535 U.S. 302 (2002); *Palazzolo v. Rhode Island*, 533 U.S. 606 (2001); *Suitum v. Tahoe Reg’l Planning Agency*, 520 U.S. 725 (1997); *Dolan v. City of Tigard*, 512 U.S. 374 (1994).

close in 2005.²²⁶ Arguably, the cases indicate a renewed concern for the public interest served by land use and other environmental regulations, thereby beginning to restore the balance between individual rights and community welfare.²²⁷

Two of the six post-*Lucas* cases are particularly instructive. In *Tahoe-Sierra Preservation Council v. Tahoe Regional Planning Agency*, six members of the Court refused to hold that a total ban on development for thirty-two months—during which the community finalized its comprehensive land use plan—required compensation as a *total taking* under *Lucas*.²²⁸ Instead, the Court insisted that the delay suffered by the landowners was but one factor to be measured against the competing public interest:

Our jurisprudence involving condemnations and physical takings is as old as the Republic and, for the most part, involves the straightforward application of *per se* rules. Our regulatory takings jurisprudence, in contrast, is of more recent vintage and is characterized by essentially ad hoc, factual inquiries, designed to allow careful examination and weighing of all the relevant circumstances.²²⁹

This renewed focus upon the public interest was reinforced just three years later, in *Lingle v. Chevron U.S.A., Inc.*²³⁰ In that case, a unanimous Supreme Court reversed course, rejecting its prior statement that government regulators bear the burden of demonstrating that certain land use regulations “substantially advance legitimate state interests.”²³¹ Explicitly uncoupling the analytical framework of

²²⁶ See Members of the Supreme Court, *supra* note 162. Following the death of Chief Justice William H. Rehnquist, John G. Roberts, Jr. was appointed the seventeenth Chief Justice of the Supreme Court on September 29, 2005. *Id.* On January 31, 2006, Samuel A. Alito, Jr. assumed the associate justice position vacated by the retiring Justice Sandra Day O'Connor. *Id.*

²²⁷ See generally Richard J. Lazarus, *The Measure of a Justice: Justice Scalia and the Faltering of the Property Rights Movement Within the Supreme Court*, 57 HASTINGS L.J. 759 (2006).

²²⁸ *Tahoe-Sierra*, 535 U.S. at 332 (Stevens, J., joined by O'Connor, Kennedy, Souter, Ginsburg, and Breyer, JJ.).

²²⁹ *Id.* at 322 (citations and internal quotation marks omitted); see also Lazarus, *supra* note 227, at 819 (concluding that after *Tahoe-Sierra*, *Lucas*'s “precedential reach became almost a nullity”).

²³⁰ 544 U.S. at 540–45.

²³¹ See *id.*; see also *Agins v. City of Tiburon*, 447 U.S. 255, 260–61 (1980) (imposing requirement in context of development exaction), *abrogated by Lingle*, 544 U.S. at 540–45.

regulatory takings from that of substantive due process,²³² the Court relieved the government of a heightened burden of proof, restoring a measure of balance to the analysis developed in 1978, in *Penn Central Transportation Co. v. City of New York*.²³³ The Court acknowledged that the “substantially advances” detour had been an analytical mistake, and conceded that it must “eat crow” to correct its error.²³⁴

After an initial period of flux, a similar pattern of regulatory tolerance emerged from the post-*Lucas* decisions of the U.S. Court of Appeals for the Federal Circuit.²³⁵ In the immediate aftermath of *Lucas*, the Federal Circuit interpreted *Lucas* as signaling a “sea change” favorable to the property rights of landowners.²³⁶ Under this view, the government’s defense in all regulatory takings cases—extending beyond the narrow universe of *Lucas* total-takings cases—was restricted to background principles of nuisance and property law.²³⁷ As a result, *Penn Central*’s wide-ranging balancing of regulatory benefits and burdens was replaced with a cramped sphere of acceptable government action.²³⁸ For example, in *Loveladies Harbor, Inc. v. United States*, the Federal Circuit affirmed the lower court’s finding that the prohibition of construction in a wetland constituted a regulatory taking.²³⁹ The court explained:

The effect, then, of *Lucas* was to dramatically change the third criterion [of the *Penn Central* analysis], from one in which courts . . . were called upon to . . . balanc[e] . . . private property rights against state regulatory policy, to one in which state property law, incorporating common law nuisance doctrine, controls. This sea change removed from regulatory takings

²³² *Lingle*, 544 U.S. at 540 (explaining that the “substantially advances” [test] . . . prescribes an inquiry in the nature of a due process, not a takings test, and . . . it has no proper place in our takings jurisprudence”).

²³³ *See id.* at 540–45.

²³⁴ Transcript of Oral Argument at 21, *Lingle*, 544 U.S. 528 (No. 04–163) (remarks of Justice Scalia).

²³⁵ *See infra* notes 236–243 and accompanying text; *see also* 28 U.S.C. §§ 1346, 1491 (2000) (providing U.S. Court of Federal Claims exclusive jurisdiction in cases involving over \$10,000, and sharing concurrent jurisdiction with the federal district courts for regulatory takings claims not exceeding \$10,000).

²³⁶ *Loveladies Harbor, Inc. v. United States*, 28 F.3d 1171, 1179 (Fed. Cir. 1994), *abrogated by* *Bass Enters. Prod. Co. v. United States*, 381 F.3d 1360 (Fed. Cir. 2004).

²³⁷ *See id.*

²³⁸ *See id.*

²³⁹ *Id.* at 1173, 1183.

the vagaries of the balancing process. . . . It substituted instead a referent familiar to property lawyers everywhere²⁴⁰

The Federal Circuit's aggressive interpretation of property rights under *Lucas* endured for a decade.²⁴¹ In 2004, however, the Circuit announced its "return to the pre-*Lucas* evaluation of the 'character of the Government actions' factor [of *Penn Central*]."²⁴² Thereafter, the court noted, it would adopt a "gestalt approach," evaluating both the purpose and desired effect of governmental regulation.²⁴³ As a result, the Federal Circuit removed its judicial thumb from the "individual rights" side of the individual-community balancing scale.

IV. WHAT'S NEW ABOUT NUISANCE? THE AFTERMATH OF *LUCAS*

[T]he Lucas legacy represents one of the starkest recent examples of the law of unintended consequences.

—Michael C. Blumm & Lucas Ritchie²⁴⁴

To the extent . . . that takings law has perceptibly shifted since the Court's 1978 Penn Central ruling, it has arguably become more and not less difficult for regulatory takings plaintiffs to prevail. . . . What Scalia [through Lucas] hoped to serve as a per se takings rule proves, in its practical operation, to work more often as a per se no takings rule.

—Richard J. Lazarus²⁴⁵

This Part will trace the post-*Lucas* development of the law of *new nuisance*.²⁴⁶ In broad strokes, the discussion will consider the evolution of the "antecedent inquiry,"²⁴⁷ as well as the "changed circumstances or new knowledge" contemplated by the U.S. Supreme Court in 1992,

²⁴⁰ *Id.* at 1179; *see also* *Palm Beach Isles Assocs. v. United States*, 231 F.3d 1354, 1358 (Fed. Cir. 2000) (characterizing the *Loveladies* analysis as a *Penn Central* test with a "*Lucas* gloss").

²⁴¹ *See Bass*, 381 F.3d at 1369 (describing the Circuit's position from *Loveladies*, decided in 1994, to *Palm Beach Isles Associates*, decided in 2000).

²⁴² *Id.* at 1370.

²⁴³ *Id.*; *see also* *Maritrans Inc. v. United States*, 342 F.3d 1344, 1356 (Fed. Cir. 2003) (noting that courts should "consider the purpose and importance of the public interest underlying a regulatory imposition").

²⁴⁴ Blumm & Ritchie, *supra* note 116, at 322.

²⁴⁵ Lazarus, *supra* note 227, at 823–24.

²⁴⁶ *See infra* notes 247–311 and accompanying text.

²⁴⁷ *See Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1027 (1992); *supra* note 117 and accompanying text.

in *Lucas v. South Carolina Coastal Council*.²⁴⁸ This analysis will set the stage for Part V's application of new nuisance doctrine to three specific environmental problems: wetland development, sprawling land use patterns, and global warming.²⁴⁹

The first draft of this Part produced a workmanlike, methodical cataloguing of the extent to which new scientific learning has been incorporated into the *Lucas* defense. As reported by Michael Blumm and Lucus Ritchie, *Lucas* left a legacy surprisingly favorable to governmental defendants in the form of a new defense that proved to be categorical in nature.²⁵⁰ Beyond confirming that discovery, my subsequent work on the manuscript uncovered a second unexpected development—*Lucas* may have contributed to a spillover effect, reinvigorating the use of nuisance in its traditional *offensive* tort posture, outside the context of a *defense* to regulatory takings claims.²⁵¹ That is, as new ecological and other learning began to connect the dots between cause and effect, more aggressive nuisance claims became viable.²⁵²

Third, yet another analytical surprise took shape, this time in the factual context of climate change.²⁵³ As California enacted state legislation on global warming, property rights advocates were largely silent.²⁵⁴ The regulatory takings challenges that I had anticipated did not materialize.²⁵⁵ Instead, many in the regulated community acquiesced, with some even calling for broad federal regulation.²⁵⁶ Can this reaction be attributed, at least in part, to *Lucas*? Part IV considers this possibility.²⁵⁷ In addition, it describes in more detail the progression of new nuisance law from *Lucas* defense, to common law offense, and beyond to catalyst for legislative action.²⁵⁸

²⁴⁸ See *Lucas*, 505 U.S. at 1031; see also *supra* notes 119–120 and accompanying text.

²⁴⁹ See *infra* notes 312–536 and accompanying text.

²⁵⁰ See Blumm & Ritchie, *supra* note 116, at 332; *infra* notes 266–268 and accompanying text.

²⁵¹ See *infra* notes 388–393, 438–443, 473–502 and accompanying text.

²⁵² See *infra* notes 285–311 and accompanying text.

²⁵³ See *infra* notes 460–461 and accompanying text.

²⁵⁴ See *infra* notes 460–461 and accompanying text.

²⁵⁵ See *infra* notes 460–461 and accompanying text. The acceptance, of course, was not uniform, as witnessed by legal challenges based upon nontakings theories such as preemption. See *infra* notes 464–466 and accompanying text.

²⁵⁶ See *infra* notes 523–527 and accompanying text.

²⁵⁷ See *infra* notes 281–283 and accompanying text.

²⁵⁸ See *infra* notes 259–283 and accompanying text.

A. *The New Posture: From Defense, to Offense, to Legislative Catalyst*

1. New Nuisance as Defense

Lucas made clear that the new nuisance rule functions as an affirmative defense to governmental liability in cases where regulation deprives property of all economically beneficial use.²⁵⁹ Procedurally, the Court explained, the defense should be considered as part of an “*antecedent inquiry* into the nature of the owner’s estate,” during which the government bears the burden of “show[ing] that the proscribed use interests were not part of [the landowner’s] title to begin with.”²⁶⁰ In bearing its burden, the government may go beyond traditional public and private nuisance, relying also upon “background principles of the State’s law of property.”²⁶¹ Concurring Justice Kennedy emphasized that in his view the defense should be construed broadly, arguing that “the common law of nuisance is too narrow a confine for the exercise of regulatory power in a complex and interdependent society.”²⁶² Following this view, lower courts have recognized a wide variety of takings defenses embedded in state nuisance and property law,²⁶³ both common law and statutory.²⁶⁴

As the lower courts have worked through the ramifications of the *Lucas* defense, at least two important developments have followed.²⁶⁵ First, as Blumm and Ritchie have noted, in some cases *Lucas*’s landowner-friendly categorical rule of liability has given way to a regulator-friendly categorical defense:

[R]ather than heralding in a new era of landowner compensation or government deregulation, *Lucas* instead spawned a surprising rise of categorical defenses to takings claims in

²⁵⁹ *Lucas*, 505 U.S. at 1027–30.

²⁶⁰ *Id.* at 1027 (emphasis added).

²⁶¹ *Id.* at 1029.

²⁶² *Id.* at 1035 (Kennedy, J., concurring).

²⁶³ See Blumm & Ritchie, *supra* note 116, at 367 (concluding that “over the past twelve years, nearly a dozen distinct categories of *Lucas*-inspired threshold defenses have been proposed to and subsequently employed by lower courts to reject takings claims”). The authors believe this regulation-friendly trend is likely to continue. *Id.* at 364–65 (“Because many [*Lucas*] defenses are a product of state law, it does not seem likely that the Supreme Court . . . could arrest this proliferation, even if it wanted to do so.”).

²⁶⁴ *Id.* at 354–59 (observing that “[a]lthough Justice Scalia’s *Lucas* majority opinion cautioned against employing legislatively decreed background principles, many post-*Lucas* courts have sided with Justice Kennedy’s *Lucas* concurrence to hold that state and federal statutes may function as a threshold bar to takings challenges”).

²⁶⁵ See *infra* notes 266–275 and accompanying text.

which governments can defeat compensation suits without case-specific inquiries into the economic effects and public purposes of regulations. *Lucas* accomplished this by establishing the prerequisite that a claimant must first demonstrate that its property interest was unrestrained by prior restrictions.²⁶⁶

The government's defense becomes categorical primarily in cases where it rests upon background principles of property (such as the public trust doctrine, the natural use doctrine, the navigational servitude, customary rights, water law principles, the wildlife trust, and Indian treaty rights),²⁶⁷ rather than upon principles of nuisance.²⁶⁸

Second, although *Lucas* contemplates an antecedent inquiry into the landowner's property interest only in the case of *total takings*,²⁶⁹ lower courts have begun to put landowner property interests under the microscope in all takings cases.²⁷⁰ As a result, the principle question in a traditional takings analysis—*did the government go too far?*²⁷¹—has been postponed until after consideration of the antecedent question, *did the landowner go too far?*²⁷² In practical terms, this may have leveled the playing field between public and private interests. It might also defuse the modern one-sided rhetoric of rights that portrays landowners as the victims of governmental regulators, without regard for important community values that government regulations may protect.²⁷³ As a result of this preliminary opportunity to state their case, regulators can now defeat takings liability during the early stages

²⁶⁶ Blumm & Ritchie, *supra* note 116, at 322.

²⁶⁷ *Id.* at 341–54 (describing background principles of property law that have been, or may be, employed to defeat takings challenges).

²⁶⁸ *Id.* at 334 n.75 (noting that nuisance remains inherently a balancing test).

²⁶⁹ As *Lucas* explained:

The “total taking” inquiry we require today will ordinarily entail . . . analysis of, among other things, the degree of harm to public lands and resources, or adjacent private property, posed by the claimant’s proposed activities, the social value of the claimant’s activities and their suitability to the locality in question, and the relative ease with which the alleged harm can be avoided through measures taken by the claimant and the government (or adjacent private landowners) alike.

Lucas, 505 U.S. at 1030–31 (citations omitted).

²⁷⁰ See Blumm & Ritchie, *supra* note 116, at 322 (asserting that “[i]n effect, the *Lucas* decision fundamentally revised all takings analysis by making the nature of the landowner’s property rights a threshold issue in every takings case”).

²⁷¹ See *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922).

²⁷² See Blumm & Ritchie, *supra* note 116, at 322.

²⁷³ See *supra* notes 28–82 and accompanying text.

of litigation by demonstrating that the landowner never had the unfettered right to engage in the regulated activity.²⁷⁴ In such cases, courts need not address the additional *Penn Central* factors that may favor landowners, including the degree of interference with reasonable, investment-backed expectations, and the economic impact of the challenged regulation.²⁷⁵

2. New Nuisance as Offense

By focusing attention upon the traditional doctrine of nuisance, *Lucas* breathed new life into an old body of law, turning it into an important governmental defense.²⁷⁶ Moreover, this attention to defensive nuisance may have triggered a renewed appreciation of the doctrine's usefulness in its more common offensive posture.²⁷⁷ It is impossible to demonstrate a precise cause-and-effect relationship between *Lucas* and subsequent affirmative nuisance actions. Nevertheless, it is noteworthy that a number of novel nuisance lawsuits were filed in the fifteen years following *Lucas*.²⁷⁸ Among these are public nuisance claims filed against nontraditional defendants—the manufacturers of products such as guns, lead paint, tobacco, and gasoline.²⁷⁹ Post-*Lucas* lawsuits have also alleged nontraditional harms, such as the loss of a subsistence fishing lifestyle caused by an Alaskan oil spill,²⁸⁰ or warming of the global climate caused by the emission of carbon dioxide from electrical utilities.²⁸¹

²⁷⁴ See *supra* notes 259–272 and accompanying text.

²⁷⁵ *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978).

²⁷⁶ See *supra* notes 259–275 and accompanying text.

²⁷⁷ See Louise A. Halper, *Untangling the Nuisance Knot*, 26 B.C. ENVTL. AFF. L. REV. 89, 91 (1998) (asserting that the law of regulatory takings has “restored” the law of nuisance “to the agenda of regulators, legislators, and planners”); *infra* notes 278–281 and accompanying text. But see Denise E. Antolini, *Modernizing Public Nuisance: Solving the Paradox of the Special Injury Rule*, 28 ECOLOGY L.Q. 755, 759 (2001) (describing how the “special injury rule” substantially limits the utility of the public nuisance cause of action).

²⁷⁸ See *infra* notes 279–281 and accompanying text.

²⁷⁹ See Victor E. Schwartz & Phil Goldberg, *The Law of Public Nuisance: Maintaining Rational Boundaries on a Rational Tort*, 45 WASHBURN L.J. 541, 543 (2006) (describing the targets of recent public nuisance claims).

²⁸⁰ See *Alaska Native Class v. Exxon Corp.*, 104 F.3d 1196, 1198 (9th Cir. 1997) (rejecting plaintiffs' public nuisance claim for failure to demonstrate that they suffered a special injury different in kind from all citizens of Alaska).

²⁸¹ See *Connecticut v. Am. Elec. Power Co.*, 406 F. Supp. 2d 265, 274 (S.D.N.Y. 2005) (dismissing action as nonjusticiable political question), *appeal docketed*, No. 05–5104 (2d Cir. Sept. 22, 2005); *infra* notes 488–493.

3. New Nuisance as Legislative Catalyst

The new interest in both defensive and offensive nuisance—as triggered by *Lucas*—may serve to clarify the relationship between development activity and negative environmental consequences. As courts recognize connections between cause and effect, actors may become more cognizant of their potential liability for actions that harm wetlands, disrupt natural environments, and release greenhouse gases into the atmosphere.²⁸² As legal precedent and new learning evolve—and as liability becomes more likely—the industry decision-making process will undoubtedly respond.²⁸³

At some undefined tipping point, it may become more cost effective for the regulated community to shape, rather than resist, legislation.²⁸⁴ As a result, industry may find it more favorable to engage in the development of comprehensive federal legislation than to initiate numerous individual takings lawsuits or to comply with a variety of state laws. Moreover, some entrepreneurial actors may come to embrace federal legislation as a consistent baseline that creates a potentially profitable market for technological innovation. Those who adapt first may find lucrative opportunities to develop compliance tools that others may adopt.

²⁸² See *infra* notes 285–311, 319–333, 401–423, 445–457 and accompanying text.

²⁸³ See *infra* notes 523–532 and accompanying text.

²⁸⁴ Dean Scott, *Boucher Tells Coal Industry Bill Is Coming; Pelosi, Dingell End Dispute over Select Panel*, 38 ENV'T REP. 302, 302 (Feb. 9, 2007) (describing a warning by the head of a House of Representatives energy subcommittee to the coal industry that “federal legislation limiting greenhouse gas emissions is inevitable and [the coal industry] would be better off working with Congress on a proposal than risk facing a more stringent bill from the next administration”).

B. *The New Learning: Environmental Connectivity*

[C]hanged circumstances or new knowledge may make what was previously permissible no longer so.

—Justice Antonin Scalia²⁸⁵

New appreciation of the significance of endangered species, the importance of wetlands, and the vulnerability of coastal lands shapes our evolving understandings of property rights.

—Justice John Paul Stevens²⁸⁶

The contemporary emphasis on rights rather than responsibility has skewed the current perception of the natural world. In particular, community efforts to protect the environment have been construed as “taking” something away from regulated actors, but there has been little serious consideration of whether individual development activities may also “take” something away from the community. As science reveals more about the ecological consequences of human development activity, it becomes apparent that just as public interest regulation may adversely impact certain developers, so also may those developers have adverse impacts upon their neighbors.²⁸⁷ The doctrine of regulatory takings has been slow to recognize this two-way relationship. In theory, traditional takings law has long recognized a nuisance exception under which landowners are not entitled to compensation when they are precluded from using their land to create a nuisance.²⁸⁸ In actual practice, however, some modern courts have been reluctant to recognize that everyday development activities may actually harm the community in a nuisance-like fashion.²⁸⁹

²⁸⁵ *Lucas*, 505 U.S. at 1031; see also Reich, *An Ecological View*, *supra* note 183, at 744 (concluding that “[t]he environmental principle should warn us that, because all life is interconnected, none of us can escape the consequences of suffering in our midst”).

²⁸⁶ *Lucas*, 505 U.S. at 1069–70 (Stevens, J., dissenting) (citations omitted).

²⁸⁷ See *infra* notes 319–333, 339–423, 445–457 and accompanying text.

²⁸⁸ See, e.g., *Goldblatt v. Hempstead*, 369 U.S. 590, 594 (1962) (requiring no compensation where law impeded quarry operation in residential area); *Miller v. Schoene*, 276 U.S. 272, 279–80 (1928) (requiring no compensation where government ordered destruction of diseased cedar trees to protect neighboring orchards); *Hadacheck v. Sebastian*, 239 U.S. 394, 411–12 (1915) (requiring no compensation where ordinance prohibited operation of a brick yard within city limits); *Mugler v. Kansas*, 123 U.S. 623, 664 (1887) (requiring no compensation where law prohibited manufacture of alcoholic beverages).

²⁸⁹ See *Lucas*, 505 U.S. at 1024 (reasoning that “the distinction between ‘harm-preventing’ [without compensation] and ‘benefit-conferring’ [requiring compensation] regulation is often in the eye of the beholder” and concluding that “[i]t is quite possible to describe in

Despite this judicial skepticism, modern scholarship has begun to identify the correlation between action and consequence.²⁹⁰ In particular, some scholars have begun to recognize what this Article calls *environmental connectivity*, the inverse relationship between the development of land (and the use of other natural resources) and community welfare. This body of work moves beyond the traditional narrative under which the land developer “gives” (jobs and other benefits) and the government “takes,” recognizing instead a bilateral relationship.²⁹¹ At least three broad theoretical aspects of this literature are particularly relevant to the issue of regulatory takings.²⁹²

First, the field of law and economics has developed the concept of “externalities,” the recognition that actions often have outside consequences not fully borne, or even considered, by the actors.²⁹³ As long as these externalities remain unidentified, actors are able to escape responsibility for some of the negative consequences of their actions, and fail to receive recognition for the full scope of the benefits of their actions. The spillover of costs and/or benefits is instead borne by the public. Government, therefore, must carefully identify the complete range of externalities flowing from a particular action before it can fashion any effective system of regulations, incentives, or rewards. In other words, it is a proper role of government to “internalize” externalities,²⁹⁴ thereby requiring actors to absorb the negative impacts of their actions, rather than to foist them onto the community.

A second aspect of the new learning specifically applies the economic theory of externalities to the law of regulatory takings.²⁹⁵ Contrary to the conventional wisdom—which begins with a concern for fairness to landowners—some modern scholars have emphasized fairness to communities. For example, an article in the *Yale Law Journal* entitled *Givings* examines the positive externalities of numerous government programs, ranging from zoning changes beneficial to certain property owners, to relaxation of environmental regulations, to the

either fashion the ecological, economic, and aesthetic concerns that inspired the South Carolina legislature in the present case”).

²⁹⁰ See *infra* notes 293–311 and accompanying text.

²⁹¹ See *infra* notes 293–311 and accompanying text.

²⁹² See *infra* notes 293–311 and accompanying text.

²⁹³ See generally R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1 (1960).

²⁹⁴ See, e.g., Harold Demsetz, *Towards a Theory of Property Rights*, 57 AM. ECON. REV. 347, 347 (1967).

²⁹⁵ See *infra* notes 296–302 and accompanying text.

granting of licenses.²⁹⁶ Restating traditional takings doctrine from the perspective of the community, the authors argue:

[I]t is inequitable to bestow a benefit upon some people that, in all fairness and justice, should be given to the public as a whole. In a giving, a small group is able to force the public as a whole to subsidize the group's preferential treatment. For example, when the state permits logging companies to chop down trees in national forests for lumber, it is forcing the public as a whole to surrender natural resources for the private profit of the logging companies.²⁹⁷

Asserting that "takings and givings are so inextricably related that one cannot have a coherent takings jurisprudence without an attendant giving jurisprudence,"²⁹⁸ the authors construct an elaborate model for identifying, assessing, and collecting fair charges for givings.²⁹⁹ As an alternative method to promote an evenhanded application of the takings doctrine, some scholars use the language of "rights," recognizing the rights of communities (as "receptors"), as well as the rights of property owners (as "generators").³⁰⁰ In the context of pollution, these scholars argue that the law should focus upon the property rights of receptors of pollutants, rather than the generators of pollution.³⁰¹ They conclude that the present system "effectively subsidize[s] polluters by permitting them to deposit waste into public and private property and to use the population as test subjects while unconstitutionally taking their property rights."³⁰²

A third strand of modern learning studies and quantifies the numerous benefits produced by healthy ecosystems.³⁰³ Stanford con-

²⁹⁶ Abraham Bell & Gideon Parchomovsky, *Givings*, 111 YALE L.J. 547, 550 (2001).

²⁹⁷ Compare *id.* at 554, with *Armstrong v. United States*, 364 U.S. 40, 49 (1960) (explaining that the takings clause prevents the government from "forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole").

²⁹⁸ Bell & Parchomovsky, *supra* note 296, at 552.

²⁹⁹ *Id.* at 604–08.

³⁰⁰ Robert H. Cutting, "One Man's Ceiling Is Another Man's Floor": *Property Rights as the Double-Edged Sword*, 31 ENVTL. L. 819, 819 (2001); Robert H. Cutting & Lawrence B. Cahoon, *Thinking Outside the Box: Property Rights as a Key to Environmental Protection*, 22 PACE ENVTL. L. REV. 55, 56 (2005).

³⁰¹ Cutting, *supra* note 300, at 819; Cutting & Cahoon, *supra* note 300, at 56.

³⁰² Cutting & Cahoon, *supra* note 300, at 55; see also Joseph L. Sax, *Essay: Why America Has a Property Rights Movement*, 2005 U. ILL. L. REV. 513, 513–14; Joseph L. Sax, *Understanding Transfers: Community Rights and the Privatization of Water*, 1 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 13, 14–15 (1994).

³⁰³ See *infra* notes 304–311 and accompanying text.

servation biologist Gretchen Daily and others conducted pioneering research in “ecosystem services,” observing that “environments of interacting plants, animals, and microbes . . . can be seen as capital assets, supplying human beings with a stream of services that sustain and enhance our lives.”³⁰⁴ Their work seeks to measure, capture, and protect the newly discovered values before they are lost.³⁰⁵ Ecosystem services can provide a broad range of benefits to society, often quite unexpected.³⁰⁶ For example, Richard Louv’s 2005 book, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*, argues that the modern alienation from nature—termed “nature-deficit disorder”—damages children, and that exposure to nature could provide a therapy for depression, obesity, and attention-deficit disorder.³⁰⁷ A related body of work studies “natural capital,” defined as “the stock that yields the flow of natural resources—the population of fish in the ocean that regenerates the flow of caught fish that go to market; the standing forest that regenerates the flow of cut timber”³⁰⁸ Natural capital yields both natural resources and natural services.³⁰⁹ Like traditional forms of capital, these scholars argue, natural capital should be maintained intact.³¹⁰ Still other scholars focus on reform of cost-

³⁰⁴ See generally GRETCHEN C. DAILY & KATHERINE ELLISON, *THE NEW ECONOMY OF NATURE: THE QUEST TO MAKE CONSERVATION PROFITABLE* 5 (2002); *NATURE’S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS* (Gretchen C. Daily ed., 1997); Robert L. Fischman, *The EPA’s NEPA Duties and Ecosystem Services*, 20 *STAN. ENVTL. L.J.* 497 (2001); J.B. Ruhl & R. Juge Gregg, *Integrating Ecosystem Services into Environmental Law: A Case Study of Wetlands Mitigation Banking*, 20 *STAN. ENVTL. L.J.* 365 (2001); James Salzman et al., *Protecting Ecosystem Services: Science, Economics, and Law*, 20 *STAN. ENVTL. L.J.* 309 (2001). Courts have also begun to acknowledge the value of ecosystem services. See, e.g., *Gallenthin Realty Dev., Inc. v. Borough of Paulsboro*, 924 A.2d 447, 464 (N.J. 2007) (invalidating classification of wetland as “in need of redevelopment” and therefore subject to eminent domain, and noting the “host of social goods” provided by freshwater wetlands).

³⁰⁵ See generally DAILY & ELLISON, *supra* note 304; *NATURE’S SERVICES*, *supra* note 304; Fischman, *supra* note 304; Ruhl & Gregg, *supra* note 304; Salzman et al., *supra* note 304.

³⁰⁶ See MILLENNIUM ECOSYSTEM ASSESSMENT, *ECOSYSTEMS AND HUMAN WELL-BEING: SYNTHESIS* 103–22 (2005) (describing the benefits to people from a range of services provided by natural ecosystems including: the provision of food, fresh water, timber, fiber and fuel; the contribution of genetic resources to commercial products; climate, disease, waste, and natural hazard regulation; and nutrient cycling).

³⁰⁷ RICHARD LOUV, *LAST CHILD IN THE WOODS: SAVING OUR CHILDREN FROM NATURE-DEFICIT DISORDER* 3 (2005); see also David A. Dana, *Existence Value and Federal Preservation Regulation*, 28 *HARV. ENVTL. L. REV.* 343, 343 (2004). See generally JARED DIAMOND, *COLLAPSE: HOW SOCIETIES CHOOSE TO FAIL OR SUCCEED* (2005) (describing how the depletion of natural resources has contributed to societal collapse).

³⁰⁸ HERMAN E. DALY, *BEYOND GROWTH: THE ECONOMICS OF SUSTAINABLE DEVELOPMENT* 80 (1996).

³⁰⁹ *Id.*

³¹⁰ *Id.* at 76.

benefit analysis. They argue that ecosystem services and natural capital are consistently undervalued in cost-benefit analyses because such assets are external to traditional economic markets.³¹¹ Overall, the literature on externalities, givings, ecosystem services, and related disciplines provides fertile support for the modern evolution of nuisance doctrine, as stimulated by *Lucas*.

V. THE NEW NUISANCE APPLIED: CONNECTING THE DOTS

This Part applies the new nuisance doctrine to three difficult environmental problems—wetland development, sprawling land use patterns, and global warming.³¹² Each problem is exacerbated, in part, when landowners, developers, and ordinary citizens are allowed to harm environmental resources without bearing (or perhaps even knowing) the full economic, environmental, and social costs of their actions.³¹³ As considered below, new nuisance law may be an appropriate vehicle to allocate these environmental costs, shifting responsibility back to the actors whose enterprises inflict nuisance-like harms upon society.³¹⁴

The discussion begins with a survey of the evolving new knowledge of the relationship between resource destruction and public harm.³¹⁵ It then traces three aspects of the post-*Lucas* evolution of the law: 1) the extent to which communities have successfully asserted the *Lucas* affirmative defense to avoid takings liability for wetland, land use, and global warming regulation;³¹⁶ 2) the extent to which offensive public nuisance lawsuits have succeeded when alleging environmental harms;³¹⁷ and, in the context of climate change, 3) the extent to which the new learning has induced the regulated community to accept responsibility for its actions, paving the way for the passage of new environmental legislation likely to escape facial challenge under the regulatory takings doctrine.³¹⁸

³¹¹ See generally LISA HEINZERLING & FRANK ACKERMAN, PRICING THE PRICELESS: COST-BENEFIT ANALYSIS OF ENVIRONMENTAL PROTECTION (2002).

³¹² See *infra* notes 319–536 and accompanying text.

³¹³ See *infra* notes 319–333, 394–423, 445–457 and accompanying text.

³¹⁴ See *infra* notes 319–536 and accompanying text.

³¹⁵ See *infra* notes 319–333, 394–423, 445–457 and accompanying text.

³¹⁶ See *infra* notes 334–387, 424–437, 458–470 and accompanying text.

³¹⁷ See *infra* notes 388–393, 438–443, 473–502 and accompanying text.

³¹⁸ See *infra* notes 503–536 and accompanying text.

A. Wetland Destruction as New Nuisance

1. The New Learning on Wetlands

Swamps and wetlands were once considered wasteland, undesirable, and not picturesque. But as the people became more sophisticated, an appreciation was acquired that swamps and wetlands serve a vital role in nature, are part of the balance of nature and are essential to the purity of the water in our lakes and streams. Swamps and wetlands are a necessary part of the ecological creation and now, even to the uninitiated, possess their own beauty in nature.

—*Just v. Marinette County*³¹⁹

Modern studies have revealed that wetlands perform a vast range of ecosystem services for the community.³²⁰ The Environmental Protection Agency (the “EPA”) has identified at least five such functions³²¹ and studies have begun to quantify the economic value of the services performed.³²² First, wetlands improve water quality by processing, decomposing, and trapping inorganic nutrients, organic wastes, and suspended solids that would otherwise pollute surface waters.³²³ Site-specific studies have valued this service in excess of \$1 million for individual communities.³²⁴ Second, wetlands provide protection against

³¹⁹ 201 N.W.2d 761, 768 (Wis. 1972).

³²⁰ See *infra* notes 321–333 and accompanying text.

³²¹ See U.S. ENVTL. PROT. AGENCY, FUNCTIONS AND VALUES OF WETLANDS (2001) [hereinafter EPA, FUNCTIONS AND VALUES], available at http://www.epa.gov/owow/wetlands/pdf/fun_val.pdf.

³²² See generally EDWARD B. BERBIER ET AL., ECONOMIC VALUATION OF WETLANDS: A GUIDE FOR POLICY MAKERS AND PLANNERS (1997), available at http://www.ramsar.org/lib/lib_valuation_e.htm; Richard P. Novitzki et al., *Restoration, Creation, and Recovery of Wetlands: Wetland Functions, Values, and Assessment*, (U.S. Geological Survey Water Supply Paper 2425), available at <http://water.usgs.gov/nwsum/WSP2425/functions.html> (last visited Oct. 1, 2007); N.C. State Univ., Water Quality Group, Wetland Functions (or Processes) and Values, <http://www.water.ncsu.edu/watershedss/info/wetlands/funval.html> (last visited Oct. 1, 2007).

³²³ See U.S. ENVTL. PROT. AGENCY, WATERSHED ACADEMY WEB, WETLAND FUNCTIONS AND VALUES 6 [hereinafter EPA, WATERSHED ACADEMY WEB], available at <http://www.epa.gov/watertrain/wetlands/index.htm> (last visited Oct. 1, 2007).

³²⁴ *Id.* Two examples cited by the EPA include the Congaree Bottomland Hardwood Swamp of South Carolina, which “removes a quantity of pollutants that would be equivalent to that removed annually by a \$5 million waste water treatment plant” according to a 1990 study, and a 2500 acre wetland in Georgia that saves one million dollars annually in pollution abatement costs. *Id.* Wetlands improve the flow (or hydrology) of water, as well as its quality. *Id.* For example, “[o]ne calculation for a 5-acre Florida cypress swamp recharging groundwater was that, if 80 percent of swamp was drained, available ground water would be reduced by an estimated 45 percent.” *Id.*

floods, hurricanes, and shoreline erosion by storing excess waters and releasing them slowly.³²⁵ A Minnesota study found that the draining of five thousand wetland acres destroyed natural flood control valued at \$1.5 million annually.³²⁶ Even more striking, a Mississippi River basin study found that wetland destruction and levee construction had reduced the basin's natural storage capacity from sixty days of floodwater to twelve days of floodwater.³²⁷ Third, wetlands provide habitat for fish, wildlife, and plants, making them "some of the most biologically productive natural ecosystems in the world, comparable to tropical rain forests and coral reefs . . ."³²⁸ This habitat supports a commercial and recreational fishing industry valued at approximately \$79 billion annually.³²⁹ Fourth, wetlands help to maintain favorable atmospheric conditions by storing carbon in peat, thus helping to control global warming.³³⁰ When drained or filled, wetlands release the carbon as carbon dioxide, a greenhouse gas that affects the earth's climate.³³¹ Finally, wetlands provide aesthetic, recreational, and educational opportunities.³³² Studies estimate that Americans spend more than \$59 billion annually in connection with wetland-related hunting, fishing, bird watching, and wildlife photography.³³³

³²⁵ *Id.* at 7.

³²⁶ *Id.* The EPA estimates that a single wetland acre can store up to 1.5 million gallons of floodwater. EPA, FUNCTIONS AND VALUES, *supra* note 321. Citing the thirty-eight deaths and billions of dollars of damage caused by the 1993 upper Mississippi River Basin flood, the EPA commented that "[h]istorically, 20 million acres of wetlands in this area had been drained or filled, mostly for agricultural purposes. If the wetlands had been preserved rather than drained, much property damage and crop loss could have been avoided." *Id.*

³²⁷ EPA, WATERSHED ACADEMY WEB, *supra* note 323, at 7 (concluding that "in addition to their fish and wildlife values, wetlands reduce the likelihood of flood damage to homes, businesses, and crops in agricultural areas" and wetlands protection results in "less monetary flood damage (and related insurance costs), as well as protection of human health, safety, and welfare"). As a related function, wetlands adjacent to open water provide erosion protection and "buffer the storm surges from hurricanes and tropical storms by dissipating wave energy before it impacts roads, houses, and other man-made structures." *Id.* at 8.

³²⁸ EPA, FUNCTIONS AND VALUES, *supra* note 321.

³²⁹ *Id.* (citing 1997 data from the Pacific Coast Federation of Fishermen's Associations).

³³⁰ EPA, WATERSHED ACADEMY WEB, *supra* note 323, at 3.

³³¹ *Id.*

³³² *Id.* at 10, 11.

³³³ *Id.* at 10.

2. Defending Wetland Regulations

Coastal property may present such unique concerns for a fragile land system that the State can go further in regulating its development and use than the common law of nuisance might otherwise permit.

—Justice Anthony Kennedy³³⁴

a. Wetland Destruction as Categorical Defense

In the post-*Lucas* era, a number of state and federal courts have held that governmental efforts to protect wetlands do not constitute regulatory takings because wetland destruction constitutes a nuisance.³³⁵ Generally, these courts apply the Supreme Court's 1992 new nuisance defense of *Lucas v. South Carolina Coastal Council*, in the context of the balancing test developed by the Court in 1978, in *Penn Central Transportation Co. v. City of New York*.³³⁶ The state courts of Massachusetts,³³⁷ Pennsylvania,³³⁸ and Rhode Island³³⁹ have based their holdings

³³⁴ *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1035 (1992) (Kennedy, J., concurring).

³³⁵ See *infra* notes 336–340 and accompanying text.

³³⁶ See Blumm & Ritchie, *supra* note 116, at 327–28 (discussing background principles as categorical takings defense); *id.* at 336 (arguing that a “nuisance defense is particularly appropriate in the case of wetlands protection”).

³³⁷ See *Commonwealth v. Blair*, No. CIV.A 98-2758-G, 2000 WL 875903, at *2, 9 (Mass. Super. Ct. June 6, 2000) (rejecting takings challenge to state statute prohibiting the alteration of land within 200 feet of surface waters within protected watersheds supplying public drinking water), *affirmed as modified*, 805 N.E.2d 1011 (Mass. App. Ct. 2004). The trial court held:

The rights of a property owner to utilize lakefront property comes with significant limitations when the regulatory concern is for the health and welfare of society. Conduct affecting a public resource, such as public water supplies, that could be actionable at common law . . . under a public nuisance theory, may be aptly regulated, or at minimum, be regulated with a decreased risk of having the regulation adjudicated an unconstitutional taking. . . . The character of the government action here, therefore, is much akin to prohibiting acts which may have been prohibited, at least in part, at common law prior to the enactment of the [challenged wetlands protection statute] in 1992.

Id. at *7. The appellate court did not disturb this holding in its modified affirmance. See *Blair*, 805 N.E.2d at 1019. Other Massachusetts courts have come to similar conclusions. See *Gove v. Zoning Bd. of Appeals of Chatham*, 831 N.E.2d 865, 875 (Mass. 2005) (rejecting takings challenge to denial of permit to build single-family house on undeveloped land within coastal conservancy district). In *Gove v. Zoning Board of Appeals of Chatham*, the trial court had found that the subject property was located within a flood plain, and that construction of the proposed house would pose a danger to neighboring landowners. *Id.* Accordingly, the Supreme Judicial Court of Massachusetts concluded: “Reasonable govern-

on explicit findings that the destruction of wetlands or other aquatic resources constitutes a public nuisance.

Of particular interest to government regulators is the Supreme Court's 2001 final resolution of the decades-long *Palazzolo v. Rhode Island* litigation.³⁴⁰ In 1985, a Rhode Island landowner sought permission to fill and develop approximately eighteen acres of coastal salt marsh.³⁴¹ The relevant state agency denied permission pursuant to state regulation.³⁴² The landowner brought an inverse condemnation action, alleging that denial of his application constituted a regulatory taking.³⁴³ Ultimately, the case was heard by the U.S. Supreme Court, which held that the claim was ripe for review, and that the landowner's acquisition of title after the effective date of the state's wetland regulation was not an automatic bar to the takings claim.³⁴⁴ Finding that the challenged regulation had not deprived the petitioner of all economically beneficial use of his property, the Court remanded for a resolution of the takings claim under the *Penn Central* test.³⁴⁵ In an earlier phase of the litigation, the Rhode Island trial court had found that the contemplated wetland development would constitute a public nuisance.³⁴⁶ Eight years later, on remand from the U.S. Supreme Court, the trial court again found that the proposed wetland

ment action mitigating such harm, at the very least when it does not involve a 'total' regulatory taking or a physical invasion, typically does not require compensation." *Id.*

³³⁸ See *Machipongo Land & Coal Co., Inc. v. Commonwealth*, 799 A.2d 751, 774 (Pa. 2002) (rejecting takings challenge to state regulation designating a particular watershed as unsuitable for mining). Independent of evidence that the proposed mining operation would destroy a trout population and adversely impact water supply, the court stated, "we have explained that 'we believe that the public has a sufficient interest in clean streams alone regardless of any specific use thereof . . . [to warrant] injunctive relief.'" *Id.* (quoting *Commonwealth v. Barnes & Tucker Co.*, 319 A.2d, 871, 882 (Pa. 1974)).

³³⁹ See *infra* notes 340–350 and accompanying text; see also *Milardo v. Coastal Res. Mgmt. Council*, 434 A.2d 266, 268–69 (R.I. 1981) (pre-*Lucas* decision holding that there is no property right to fill wetlands because it would impair public resources).

³⁴⁰ See *Palazzolo v. Rhode Island (Palazzolo I)*, 533 U.S. 606, 632 (2001) (holding 1986 denial of application for dredge-and-fill permit for beach facility ripe for review under *Penn Central* analysis); *infra* notes 341–350 and accompanying text.

³⁴¹ See *Palazzolo v. Rhode Island (Palazzolo II)*, No. WM 88-0297, 2005 WL 1645974, at *1 & n.2 (R.I. Super. Ct. July 5, 2005). The State Coastal Resources Management Council had denied two previous permit applications submitted by Palazzolo. *Id.* at *1 nn.2 & 4.

³⁴² *Id.* Under the Coastal Resources Management Plan of 1976, state regulations prohibited the filling of certain coastal wetlands without a special exception. *Id.* at *1 n.3.

³⁴³ *Palazzolo I*, 533 U.S. at 615–16.

³⁴⁴ *Id.* at 632.

³⁴⁵ *Id.*

³⁴⁶ See *Palazzolo II*, 2005 WL 1645974, at *1 (discussing 1997 judgment of the Rhode Island Superior Court after seven-day bench trial).

development would be a public nuisance.³⁴⁷ The court concluded that, without more, nuisance would serve as a “preclusive defense”³⁴⁸ to the landowner’s takings claim:

The State has presented evidence as to various effects that the development will have including increasing nitrogen levels in the pond, both by reason of the nitrogen produced by the attendant residential septic systems, and the reduced marsh area which actually filters and cleans runoff. This Court finds that the effects of increased nitrogen levels constitute a predictable (anticipatory) nuisance which would almost certainly result in an ecological disaster to the pond. . . . Nor is the proposed high density subdivision suitable for the salt marsh environs presented here.³⁴⁹

In so concluding, the court was impressed by the array of ecosystem services that would be curtailed by the filling of coastal marshlands.³⁵⁰

In contrast to these regulatory-friendly decisions in Massachusetts, Pennsylvania, and Rhode Island, courts in the Federal Circuit specifically rejected the new nuisance defense of *Lucas* four times before or during 2001.³⁵¹ These decisions were based on the law of nuisance in the states of California,³⁵² Florida,³⁵³ Delaware,³⁵⁴ and New

³⁴⁷ *Id.* at *5.

³⁴⁸ *Id.*

³⁴⁹ *Id.*

³⁵⁰ *See id.*

³⁵¹ *See infra* notes 352–355 and accompanying text.

³⁵² *See Forest Props., Inc. v. United States*, 177 F.3d 1360, 1366 (Fed. Cir. 1999). In *Forest Properties, Inc. v. United States*, the Federal Circuit affirmed the trial court’s finding that the proposed dredging and filling of a lake bottom to promote residential construction would not constitute a nuisance under California law. *Id.* Nevertheless, the court rejected the takings challenge, finding that the landowner lacked reasonable expectations that it could develop its property as proposed. *Id.* at 1366–67.

³⁵³ *See Fla. Rock Indus., Inc. v. United States*, 45 Fed. Cl. 21, 28–32, 42 (1999) (finding that denial of section 404 permit in connection with limestone mining operation constituted a regulatory taking). The court concluded:

[P]laintiff’s limestone mining operation would, like similar operations in the vicinity, result in only moderate, superficial pollution that does no harm, and would not be considered a nuisance under the relevant Florida laws. Indeed, plaintiff’s operation was suitably located in the community and designed to help meet the community’s need for aggregates to be used in construction.

Id. at 31–32.

³⁵⁴ *See Walcek v. United States*, 49 Fed. Cl. 248, 270 (2001), *aff’d*, 303 F.3d 1349 (Fed. Cir. 2002). In *Walcek v. United States*, the Court of Federal Claims found:

Jersey,³⁵⁵ with the federal courts concluding that government defendants failed to demonstrate that their challenged actions were designed to prevent common law nuisance under the relevant state's law.³⁵⁶ Importantly—despite rejecting the argument under *Lucas* that wetland destruction is a nuisance under state law—two of these cases nevertheless held in favor of the governmental defendants under the broader *Penn Central* test.³⁵⁷

b. *Wetland Destruction as Nuisance-Like Balancing Factor*

Numerous other courts have found that the fill or development of wetlands may cause community harm, and that governments may regulate to prevent such harm without providing compensation to the

There is no significant evidence in this case that the plaintiffs' proposed use of the Property [filling and development of salt marsh] would formally constitute a nuisance under Delaware state law so that the application of the Federal wetland regulations could be viewed as enforcing a limitation already inherent in the Property.

Id. Nevertheless, the court rejected the takings challenge, finding acceptable the character of the government action to protect wetlands. *Id.* at 272.

³⁵⁵ See *Loveladies Harbor, Inc. v. United States*, 28 F.3d 1171, 1182–83 (Fed. Cir. 1994) (holding denial of section 404 permit to constitute a regulatory taking, denying landowner of all economically beneficial use of New Jersey wetland property), *abrogated by* *Bass Enters. Prod. Co. v. United States*, 381 F.3d 1360 (Fed. Cir. 2004). The Federal Circuit agreed with the trial court's conclusion that the federal defendant had failed to sustain its burden of proving that wetland filling constituted a common law nuisance. *Id.* at 1183. Ironically, the Federal Circuit preceded its holding in favor of the landowner with an impassioned paragraph extolling the value of wetlands:

There can be no doubt today that every effort must be made individually and collectively to protect our natural heritage, and to pass it to future generations unspoiled. The destruction of ancient civilizations by human misuse of the environment, such as that at Ephesus, teaches the need for public policies that work within the natural environment, rather than attempt radically to alter it.

Id. at 1175. *Loveladies* has been discredited on other grounds. See *Bass Enters. Prod. Co. v. United States*, 381 F.3d 1360, 1369–70 (Fed. Cir. 2004) (recognizing “a return to the pre-*Lucas* evaluation of the ‘character of the Government actions’ factor”); see also *Mansoldo v. New Jersey*, 898 A.2d 1018, 1025 (N.J. 2006) (rejecting argument that landowner's stipulation that proposed development in flood plain “would pose a threat to other properties during a flood” constituted a concession that intended use of property is a nuisance under *Lucas*).

³⁵⁶ *Contra* *John R. Sand & Gravel Co. v. United States*, 60 Fed. Cl. 230, 240 n.6 (2004) (suggesting that in absence of controlling law in the relevant state, government regulators may cite to persuasive evidence that the subject activity would constitute a nuisance in other jurisdictions).

³⁵⁷ See *supra* notes 352 (applying California law) and 354 (applying Delaware law).

burdened landowner.³⁵⁸ These courts stop short of describing wetland destruction as a “nuisance,” but have nevertheless been willing to reject takings challenges to regulations that preclude nuisance-like activities.³⁵⁹ This group includes the U.S. Court of Appeals for the Federal Circuit,³⁶⁰ as well as the states of Alaska,³⁶¹ Florida,³⁶² Michigan,³⁶³

³⁵⁸ See generally Fred P. Bosselman, *Limitations Inherent in the Title to Wetlands at Common Law*, 15 STAN. ENVTL. L.J. 247 (1996); Gina Schilmoeller, *Invoking the Fifth Amendment to Preserve and Restore the Nation’s Wetlands in Coastal Louisiana*, 19 TUL. ENVTL. L.J. 317 (2006).

³⁵⁹ See *infra* notes 360–370 and accompanying text.

³⁶⁰ See *Norman v. United States*, 63 Fed. Cl. 231, 286 (2004), *aff’d*, 429 F.3d 1081 (Fed. Cir. 2005), *cert. denied*, 126 S. Ct. 2288 (2006) (rejecting takings challenge to wetland mitigation requirement imposed on Nevada property under section 404 permitting process, and approving character of government action “especially in light of the fact that the government has a legitimate public welfare obligation to preserve wetlands and that the unnecessary destruction of wetlands violates environmental laws and is contrary to public policy”); *John R. Sand & Gravel*, 60 Fed. Cl. at 243–45, 251 (remanding for factual development of record in takings challenge to administrative use of Michigan mining property during environmental remediation of neighboring landfill, and suggesting that the pollution of ground water may constitute a public or private nuisance); *Brace v. United States*, 48 Fed. Cl. 272, 278–79 (2000) (remanding for factual development of record in takings challenge to administrative order prohibiting drainage of wetlands, and approving character of the government action implementing its “legitimate public welfare obligation to preserve our nation’s wetlands”); see also *Walcek*, 49 Fed. Cl. at 272 (rejecting takings challenge to issuance of section 404 permit allowing only scaled-down version of proposed development). The *Walcek* court specifically rejected the government’s categorical nuisance defense, see *id.* at 270, but nevertheless approved the character of the government action. *Id.* (opining that “the existence of the wetland regulations in question, as well as their application to the Property, indisputably serve an important public purpose—which benefits plaintiffs as members of the public at large”). The court concluded that:

while the absence of a nuisance certainly cuts in favor of a finding of a taking, other circumstances in this case [including the importance of preserving ecologically significant areas and the general applicability of wetland regulations to all similarly situated property owners] ameliorate somewhat the impact of the [character of the government action] *Penn Central* factor in this regard.

Id.; see also *Forest Properties*, 177 F.3d at 1367 (rejecting takings challenge to denial of section 404 permit to convert lake-bottom property into residential development). The *Forest Properties* court specifically rejected the government’s categorical nuisance defense, *id.* at 1366, but nevertheless found that the developer lacked reasonable investment-backed expectations because at the time the developer acquired an option to purchase lake bottom property, “the Corps’ guidelines governing the issuance of Section 404 permits under the Clean Water Act had been in effect for a number of years,” making clear that, “filling wetlands to construct housing on the reclaimed land was disfavored and that it was most unlikely that such a project would be approved.” *Id.* at 1366–67.

³⁶¹ See *R & Y, Inc. v. Anchorage*, 34 P.3d 289, 300 (Alaska 2001) (rejecting regulatory taking challenge to municipal regulation prohibiting development within 100 feet of particular wetland). In upholding the uncompensated governmental regulation, the court noted the ecosystem services provided by wetlands, concluding, “In preserving the valuable functions of wetlands, regulations like those of the [municipality of Anchorage] pro-

New Hampshire,³⁶⁴ New Jersey,³⁶⁵ New York,³⁶⁶ Oregon,³⁶⁷ South Carolina,³⁶⁸ Washington,³⁶⁹ and Wisconsin.³⁷⁰ Although the nuisance de-

vide ecological and economic value to the landowners whose surrounding commercially-developed land is directly and especially benefited by the functioning of Blueberry Lake.” *Id.* at 298. The court was influenced, in part, by the comprehensive nature of wetlands regulation. *Id.* at 298, 300.

³⁶² See *Florida v. Burgess*, 772 So. 2d 540, 544 (Fla. Dist. Ct. App. 2000) (rejecting regulatory taking challenge to denial of dredge-and-fill permit for construction of dock, boardwalk, and camping shelter on undeveloped 160-acre wetland). The court rejected the claim that an undeveloped wetland was valueless, concluding that the landowner “utterly failed to demonstrate that the permit denial deprived him of all reasonable economic use of his land.” *Id.* at 543; see also *Graham v. Estuary Props., Inc.*, 399 So. 2d 1374, 1380–83 (Fla. 1981) (in pre-*Lucas* decision, rejecting regulatory taking challenge to denial of development permit that would have destroyed 1800 acres of black mangrove wetland). In upholding the denial of the permit application in *Graham v. Estuary Properties, Inc.*, the court noted that, under the facts of the case, wetland development would pollute the surrounding bays and “cause a public harm.” *Graham*, 399 So. 2d at 1382–83 (stressing “the magnitude of [the] proposed development and the sensitive nature of the surrounding lands and water to be affected by it”).

³⁶³ See *K & K Constr., Inc. v. Dep’t of Env’t. Quality*, 705 N.W.2d 365, 386 (Mich. Ct. App. 2005) (reversing trial court takings award in amount of \$16.5 million for denial of application for dredge-and-fill permit), *appeal denied*, 713 N.W.2d 268 (Mich. 2006). The court concluded that that the permit denial would prevent significant harm to the public. *Id.* at 369 (citing to findings of state legislature that the “loss of a wetland may deprive the people of the state of some or all of the . . . benefits to be derived from the wetland”). The court was cognizant that its decision would prevent the developer from externalizing the costs of wetland destruction: “Indeed, were we to uphold the trial court’s award, we would, in effect, single out plaintiffs to their benefit, [by] compensating plaintiffs for the loss of value of their property, especially when it has a significant amount of value and development potential remaining” *Id.* at 385–86; see also *Glass v. Goeckel*, 703 N.W.2d 58, 71–72 (Mich. 2005) (generously interpreting the public trust doctrine to extend along the Great Lakes to the ordinary high water mark landward of the wet sand), *reh’g denied*, 703 N.W.2d 188 (Mich. 2005), *cert. denied sub nom.*, 546 U.S. 1174 (2006).

³⁶⁴ See *Claridge v. N.H. Wetlands Bd.*, 485 A.2d 287, 292 (N.H. 1984) (in pre-*Lucas* decision, holding that denial of permit to fill tidal marshes was not a taking because filling the marsh would harm the public by “irreparably diminishing the marsh’s nutrient producing capability for coastal habitats and marine fisheries”). The court consciously grounded its decision in the new learning on wetlands, observing that “[t]he dangers associated with filling wetlands have only recently become widely known”. *Id.*

³⁶⁵ *Am. Dredging Co. v. Dep’t of Env’t. Prot.*, 391 A.2d 1265, 1270 (N.J. Super. Ct. Ch. Div. 1978) (in pre-*Lucas* decision, holding that there is “no absolute right to change the essential character” of land), *aff’d*, 404 A.2d 42 (N.J. Super. Ct. App. Div. 1979). In 2006, however, the Supreme Court of New Jersey required the state to compensate a landowner who had been precluded from building two single-family homes in a river floodway, even though the court acknowledged “the laudatory goal of limiting flood damage and loss of life along the river,” and that the regulation prevented a public danger to the community. *Mansoldo*, 898 A.2d at 1020–24.

³⁶⁶ See *Kim v. City of New York*, 681 N.E.2d 312, 313 (N.Y. 1997) (rejecting takings claim where city placed fill on plaintiffs’ property and state property law required property owners to maintain lateral support for public highway).

termination is heavily fact-specific, the cases provide fertile ground for extracting the factors likely to influence courts in future litigation. It is useful to group those factors according to the three prongs of the analysis established in *Penn Central*.

In a *Penn Central* analysis, courts first consider the economic impact of the challenged regulation.³⁷¹ In *Lucas*, the U.S. Supreme Court accepted a case where the state supreme court had previously found that the challenged regulation rendered the subject property “valueless.”³⁷² Subsequent courts, however, have demonstrated a less skeptical view of the worth of natural lands, perhaps reflecting the evolution of scientific knowledge on the value of wetlands and other aquatic resources.³⁷³

³⁶⁷ See *Stevens v. City of Cannon Beach*, 854 P.2d 449, 456–57 (Or. 1993) (rejecting takings claim where common law doctrine of custom precluded hotel from erecting sea wall on dry sand area of Oregon beach).

³⁶⁸ See *Grant v. S.C. Coastal Council*, 461 S.E.2d 388, 391 (S.C. 1995) (rejecting takings claim where landowner was precluded from filling critical area tidelands under state tidelands statute). *But see Lucas v. S.C. Coastal Council*, 424 S.E.2d 484, 486 (S.C. 1992) (remand). On remand from the U.S. Supreme Court, the Supreme Court of South Carolina explained:

We have reviewed the record and heard arguments from the parties regarding whether [the state] possesses the ability under the common law to prohibit Lucas from constructing a habitable structure on his land. [The state] has not persuaded us that any common law basis exists by which it could restrain Lucas’s desired use of his land; nor has our research uncovered any such common law principle.

Id.

³⁶⁹ See *Orion Corp. v. State*, 747 P.2d 1062, 1088 (Wash. 1987) (remanding takings claim based on the denial of a construction permit for consideration of the public trust doctrine).

³⁷⁰ See *Just*, 201 N.W.2d at 772 (in pre-*Lucas* decision, rejecting takings challenge to county shoreland zoning ordinance establishing buffer zone along navigable lakes and rivers along which the natural character of the land may not be changed without a conditional use permit). The court noted that the challenged ordinance was designed to protect navigable waters and public rights from degradation and deterioration, and observed “the interrelationship of the wetlands, the swamps and the natural environment of shorelands to the purity of the water and to such natural resources as navigation, fishing, and scenic beauty.” *Id.* at 765, 768–69; see also Blumm & Ritchie, *supra* note 116, at 344–46 (discussing the “natural use doctrine” of *Just* and its progeny).

³⁷¹ *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 124 (1978) (identifying several analytical factors of “particular significance,” including “the economic impact of the regulation on the claimant,” “the extent to which the regulation has interfered with distinct investment-backed expectations,” and “the character of the government action”).

³⁷² See *Lucas*, 505 U.S. at 1007, 1009, 1018–19; *supra* note 89 and accompanying text.

³⁷³ See, e.g., *Burgess*, 772 So. 2d at 543–44. The court was influenced, in part, by the facts that “the extensive, remote wetlands adjacent to appellee’s property have remained undeveloped as has [the claimant’s] property,” and that the claimant had made recreational use

Under the second *Penn Central* factor, courts consider the landowner's reasonable investment-backed expectations.³⁷⁴ Wetland regulators have survived takings liability in numerous cases due to the longstanding and comprehensive regulation of wetlands under state and federal law.³⁷⁵ Some courts have invoked the so-called "notice rule,"³⁷⁶ finding that landowner expectations of wetland development cannot be reasonable for properties acquired after the effective date of the Federal Clean Water Act of 1972.³⁷⁷ Other courts date the federal regulatory presence back to the Rivers and Harbors Act of 1899, rendering vulnerable development expectations for regulated lands purchased any time after that date.³⁷⁸ The development expectations of sophisticated or commercial landowners are also more likely to fail the reasonableness test because such landowners may be held to a higher standard of subjective awareness of the relevant regulatory restrictions on wetland development.³⁷⁹

The final *Penn Central* factor is the character of the government action.³⁸⁰ Whereas some courts have viewed the existence of a perva-

of his undeveloped property for decades without the sought amenities. *Id.* at 544; *see also Gove*, 831 N.E.2d at 872–73 (finding undeveloped coastal property to be worth at least \$23,000).

³⁷⁴ *See Penn Central*, 438 U.S. at 124.

³⁷⁵ *See infra* notes 376–379 and accompanying text.

³⁷⁶ In *Palazzolo v. Rhode Island*, the U.S. Supreme Court rejected the proposition that the purchase of lands subject to an existing regulatory scheme serves as an *automatic* bar to compensation. *Palazzolo I*, 533 U.S. at 626–28. Five Justices agreed to invalidate the so-called "notice rule," under which a purchaser or successive title holder of a property subject to an earlier-enacted restriction is barred from asserting a regulatory takings claim. *See id.* (Kennedy, J., joined by C.J. Rehnquist, O'Connor, Scalia, and Thomas, JJ.). Two Justices would find that the regulatory regime in place at the time the claimant acquires the property helps to shape the reasonableness of the claimant's investment-backed expectations under a *Penn Central* analysis. *See id.* at 632–36 (O'Connor, J., concurring); *id.* at 654–55 (Breyer, J., dissenting).

³⁷⁷ *See, e.g., Good v. United States*, 189 F.3d 1355, 1361 (Fed. Cir. 1999) (pre-*Palazzolo* decision affirming grant of summary judgment in favor of federal defendant in takings challenge to denial of section 404 permit, and asserting that the "*Lucas* Court did not hold that the denial of all economically beneficial or productive use of land eliminates the requirement that the landowner have reasonable, investment-backed expectations of developing his land"); *see also Forest Properties*, 177 F.3d at 1366–67 (pre-*Palazzolo* decision); *Norman*, 63 Fed. Cl. at 266–70 (reasoning that the "holding in *Palazzolo* . . . is not an absolute renunciation of the 'notice rule'"); *Brace*, 48 Fed. Cl. at 281 (pre-*Palazzolo* decision).

³⁷⁸ *See Walcek*, 49 Fed. Cl. at 268 (pre-*Palazzolo* decision).

³⁷⁹ *See Norman*, 63 Fed. Cl. at 266 (noting that the plaintiffs were "sophisticated real estate developers"); *K & K Constr.*, 705 N.W.2d at 369 (stating that "plaintiffs are experienced commercial land developers who clearly had or were on notice of the [state] wetland regulations").

³⁸⁰ *See Penn Central*, 438 U.S. at 124.

sive regulatory scheme as evidence that development expectations are unreasonable,³⁸¹ other courts have considered such regulations as evidence that the government action is of an acceptable character.³⁸² According to this view, the more pervasive the statutory program, the more likely it is to promote an “average reciprocity of advantage,”³⁸³ treating all similarly-situated landowners equally, and spreading the burdens—and benefits—of regulation across a wider spectrum of property.³⁸⁴ Courts are also more likely to find a reciprocity of advantage where surrounding properties are similarly restricted.³⁸⁵ Moreover, courts are increasingly willing to uphold government actions intended to protect ecosystem services against harmful development activities.³⁸⁶ Finally, if government actions are demonstrated to abate a nuisance—even outside the context of a *total taking* under *Lucas*—some courts have found this to be a complete defense to liability, without consideration of the additional *Penn Central* factors.³⁸⁷

³⁸¹ See *supra* notes 376–378 and accompanying text.

³⁸² See, e.g., *R & Y*, 34 P.3d at 298.

³⁸³ Pa. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922); *id.* at 422 (Brandeis, J., dissenting).

³⁸⁴ See *R & Y*, 34 P.3d at 298 (observing that Anchorage’s setback restriction was “part of a city-wide (indeed, nationwide) wetlands preservation scheme which applies broadly to all landowners and which benefits both the public generally and the landowners in particular”); *K & K Constr.*, 705 N.W.2d at 369 (opining that wetland regulations, “much like traditional zoning regulations, [are] comprehensive, universal, and ubiquitous”).

³⁸⁵ Compare *Walcek*, 49 Fed. Cl. at 270 (rejecting takings challenge explaining that “the Clean Water Act and the wetlands regulations issued thereunder are generally applicable to all similarly situated property owners”), and *Burgess*, 772 So. 2d at 544 (rejecting takings challenge and noting that “the extensive, remote wetlands adjacent [the landowner’s] property have remained undeveloped”), with *Florida Rock*, 45 Fed. Cl. at 37 (finding a regulatory taking where “there can be no question that [the landowner] has been singled out to bear a much heavier burden than its neighbors, without reciprocal advantages”).

³⁸⁶ See *Walcek*, 49 Fed. Cl. at 270 (stating that wetlands regulations “indisputably serve an important public purpose”); *Brace*, 48 Fed. Cl. at 278–79 (stating that “wetlands serve important environmental functions”); *R & Y*, 34 P.3d at 298 (noting that wetlands regulations “preserv[e] . . . valuable functions”); *Graham*, 399 So. 2d at 1381–83; *K & K Constr.*, 705 N.W.2d at 369 (recognizing multiple benefits of wetlands regulation, including “flood and storm control” and “protection of subsurface water resources”); *Claridge*, 485 A.2d at 292 (noting the wetlands board’s finding that “proposed filling of this marsh would have irreparably diminished the marsh’s nutrient producing capability for coastal habitats and marine fisheries”); *Am. Dredging*, 391 A.2d at 1270; *Machipongo*, 799 A.2d at 774; *Palazzolo II*, 2005 WL 1645974, at *5 (explaining that allowing development would destroy a “marsh area which actually filters and cleans runoff”).

³⁸⁷ See *John R Sand & Gravel*, 60 Fed. Cl. 243–45 (in context of physical taking, finding that nuisance can serve as background principle precluding liability); *Machipongo*, 799 A.2d at 774; see also Blumm & Ritchie, *supra* note 116, at 321 (discussing *Lucas*’s unanticipated consequence of spawning a categorical defense to regulatory takings claims).

3. Wetland Protection as Offensive Claim

Because wetlands are critical to flood control, water supply, water quality, and, of course, wildlife, their rapid disappearance is setting the stage for what may eventually become a significant environmental catastrophe.

—Sabine River Authority v. U.S. Department of the Interior³⁸⁸

Perhaps stimulated by *Lucas's* focus upon the potential link between nuisance and wetland development, lower courts have increasingly recognized the value of wetlands.³⁸⁹ Going beyond mere rhetoric, in the wake of *Lucas*, at least one court has found that wetland destruction constitutes an affirmative nuisance.³⁹⁰ In 2003, in *Cook v. Sullivan*, the Supreme Court of New Hampshire held that constructing a home on jurisdictional wetlands constituted a private nuisance.³⁹¹ Most noteworthy is the court's remedy, which required the defendants to move the offending house and foundation a distance of approximately fifty feet.³⁹² Although acknowledging the severity of the remedy, the trial court—as affirmed by the state supreme court—found such measures to be justified where the defendants deliberately ignored the obvious presence of wetlands and filled them without a permit.³⁹³

³⁸⁸ Sabine River Auth. v. U.S. Dep't of the Interior, 951 F.2d 669, 672 (5th Cir. 1992) (describing wetlands as "an ecological treasure"); see also Allison v. Barberry Homes, Inc., No. 982935, 2000 WL 1473121, at *3 (Mass. Super. Ct. 2000) (rejecting "ironic" claim that the creation of wetlands constitutes a private nuisance, and stating that wetlands "are a precious resource—not a nuisance").

³⁸⁹ See *supra* notes 373, 386 and accompanying text.

³⁹⁰ See *infra* notes 391–393 and accompanying text.

³⁹¹ *Cook v. Sullivan*, 829 A.2d 1059, 1066–68 (N.H. 2003) (finding private nuisance where defendants' construction caused standing water to accumulate in and beneath structures on neighboring property of plaintiffs).

³⁹² *Id.* at 1067–68.

³⁹³ *Id.*

B. *Sprawl as New Nuisance*

There is a connection . . . between the fact that the urban sprawl we live with daily makes no room for sidewalks or bike paths and the fact that we are an overweight, heart disease-ridden society.

—Richard J. Jackson, Center for Disease Control and Prevention³⁹⁴

[U]rban sprawl has left some densely populated U.S. regions vulnerable to flooding on a similar scale to what the Gulf Coast suffered after Hurricane Katrina.

—USA Today³⁹⁵

The pattern of sprawling land use typically associated with low density, suburban housing has engendered both detractors and supporters.³⁹⁶ Although the negative impacts of sprawl have received considerable study, many suburban developers and residents vigorously support the “right to sprawl,”³⁹⁷ citing to the privacy, convenience, and safety they believe the suburban landscape provides.³⁹⁸ In appropriate cases, new nuisance theory might be a tool capable of balancing such perceived benefits and detriments, ensuring that a fair share of the negative costs of sprawl are borne by those who generate them.³⁹⁹ A growing body of literature has documented the adverse, nuisance-like impacts of sprawl.⁴⁰⁰

³⁹⁴ RICHARD J. JACKSON & CHRIS KOCHTITZKY, CREATING A HEALTHY ENVIRONMENT: THE IMPACT OF THE BUILT ENVIRONMENT ON PUBLIC HEALTH 3 (2002), available at <http://www.sprawlwatch.org> (citing study by researchers at the Center for Disease Control and Prevention’s National Center for Environmental Health).

³⁹⁵ *Scientists: California, St. Louis Risk Katrina-Level Floods*, USA TODAY, Feb. 19, 2006 [hereinafter *Katrina-Level Floods*], available at http://www.usatoday.com/weather/research/2006-02-19-flooding_x.htm (citing Jeffrey Mount, University of California).

³⁹⁶ See *infra* notes 397–423 and accompanying text.

³⁹⁷ *The Environment Report: The Right to Sprawl* (Great Lakes Radio Consortium broadcast, May 5, 2003), available at http://www.environmentreport.org/transcript.php3?story_id=1888.

³⁹⁸ See Timothy J. Dowling, *Reflections on Urban Sprawl, Smart Growth, and the Fifth Amendment*, 148 U. PA. L. REV. 873, 874 n.4 (2000) (citing Bill Bishop, *Urban Sprawl Makes Comeback*, LEXINGTON-HERALD-LEADER, Mar. 14, 1999, at F1 (“Sprawl doesn’t hurt anybody. . . . [It] is the American dream.”)).

³⁹⁹ See *infra* notes 424–443 and accompanying text.

⁴⁰⁰ See *infra* notes 401–423 and accompanying text.

1. The New Learning on Sprawl

a. *Economic Impacts*

Perhaps the best-studied impacts of sprawl are those of an economic nature.⁴⁰¹ Low-density development increases the per-capita cost of infrastructure such as roads, sewer lines, and water lines.⁴⁰² In addition, the isolation of residential land uses from areas zoned for shopping, employment, and service centers causes increased dependence upon the automobile, which in turn causes increased air pollution, traffic congestion, and gasoline consumption.⁴⁰³ Providing a classic illustration of externalities, these costs may be reflected in the taxes of the entire region, whereas the benefits of sprawl are enjoyed primarily by suburban residents.⁴⁰⁴ For example, a Rutgers University study found that prohibiting sprawl would have an economic impact of \$357 million upon a limited number of landowner/developers over twenty years, whereas permitting sprawl would cost state residents \$8 billion for otherwise unnecessary infrastructure.⁴⁰⁵

b. *Environmental Impacts*

Sprawling development exacerbates a variety of environmental problems.⁴⁰⁶ It increases automobile dependence, which in turn generates additional pollution in the operation of cars and in the production of gasoline to fuel them. In addition, low-density development increases the consumption of wildlife habitat, agricultural lands, and water, as such areas may give way to suburban lawns, described by one

⁴⁰¹ See *infra* notes 402–405 and accompanying text.

⁴⁰² See Dowling, *supra* note 398, at 876 (citing ROBERT H. FREILICH, FROM SPRAWL TO SMART GROWTH: SUCCESSFUL LEGAL, PLANNING, AND ENVIRONMENTAL SYSTEMS 23–24 (1999)). The cost of sprawl has also been studied at the state-wide level. See *id.* (citing a Maine State Planning Office study finding that expenditures for education, roads, and police by Maine state and local governments “increased in real dollars . . . during the 1980’s [by] a total of over \$1,300 per Maine household” and concluding that “[i]t is beyond dispute that the spreading out of Maine families is a major contributing factor to the overall increase”).

⁴⁰³ Henry R. Richmond, *Sprawl and Its Enemies: Why the Enemies Are Losing*, 34 CONN. L. REV. 539, 572–73 (2001).

⁴⁰⁴ See, e.g., *Hidden Costs of Sprawl* (Great Lakes Radio Consortium broadcast June 24, 2002), available at www.gllrc.org/transcripts/2002/06/24/graham.htm. See generally MYRON ORFIELD, AMERICAN METROPOLITICS: THE NEW SUBURBAN REALITY (2002).

⁴⁰⁵ See Richmond, *supra* note 403, at 578 (citing ROBERT W. BURCHELL ET AL., IMPACT ASSESSMENT OF THE NEW JERSEY INTERIM STATE DEVELOPMENT AND REDEVELOPMENT PLAN (1992)).

⁴⁰⁶ See *infra* notes 407–409 and accompanying text.

researcher as “the largest irrigated crop in the U.S.”⁴⁰⁷ Sprawl also increases water pollution, either through the application of nitrogen-rich fertilizers to large suburban lawns or through the use of septic tanks as an inexpensive alternative to municipal sewer lines.⁴⁰⁸ Furthermore, the conversion of forests and farmland to suburban development may contribute to global warming.⁴⁰⁹

c. *Human Health and Safety Impacts*

The association between air pollution, respiratory illness, and sprawl has long been studied. More recently, researchers have begun to explore the link between urban design and an expanded range of health impacts, including heart disease, diabetes, obesity, asthma, and depression.⁴¹⁰ The sprawl-obesity link has received particular attention.⁴¹¹ An emerging subset of the sprawl literature studies the phe-

⁴⁰⁷ See Elizabeth Weise, *As Suburbs Grow, So Do Environmental Fears*, USA TODAY, Dec. 27, 2005, available at http://www.usatoday.com/tech/science/2005-12-27-suburbs-environment_x.htm (quoting Jennifer Jenkins, professor of environmental economics at the University of Vermont).

⁴⁰⁸ *Id.* (citing December 2005 report by the American Geophysical Union, an international association of scientists).

⁴⁰⁹ See Amy Meersman, *NCAR Study: Land Use Affects Climate*, DAILY CAMERA (Boulder, Colo.), Dec. 9, 2005 (on file with author) (citing study by the National Center for Atmospheric Research indicating that deforestation will add at least two degrees Celsius to Amazon surface temperatures by the year 2100). In contrast, the expansion of agricultural lands can counteract global warming by as much as fifty percent across various portions of North America, Europe, and Asia. *Id.*

⁴¹⁰ See generally JACKSON & KOCHTITZKY, *supra* note 394. From 1960–97, vehicle miles traveled in the United States increased by more than 250%. See *id.* at 6 (citing U.S. Department of Transportation report). The average annual driving time of American drivers is 443 hours, the equivalent of eleven work weeks. *Id.* at 6 (citing CARL POPE, *SOLVING SPRAWL* (1999), available at <http://www.sierraclub.org/sprawl/report99/index.asp>).

⁴¹¹ See, e.g., Reid Ewing et al., *Relationship Between Urban Sprawl and Physical Activity, Obesity, and Morbidity*, 18 AM. J. HEALTH PROMOTION 47, 47 (Sept./Oct. 2003) (peer-reviewed study citing various studies published in the Journal of the American Medical Association). Among American adults, 64.5% are overweight and 30.5% are obese, leading to more than 300,000 premature deaths annually. *Id.* Such weight-related deaths are the second leading cause of preventable death, following tobacco-related deaths. *Id.*; see also BARBARA A. McCANN & REID EWING, *MEASURING THE HEALTH EFFECTS OF SPRAWL* 3 (2003) (finding that “people living in counties marked by sprawling development are likely to walk less, weigh more, and are more likely to have high blood pressure”); Russ Lopez, *Urban Sprawl and Risk for Being Overweight or Obese*, 94 AM. J. PUB. HEALTH 1574, 1574 (2004); Gale Norton & Michael Suk, *America’s Public Lands and Waters: The Gateway to Better Health?*, 30 AM. J.L. & MED. 237, 237 (2004) (discussing connection between sedentary lifestyle and obesity, and suggesting use of public lands as antidote to physical inactivity); Arlin Wasserman, *Gaining Weight: Michigan Sprawl Increases Waistlines, Health Care Costs*, MICH. LAND USE INST., Mar. 31, 2003, available at <http://mlui.org/growthmanagement/fullarticle.asp?fileid=16474>.

nomenon of “school sprawl”—the siting of sprawling, single-story, modern schools at the edge of town or in areas lacking sidewalks and bicycle paths.⁴¹² Increasingly, children are unable to walk to school, which in turn increases the occurrence of inactivity-related ailments.⁴¹³ With respect to public safety, some scientists have suggested that sprawling population patterns may increase the danger of flood-related harm.⁴¹⁴ They believe that “[u]rban sprawl has left some densely populated U.S. regions vulnerable to flooding on a similar scale to what the Gulf Coast suffered after Hurricane Katrina,” including the Sacramento-San Joaquin Delta of California and a fourteen thousand acre zone in the Mississippi River floodplain of St. Louis.⁴¹⁵ One researcher has asked, “If we knew about [Hurricane] Katrina 200 years ago, would we have done the same thing again in New Orleans? . . . Well, in California we are reinventing our own Katrina as we speak.”⁴¹⁶

d. *Social and Intangible Impacts*

Some studies indicate that deconcentrated land patterns contribute to the abandonment of urban communities, undercut economic productivity, deny equal opportunity, destabilize older suburbs, undercut education investments, reduce public safety, and worsen traffic congestion.⁴¹⁷ Other work suggests that sprawl may contribute to the economic and racial segregation of residential neighborhoods.⁴¹⁸ As early as 1968, the National Advisory Commission on Civil Disorders recognized a connection between land use patterns and racial segregation.⁴¹⁹ Anecdotal evidence suggests that, for some,

⁴¹² See generally David Goldberg, *Sprawl vs. Small: When Can Johnny Walk to School Again*, MICH. LAND USE INST., Sept. 16, 2005, available at <http://mlui.org/print.asp?fileid=16920>.

⁴¹³ See *id.* Between 1969 and 2001, the percentage of students who commuted to school by foot or bicycle declined from approximately fifty percent to ten percent, while childhood obesity rose to thirty percent. *Id.* In one county study, “57% of school principals rated the area around their schools as moderately to extremely dangerous for kids on foot or bicycle.” *Id.* (citing study by DeKalb, Georgia County Health Department).

⁴¹⁴ *Katrina-Level Floods*, *supra* note 395.

⁴¹⁵ *Id.*

⁴¹⁶ *Id.* (quoting Jeffrey Mount, University of California, at annual conference of the American Association for the Advancement of Science).

⁴¹⁷ See Richmond, *supra* note 403, at 565–73.

⁴¹⁸ *Id.* at 573–75, 579.

⁴¹⁹ *Id.* at 579 (quoting National Advisory Commission on Civil Disorders report). The report suggested:

[M]ost new employment opportunities . . . are being created in suburbs and outlying areas—and this trend is likely to continue indefinitely. . . . The exclusion of blacks from this emerging suburban work force would become “the

sprawl may lead to a decline in community welfare and individual happiness.⁴²⁰ These subjective claims are bolstered by objective data indicating that sprawl-induced traffic congestion may cost Americans \$72 billion annually in lost time and fuel,⁴²¹ and over two hundred lives annually that are lost to road rage.⁴²² Popular support for anti-sprawl measures also suggests widespread dissatisfaction with sprawling development.⁴²³

2. Defending Sprawl Regulations

Among the measures taken by local governments today to curb sprawl, zoning regulations are perhaps the most common. For example, in response to the trend toward the “supersizing” of houses, some municipalities have amended their zoning ordinances to set maximum limits on square footage or lot coverage.⁴²⁴ Zoning has also been used as a weapon against the proliferation of “big box” stores, with their perceived ability to sap traditional downtowns of their economic vitality.⁴²⁵ The legitimacy of zoning is well established, and challenges to sprawl-preventing restrictions have been largely unsuccessful.⁴²⁶

single most important source of poverty among Negroes” and a principle source of family and social disorganization.

Id. (quoting National Advisory Commission on Civil Disorders report).

⁴²⁰ See, e.g., Dowling, *supra* note 398, at 876 (describing a report sponsored by Bank of America, the California Resources Agency, Greenbelt Alliance, and the Low Income Fund that concluded that “unchecked sprawl has shifted from an engine of California’s growth to a force that now threatens to *inhibit* growth and degrade the quality of our life”); Letter to the Editor, *Baby Boomer’s “Wasteful” Sprawls*, USA TODAY, June 4, 2002, at A12 (claiming that “[u]nchecked sprawl has worsened environmental conditions, has bred a wasteland of mega-marts and malls and, frankly, has diminished the quality of life”). See generally Dana, *supra* note 307.

⁴²¹ Dowling, *supra* note 398, at 875 (citing report by Texas Transportation Institute, which found that Washington, D.C. residents waste about seventy-six hours each year in traffic jams at a cost of about \$1260 per person).

⁴²² *Id.* (citing 1996 data reported by the AAA Foundation for Traffic Safety).

⁴²³ *Id.* at 877 (noting that voters in 1998 approved over seventy percent of the 240 sprawl-control ballot initiatives nationwide, and reporting comments in support of smart growth and open space protection by thirty-four governors in 1998 inaugural remarks or “state of the state” speeches).

⁴²⁴ See Tom Kenworthy, *Oversize Homes Wear Out Welcome*, USA TODAY, Feb. 21, 2006, available at http://www.usatoday.com/news/nation/2006-02-20-large-homes_x.htm (describing Aspen, Colorado ban on homes exceeding 15,000 square feet, and Arlington County, Virginia’s limitation of building footprint to thirty percent of lot).

⁴²⁵ See Janet E. Milne, Symposium, *Foreword: The Big Box Challenge*, 6 VT. J. ENVTL. L. 1, 1 (2005).

⁴²⁶ See generally William W. Buzbee, *Sprawl’s Dynamics: A Comparative Institutional Analysis Critique*, 35 WAKE FOREST L. REV. 509 (2000); Dowling, *supra* note 398; Robert H. Freilich,

As early as 1926, the U.S. Supreme Court upheld the authority of local communities to enact comprehensive zoning ordinances.⁴²⁷ Ironically, traditional zoning fostered the very type of low-density, use-separating, sprawling development that modern regulations now seek to prevent. For example, in 1974, in *Village of Belle Terre v. Boraas*, the Court upheld in poetic terms the government's discretion to promote the kind of development that some today might criticize as sprawl:

A quiet place where yards are wide, people few, and motor vehicles restricted are legitimate guidelines in a land-use project addressed to family needs. . . . The police power is not confined to elimination of filth, stench, and unhealthy places. It is ample to lay out zones where family values, youth values, and the blessings of quiet seclusion and clean air make the area a sanctuary for people.⁴²⁸

Later, zoning ordinances would be used by some communities to limit undesirable sprawling development.⁴²⁹ Almost thirty years ago, the Court specifically endorsed sprawl prevention as a valid objective of zoning. In 1980, in *Agins v. City of Tiburon*, the Court upheld the government's authority to address "air, noise and water pollution, traffic congestion, destruction of scenic beauty, disturbance of the ecology and environment, hazards related to geology, fire and flood, and other demonstrated consequences of urban sprawl."⁴³⁰

Time, Space, and Value in Inverse Condemnation: A Unified Theory for Partial Takings Analysis, 24 U. HAW. L. REV. 589 (2002); James E. Holloway & Donald C. Guy, *Smart Growth and Limits on Government Powers: Effecting Nature, Markets and the Quality of Life Under the Takings and Other Provisions*, 9 DICK. J. ENVTL. L. & POL'Y 421 (2001); Lora A. Lucero & Harrison T. Higgins, *Citizens Taking Matters into Their Own Hands*, 37 URB. LAW. 607 (2005); Chris J. Williams, Commentary, *Do Smart Growth Policies Invite Regulatory Takings Challenges? A Survey of Smart Growth and Regulatory Takings in the Southeastern United States*, 55 ALA. L. REV. 895 (2004). *But see generally* Richmond, *supra* note 403.

⁴²⁷ *Vill. of Euclid v. Ambler Realty Co.*, 272 U.S. 365, 388–90 (1926) (upholding local zoning ordinance as valid exercise of authority and rejecting facial attack).

⁴²⁸ *Vill. of Belle Terre v. Boraas*, 416 U.S. 1, 9 (1974) (upholding village's goals as permissible exercise of police power).

⁴²⁹ *See* Kenworthy, *supra* note 424; Milne, *supra* note 425, at 1.

⁴³⁰ *Agins v. City of Tiburon*, 447 U.S. 255, 261 n.8 (1980) (asserting that it has "long . . . been recognized as legitimate" for local governments to regulate "the 'premature and unnecessary conversion of open-space land to urban uses'"), *abrogated on other grounds by* *Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528 (2005); *see also* *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency*, 535 U.S. 302, 306, 331–32 (2002) (holding that moratorium on development imposed during the process of revising a comprehensive land-use plan does not constitute a *per se* taking of property requiring compensation under the Takings Clause of the U.S. Constitution).

Following the lead of the Supreme Court, many lower courts have upheld sprawl-control measures against challenges brought under the Fifth Amendment and under a variety of other constitutional theories.⁴³¹ In cases where the government has prevailed, courts generally emphasize the nuisance-like aspects of sprawl, concluding that the government has ample authority to pursue its prevention.⁴³² In cases decided before the Supreme Court's 2005 decision in *Lingle v. Chevron U.S.A. Inc.*,⁴³³ this type of analysis is particularly pronounced, with some courts conflating the issues of whether a particular ordinance is a valid exercise of governmental authority, and whether the exercise of such authority constitutes a regulatory taking.⁴³⁴ After *Lingle*, courts have continued to support the validity of sprawl-control measures.⁴³⁵ In a closely watched California case, for example, the City of Turlock adopted a zoning ordinance clearly aimed at preventing the development of a Wal-Mart store.⁴³⁶ In rejecting Wal-Mart's

⁴³¹ See *infra* notes 433–437 and accompanying text.

⁴³² See *infra* notes 433–437 and accompanying text.

⁴³³ See *Lingle*, 544 U.S. at 540; see *supra* notes 230–234 and accompanying text.

⁴³⁴ See, e.g., *Loretto Dev. Co. v. Vill. of Chardon*, Nos. 97-3502, 97-3656, 1998 WL 320981, at *4 (6th Cir. June 4, 1998) (rejecting takings challenge to denial of landowner's proposal to rezone property to permit construction of Wal-Mart store); *Dodd v. Hood River County*, 136 F.3d 1219, 1229–30 (9th Cir. 1998) (rejecting takings challenge to zoning ordinance preventing landowners from building home in forest use zone, and citing with approval governmental interest in protecting commercial timber practices against the adverse consequences of sprawl); *Windward Marina, L.L.C. v. City of Destin*, 743 So. 2d 635, 639–40 (Fla. Dist. Ct. App. 1999) (rejecting takings challenge to denial of permit to construct dry-dock marina, and evaluating resultant increased boat traffic in context of nuisance law).

⁴³⁵ See, e.g., *Peste v. Mason County*, 136 P.3d 140, 144, 150 (Wash. Ct. App. 2006) (rejecting takings challenge to denial of rezoning petition to allow increased residential density, and noting with approval county's goal of reducing sprawl), *review denied*, 154 P.3d 919 (Wash. 2007).

⁴³⁶ See *Wal-Mart Stores, Inc. v. City of Turlock*, 41 Cal. Rptr. 3d 420, 421–22 (Cal. Ct. App. 2006) (rejecting police power and state law challenges to zoning ordinance). The challenged zoning provision "would limit the ability of 'big box' retailers to sell nontaxable items such as groceries." *Id.* at 423. *Wal-Mart, Inc. v. City of Turlock* was disapproved of on other grounds by *Hernandez v. City of Hanford*, 159 P.3d 33, 43–45 (Cal. 2007) In *Hernandez* the court disapproved any language in *Wal-Mart* that may be interpreted as inconsistent with the view that:

even when the regulation of economic competition reasonably can be viewed as a direct and intended effect of a zoning ordinance or action, so long as the primary purpose . . . is not the impermissible *private* anticompetitive goal of protecting or disadvantaging a particular favored or disfavored business or individual . . . the ordinance reasonably relates to the general welfare of the municipality and constitutes a legitimate exercise of the municipality's police power.

Id.

challenge to the ordinance, the court noted with approval the legislative purposes of “protect[ing] against urban/suburban decay, increased traffic, and reduced air quality, all of which, according to the City, can result from the development of discount superstores.”⁴³⁷

3. Sprawl Protection as Offensive Claim

A public way is obstructed just as effectively by a pattern of low-density development that over time generates more auto trips than roads can handle, as by an ox cart abandoned in the middle of a road.

—Henry R. Richmond⁴³⁸

Sprawl presents a more tenuous case for nuisance than does wetland destruction. Unlike the latter—which may even support an affirmative action for nuisance abatement—in the case of sprawl it may be difficult to trace causation and to prove sufficient injury for standing.⁴³⁹ As one commentator has noted, “[traditional] nuisances hurtled directly and immediately across property lines and substantially harmed a clearly identifiable, usually adjacent, rural landowner and perhaps a few others.”⁴⁴⁰ In contrast, this commentator notes that “a subdivision or shopping mall at the metropolitan fringe affects people in the interior from a considerable distance, in an indirect manner . . . and affects many people a little instead of one or a few people a great deal.”⁴⁴¹ Even if these problems of injury and causation can be overcome, the very pervasiveness of zoning regulations poses hurdles to the affirmative nuisance suit.⁴⁴² Otherwise viable common law actions may be preempted by complementary legislative efforts to curb sprawl.⁴⁴³

⁴³⁷ *Wal-Mart*, 41 Cal. Rptr. at 439. See generally *In re Wal-Mart Stores, Inc.*, 702 A.2d 397 (Vt. 1997) (upholding Vermont’s Act 250).

⁴³⁸ Richmond, *supra* note 403, at 577 (arguing that “[p]ublic health is threatened just as much by airborne emissions from millions of tailpipes as by the airborne germs from rotting hog carcasses or a malarial pond”).

⁴³⁹ See *id.* at 577–78.

⁴⁴⁰ *Id.* at 577.

⁴⁴¹ *Id.*

⁴⁴² *Id.* at 577–78.

⁴⁴³ Richmond, *supra* note 403, at 578 n.121 (arguing that the “apparently slam-dunk nuisance lawsuit is not viable because state legislatures have supplanted common-law nuisance principles with sprawl zoning. The argument would have to be that because 1920s style zoning does not attempt to assess the metro-wide impacts of many modern land uses, zoning statutes do not pre-empt nuisance claims”).

C. Global Warming as New Nuisance

While the Congress that drafted sec.202(a)(1) [of the Clean Air Act] might not have appreciated the possibility that burning fossil fuels could lead to global warming, they did understand that without regulatory flexibility, changing circumstances and scientific developments would soon render the Clean Air Act obsolete.

—Justice John Paul Stevens⁴⁴⁴

1. *The New Learning on Global Warming*

As the composition of the earth's atmosphere changes, more of the sun's energy is trapped rather than radiated back into space.⁴⁴⁵ This change is brought about by the emission of so-called "greenhouse gases," including carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, sulphur hexafluoride, and perfluorocarbons.⁴⁴⁶ About seventy-five percent of the carbon dioxide emitted by humans during the past two decades can be attributed to the burning of fossil fuels (primarily by automobiles and power plants), with additional emissions attributable to deforestation and other land use changes.⁴⁴⁷

Perhaps the best scientific consensus on climate change (including global warming) is provided by the Intergovernmental Panel on Climate Change (the "IPCC"), established in 1988 by the World Meteorological Organization and the United Nations Environment Programme.⁴⁴⁸ The IPCC has issued a series of "assessment reports," including *Climate Change 2001*⁴⁴⁹ and *Climate Change 2007*.⁴⁵⁰ Although the human causes of global warming are subject to a measure of dis-

⁴⁴⁴ *Massachusetts v. Envtl. Prot. Agency*, 127 S. Ct. 1438, 1462 (2007).

⁴⁴⁵ See Environmental Protection Agency, Climate Change Science, <http://epa.gov/climatechange/science/index.html> (last visited Sept. 21, 2007).

⁴⁴⁶ *Id.* The first three greenhouse gases occur both naturally and as byproducts of human activities, whereas the remaining three gases are not naturally occurring. *Id.*

⁴⁴⁷ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS, SUMMARY FOR POLICYMAKERS 7 (J.T. Houghton et al. eds., 2001) [hereinafter CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS].

⁴⁴⁸ United Nations Env't Programme & World Meteorological Org., Intergovernmental Panel On Climate Change, <http://www.ipcc.ch> (last visited Oct. 4, 2007).

⁴⁴⁹ See generally INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, THIRD ASSESSMENT REPORT, CLIMATE CHANGE 2001 (2001), available at <http://www.ipcc.ch/pub/reports.htm> (last visited Oct. 4, 2007).

⁴⁵⁰ See generally INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, FOURTH ASSESSMENT REPORT, CLIMATE CHANGE 2007 (2007), available at <http://www.ipcc.ch> (last visited Oct. 4, 2007). The report incorporates four components: *The Physical Science Basis*; *Impacts, Adaptation and Vulnerability*; *Mitigation of Climate Change*; and a *Synthesis Report*. *Id.*

pute, they have been identified with an increasing degree of confidence over time.⁴⁵¹ In 2001, the IPCC asserted that although natural factors have made “small contributions” to global warming, “concentrations of atmospheric greenhouse gases and their radiative forcing have continued to increase as a result of human activities.”⁴⁵² In response to a 2001 request from the White House, the National Research Council agreed that the increase in surface air temperatures and subsurface ocean temperatures over the past several decades “are likely mostly due to human activities,” but added, “we cannot rule out that some significant part of these changes is also a reflection of natural variability.”⁴⁵³ The IPCC’s subsequent report, *Climate Change 2007*, concluded, “The understanding of anthropogenic warming and cooling influences on climate has improved since the [2001 Assessment Report], leading to *very high confidence* that the global average net effect of human activities since 1750 has been one of warming”⁴⁵⁴ The IPCC added that the rate of increase of radiative forcing during the industrial era “due to increases in carbon dioxide, methane, and nitrous oxide . . . is *very likely* to have been unprecedented in more than 10,000 years.”⁴⁵⁵ The IPCC predicts a variety of climate changes and consequences by the end of the twenty-first century, including an average surface temperature increase of 1.8 to 4.0 degrees centigrade, and a rise of global mean sea level of 0.18 to 0.59 meters.⁴⁵⁶ Moreover,

⁴⁵¹ See *infra* notes 452–457 and accompanying text.

⁴⁵² CLIMATE CHANGE 2001: THE SCIENTIFIC BASIS, *supra* note 447, at 7, 9. The IPCC defines “radiative forcing” as “a measure of the influence a factor has in altering the balance of incoming and outgoing energy in the Earth-atmosphere system, and [as] an index of the importance of the factor as a potential climate change mechanism”). *Id.* at 5 n.8. The IPCC further asserted in its 2001 report that “[t]here is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities.” *Id.* at 10.

⁴⁵³ NAT’L RESEARCH COUNCIL, CLIMATE CHANGE SCIENCE: AN ANALYSIS OF SOME KEY QUESTIONS 1 (2001). The National Research Council, part of the National Academy of Sciences, was organized in 1916 primarily to advise the federal government on scientific and technical matters. *Id.* at vii. This 2001 analysis was a response to a request from the White House for “assistance in identifying the areas in the science of climate change where there are the greatest certainties and uncertainties” and “views on whether there are any substantive differences between IPCC Reports and the IPCC summaries.” *Id.*

⁴⁵⁴ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS, SUMMARY FOR POLICYMAKERS 3 (2007), available at <http://www.ipcc.ch>.

⁴⁵⁵ *Id.*

⁴⁵⁶ *Id.* at 13 (predicting changes for years 2090–2099 relative to 1980–1999).

the IPCC projects that increases in tropical cyclone (typhoon and hurricane) wind and precipitation intensities are “likely.”⁴⁵⁷

2. Defending Climate Regulations

As discussed above, wetland destruction and land use patterns are regulated by well-developed legislative schemes under the Clean Water Act and local zoning ordinances, respectively.⁴⁵⁸ Those seeking to avoid such regulation have claimed, *inter alia*, that it constitutes a regulatory taking for which compensation is required—a claim that may be refuted in some cases by a new nuisance defense.⁴⁵⁹ Surprisingly, this same pattern has not appeared in the context of global warming regulation.⁴⁶⁰ That is, opponents of new laws aimed at curbing greenhouse gas emissions have not challenged them under the Fifth Amendment regulatory takings doctrine, at least not yet.⁴⁶¹

The most obvious explanation for this absence of takings litigation is quite simple: there is little or no legislation in existence to serve as the target of a challenge, either at the federal or state levels. In fact, at the federal level, it is those who favor regulation—and not property rights advocates opposing it—who have filed suit. For example, in the 2007 Supreme Court case *Massachusetts v. Environmental*

⁴⁵⁷ *Id.* at 15; see also P.J. Webster et al., *Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment*, 309 SCIENCE 1844, 1846 (2005) (concluding that “global data indicate a 30-year trend toward more frequent and intense hurricanes”). Webster et al. explain that:

[t]his trend is not inconsistent with recent climate model simulations that a doubling of CO₂ may increase the frequency of the most intense cyclones, although attribution of the 30-year trends to global warming would require a longer global data record and, especially, a deeper understanding of the role of hurricanes in the general circulation of the atmosphere and ocean

Id.; Dean Scott, *Researchers’ Models Suggest Stronger Link Between Greenhouse Emissions, Hurricanes*, BNA DAILY ENV’T REP., Sept. 12, 2006, at A-1 (identifying “human-induced factors as the single most important contributor to changes in sea surface temperatures”) (citing Tom Wigley, coauthor of study, B.D. Santer, *Forced and Unforced Ocean Temperature Changes in Atlantic and Pacific Tropical Cyclogenesis Regions*, PROC. NAT’L ACAD. SCI., Sept. 11, 2006).

⁴⁵⁸ See *supra* notes 334–387, 424–437 and accompanying text.

⁴⁵⁹ See *supra* notes 334–387, 424–437 and accompanying text.

⁴⁶⁰ See generally JUSTIN R. PIDOT, GLOBAL WARMING IN THE COURTS: AN OVERVIEW OF CURRENT LITIGATION AND COMMON LEGAL ISSUES (2006 & Mar. 5, 2007 Supp.), available at http://www.law.georgetown.edu/gelpi/current_research/global_warming_litigation/global (describing pending lawsuits); Community Rights Counsel, Legal Resources, Global Warming Litigation—Clean Air Act, Nuisance, Preemption and Other Cases (April 2007), <http://www.communityrights.org/legalresources/PetitionsForCertiorari/GWC%20and%20Materials.asp> (listing global warming cases).

⁴⁶¹ See generally PIDOT, *supra* note 460; Community Rights Counsel, *supra* note 460.

Protection Agency the issue was whether the states and others could compel the federal government to regulate greenhouse gases, not whether any such regulation would run afoul of the takings doctrine.⁴⁶² Thus, it may be simply too soon for takings litigation to have materialized, particularly “as-applied” rather than “facial” challenges.

A second plausible explanation is that opponents of climate change regulation have relied upon nonjudicial challenges⁴⁶³ or upon legal theories not premised upon Fifth Amendment regulatory takings.⁴⁶⁴ This hypothesis may be supported by industry’s reaction to California’s pioneering efforts to regulate greenhouse gases.⁴⁶⁵ For example, in 2006, in *Central Valley Chrysler-Jeep, Inc. v. Witherspoon*, a case before the U.S. District Court for the Eastern District of California, automobile manufacturers challenged California’s 2004 adoption of vehicle emission regulations for greenhouse gases, claiming that the state’s action had been preempted by various federal statutes and that the new emission standards would usurp the authority of the Federal Department of Transportation (“DOT”) to regulate fuel economy.⁴⁶⁶ A

⁴⁶² 127 S. Ct. 1438, 1446 (2007); see *infra* notes 477–481 and accompanying text.

⁴⁶³ Despite signs that industry is increasingly receptive to climate change legislation, see *infra* notes 523–536 and accompanying text, evidence exists that some in industry and government continue to challenge the basis for such legislation, or even to manipulate the underlying data. See Steven D. Cook, *Council on Environmental Quality Questioned on Alleged Twisting of Global Warming Data*, BNA DAILY ENV’T REP., July 21, 2006, at A-3 (describing investigation by House Government Reform Committee of “alleged manipulation of scientific data by [Council on Environmental Quality] staff to minimize the reported impact of global warming”); Ian Sample, *Scientists Offered Cash to Dispute Climate Study*, GUARDIAN (London), Feb. 2, 2007, at 1 (alleging that “[s]cientists and economists have been offered \$10,000 each by a lobby group funded by one of the world’s largest oil companies to undermine a major climate change report due to be published today [the IPCC’s *Climate Change 2007*]”); *Scientists’ Report Documents ExxonMobil’s Tobacco-Like Disinformation Campaign on Global Warming Science: Oil Company Spent Nearly \$16 Million to Fund Skeptic Groups, Create Confusion*, UNION CONCERNED SCIENTISTS, Jan. 3, 2007, http://www.ucsusa.org/news/press_release/ExxonMobil-GlobalWarming-tobacco.html (asserting that “ExxonMobil has funneled nearly \$16 million between 1998 and 2005 to a network of 43 advocacy organizations that seek to confuse the public on global warming science”).

⁴⁶⁴ See generally PIDOT, *supra* note 460; Community Rights Counsel, *supra* note 460.

⁴⁶⁵ See CAL. HEALTH & SAFETY CODE § 43018.5 (2007) (requiring the California Air Resources Board to “develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles”). Congress has delegated unique authority to California to enact motor vehicle emission standards, subject to certain federal approvals. See Clean Air Act, § 209(b) 42 U.S.C. § 7543(b) (2000).

⁴⁶⁶ 456 F. Supp 2d 1160, 1165–66 (E.D. Cal. 2006) (denying state defendant’s motion to dismiss for failure to state a claim). On January 16, 2007, the district court found California’s program to regulate greenhouse gases to be preempted and enjoined its enforcement pending a waiver of federal preemption from the U.S. EPA. See *Cent. Valley Chrysler-Jeep v. Witherspoon*, No. CVF 04-6663 AWI LJO, 2007 WL 135688, at *15 (E.D. Cal. Jan.

similar group of plaintiffs challenged the adoption of emissions standards by Vermont and Rhode Island.⁴⁶⁷ This argument has been undermined considerably, however, by the U.S. Supreme Court's subsequent ruling in *Massachusetts*⁴⁶⁸ and the district court's resolution of the Vermont case where the court held that the state regulations, adopted under the Clean Air Act, are not preempted by the Energy Policy and Conservation Act.⁴⁶⁹

A third potential explanation is that regulation of the air—as opposed to regulation of wetlands and land use—does not lend itself to legal challenges grounded in the takings doctrine. Nevertheless—although the regulation of air pollutants differs conceptually from the regulation of wetlands filling or other uses of real property—there is at least limited precedent for challenging air pollution regulation as a regulatory taking.⁴⁷⁰

A fourth possible explanation is that regulatory takings challenges will never pose a significant hurdle to global warming legislation. That is, as the science on climate change develops, it may become easier to prove that greenhouse gas pollution unleashes nuisance-like harms

16, 2007). The court stayed further proceedings pending the Supreme Court's decision in *Massachusetts*. See *id.* Beyond the vehicle emission standards, California also enacted groundbreaking statewide emission caps for stationary sources through the Global Warming Solutions Act of 2006. See CAL. HEALTH & SAFETY CODE §§ 38500–38599 (2006) (requiring state air resources board to adopt regulations reducing emissions to 1990 levels by 2020).

⁴⁶⁷ See generally *Green Mountain Chrysler-Plymouth-Dodge-Jeep v. Crombie*, No. 2:05-cv-302, 2:05-cv-304 238–39, 2007 WL 2669444, at *91–93 (D. Vt. Sept. 12, 2007) (holding that Vermont's auto emissions standards for greenhouse gases are not preempted by the Energy Policy and Conservation Act); *Complaint, Lincoln Dodge Inc. v. Sullivan*, No. CV0670T (D. R.I. Feb. 13, 2006) (challenging Rhode Island's greenhouse gas emissions standards for automobiles). Under the Clean Air Act, California may adopt its own vehicle emissions standards, so long as the state is granted a preemption waiver by EPA and other states may adopt a California standard for which a waiver has been granted. 42 U.S.C. §§ 7507, 7543(a), (b) (2000). To date, the California greenhouse gas emissions standards have been adopted by Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Vermont, and Washington. See Tony Perriello & Carolyn Whetzel, *Court Backs Vermont Emissions Rules Against Challenge Brought by Auto Industry*, 38 BNA ENV'T REP. 1954, 1954 (2007).

⁴⁶⁸ See *Massachusetts*, 127 S. Ct. at 1461–62, 1463 (holding that the U.S. EPA has the authority to regulate greenhouse gas emissions under the Clean Air Act and rejecting the EPA's argument that such regulation would interfere with DOT's authority to set fuel efficiency standards for automobiles); see also *infra* notes 477–481 and accompanying text.

⁴⁶⁹ *Green Mountain*, 2007 WL 2669444, at *91–93.

⁴⁷⁰ See, e.g., *D.A.B.E., Inc. v. City of Toledo*, 393 F.3d 692, 695 (6th Cir. 2005) (rejecting takings challenge by restaurant and bar owners to city ordinance restricting smoking in enclosed public places). Although plaintiffs failed on the merits, the case suggests no theoretical bar to the challenge of air regulation as regulatory taking. See *id.*

upon society.⁴⁷¹ As a result, potential plaintiffs must weigh the possibility that their contemplated takings challenges will fail under the increasingly powerful *new nuisance* affirmative defense available to government regulators.⁴⁷²

3. Climate Protection as an Offensive Claim

Climate protection advocates have filed a series of lawsuits affirmatively challenging atmospheric pollution.⁴⁷³ Although plaintiffs face numerous procedural and substantive hurdles, they are gaining traction in the courts and have prevailed on preliminary issues such as standing.⁴⁷⁴ Although the likelihood of success is still small—particularly in the nuisance lawsuits—the stakes are enormous. As one practitioner notes, “The prospect of liability is a serious matter. . . . Even if the risk appears to be small in terms of the likelihood of being found liable, the consequences of being held liable are substantial—potentially in the trillions of dollars.”⁴⁷⁵

Four cases are particularly noteworthy.⁴⁷⁶ The first contemplated whether carbon dioxide qualifies as an air pollutant under the Clean Air Act.⁴⁷⁷ In *Massachusetts*, twelve states and other plaintiffs brought an action challenging the EPA’s denial of a petition under section 202(a)(1) of the Clean Air Act, seeking the regulation of carbon dioxide and other greenhouse gas emissions from new motor vehicles.⁴⁷⁸ In April 2007, the U.S. Supreme Court held, *inter alia*, that the peti-

⁴⁷¹ See *supra* notes 445–457 and accompanying text.

⁴⁷² See *supra* notes 259–275 and accompanying text.

⁴⁷³ See *infra* notes 476–502 and accompanying text.

⁴⁷⁴ See *Massachusetts*, 127 S. Ct. at 1458 (holding that plaintiffs had standing to challenge EPA’s failure to regulate greenhouse gases from automobiles).

⁴⁷⁵ Kristin Choo, *Feeling the Heat: The Growing Debate over Climate Change Takes on Legal Overtones*, 2006 A.B.A. J. 29, 34 (quoting John C. Dernbach, cochair, Sustainable Development, Ecosystems and Climate Change Committee, ABA Section of Environment, Energy and Resources). Dernbach’s observations are reminiscent of Judge Learned Hand’s articulation of the so-called “*Carroll Towing* Formula,” under which a defendant’s duty in tort is a function of three variables: the probability of harm, the gravity of harm, and the burden of adequate precautions. *United States v. Carroll Towing Co.*, 159 F.2d 169, 173 (2d Cir. 1947) (holding barge company liable in negligence for damage occurring when barge broke away from its mooring during daylight hours and no attendant was aboard the ship). Extrapolating broadly to the context of global warming, the greater the body of evidence that catastrophic climate change is likely to occur, the more reasonable it becomes to impose liability upon atmospheric polluters. See *id.*

⁴⁷⁶ See *infra* notes 477–502 and accompanying text.

⁴⁷⁷ *Massachusetts*, 127 S. Ct. at 1460.

⁴⁷⁸ *Id.* at 1446.

tioners had standing,⁴⁷⁹ that the EPA has statutory authority under the Clean Air Act to regulate as “air pollutants” greenhouse gases emitted by motor vehicles,⁴⁸⁰ and that the EPA’s charge to protect the public health and welfare is a “statutory obligation wholly independent of DOT’s mandate to promote energy efficiency.”⁴⁸¹ The Court’s opinion began with a review of the advances in climate change science during the last fifty years, citing studies conducted by the U.S. government and the IPCC.⁴⁸² Whereas the U.S. Court of Appeals for the District of Columbia Circuit—which held that the EPA properly exercised its discretion in denying the rulemaking petition—relied heavily on a 2001 statement by the National Research Council that “‘a causal linkage’ between greenhouse gas emissions and global warming ‘cannot be unequivocally established,’”⁴⁸³ the Supreme Court viewed that statement as a “residual uncertainty”⁴⁸⁴ and noted that the “NRC Report . . . identifies a number of environmental changes that have already inflicted significant harms, including the ‘global retreat of mountain glaciers, reduction in snow-cover extent, the earlier spring melting of rivers and lakes, [and] the accelerated rate of rise of sea levels’”⁴⁸⁵ The Court relied on this new learning in holding that the EPA has the authority to regulate greenhouse gases under the Clean Air Act, emphasizing that “changing circumstances and scientific developments” must be taken into account.⁴⁸⁶

At least three other global warming lawsuits are of particular interest.⁴⁸⁷ First, because the appellants in *Massachusetts* had been unsuccessful before the D.C. Circuit in forcing the EPA to regulate carbon dioxide emissions, while their appeal was pending before the Supreme Court, an alliance including many of the same states and environmental organizations brought an offensive nuisance claim as an alternative avenue of relief.⁴⁸⁸ In 2005, in *Connecticut v. American*

⁴⁷⁹ *Id.* at 1458.

⁴⁸⁰ *Id.* at 1463.

⁴⁸¹ *Id.* at 1462.

⁴⁸² *Massachusetts*, 127 S. Ct. at 1447–49.

⁴⁸³ *Massachusetts v. Envtl. Prot. Agency*, 415 F.3d 50, 57 (D.C. Cir. 2005) (quoting NAT’L RESEARCH COUNCIL, *supra* note 453, at 17), *rev’d*, 127 S. Ct. 1438.

⁴⁸⁴ *Massachusetts*, 127 S. Ct. at 1451 (quoting NAT’L RESEARCH COUNCIL, *supra* note 453, at 16).

⁴⁸⁵ *Id.* at 1455.

⁴⁸⁶ *Id.* at 1462.

⁴⁸⁷ See *infra* notes 488–502 and accompanying text.

⁴⁸⁸ See generally *Connecticut v. Am. Elec. Power Co.*, 406 F. Supp. 2d 265 (S.D.N.Y. 2005) (dismissing action as nonjusticiable political question), *appeal docketed*, No. 05–5104 (2d Cir. Sept. 22, 2005).

Electric Power Co., a case filed in the U.S. District Court for the Southern District of New York, the plaintiffs again sought to abate global warming, this time terming it a public nuisance.⁴⁸⁹ The plaintiffs targeted five public utility companies as defendants, alleging that together they emit one fourth of the U.S. electric power sector's carbon dioxide emissions, and therefore contribute significantly to climate change.⁴⁹⁰ The plaintiffs sought a complicated remedy, asking the court to set a cap on each defendants' carbon dioxide emissions, as well as an emission reduction schedule.⁴⁹¹ The court granted defendants' motion to dismiss on the ground that addressing climate change as a public nuisance—at least in the manner requested by the plaintiffs—was a nonjusticiable political question.⁴⁹² Nevertheless, the court provided instructive language suggesting weaknesses that future environmental plaintiffs might overcome to prosecute successful nuisance actions—indicating that the relief sought was overbroad and revealed the “transcendently legislative nature of [the] litigation.”⁴⁹³

Two other cases are more promising for an ultimate recognition of climate change as public nuisance, ruling in favor of environmental plaintiffs on the standing-related issues of injury-in-fact, causation, and redressability.⁴⁹⁴ In 2005, in *Friends of the Earth, Inc. v. Watson*, a

⁴⁸⁹ *Id.* at 267. See generally Thomas W. Merrill, *Global Warming as a Public Nuisance*, 30 COLUM. J. ENV'T'L L. 293 (2005) (doubting success of claim).

⁴⁹⁰ *Am. Elec. Power*, 406 F. Supp. 2d at 268.

⁴⁹¹ *Id.* at 270. This request would have required defendants to comply with emissions caps that parallel the Kyoto Protocol, which the United States did not ratify. *Id.* at 269–70.

⁴⁹² *Id.* at 271–74.

⁴⁹³ *Id.* at 272 (explaining that the requested relief would require the court to make a number of policy determinations “of a kind clearly for nonjudicial discretion”); see also *id.* at 270 (describing prayer for court to “enjoin[] each of the Defendants to abate its contribution to the nuisance by capping its emissions of carbon dioxide and then reducing those emissions by a specified percentage each year for at least a decade”). But see *California v. Gen. Motors Corp.*, No. 3:06-CV-05755, slip op. at 23 (N.D. Cal. Sept. 17, 2007) (dismissing public nuisance claim against manufacturer of motor vehicles as a nonjusticiable political question); *In re: Methyl Tertiary Butyl Ether (“MTBE”) Prods. Liab. Litig.*, 438 F. Supp. 2d 291, 301, 304 (S.D.N.Y. 2006) (denying defendant gasoline producers' motion to dismiss on basis of political question doctrine, and distinguishing *Connecticut v. American Electric Power Co.* as a case in which plaintiffs sought quasi-legislative relief when Congress and the Executive had specifically refused to act); *Nw. Env'tl. Def. Ctr. v. Owens Corning Corp.*, 434 F. Supp. 2d 957, 970 (D. Or. 2006) (distinguishing *American Electric Power Co.* as a case where the court was asked “to make a free-wheeling policy choice and decide whether global warming is, or is not, a serious threat or what measures should be taken to remedy that problem”). For another nuisance-based lawsuit, see generally *Comer v. Murphy Oil, U.S.A.*, No. 1:05-CV-00436 (S.D. Miss. Aug. 30, 2007) (dismissing nuisance claim against oil and gas companies which alleged that their greenhouse gas emissions exacerbated the damage caused by Hurricane Katrina).

⁴⁹⁴ See *infra* notes 495–502 and accompanying text.

case before the U.S. District Court for the Northern District of California, plaintiff environmental organizations alleged that defendants had provided assistance to particular projects that contribute to climate change without complying with the National Environmental Policy Act and the Administrative Procedure Act.⁴⁹⁵ The court found that plaintiffs had standing, noting that a more lenient standard should be applied in cases alleging procedural statutory violations.⁴⁹⁶ Moreover, in a later phase of the litigation, the court indicated its willingness to accept a link between human activity and climate change.⁴⁹⁷

Similarly, in 2006, in *Northwest Environmental Defense Center v. Owens Corning Corp.*, the U.S. District Court for the District of Oregon held that plaintiffs had standing to challenge alleged violations of the Clean Air Act that could promote global warming.⁴⁹⁸ The court found that the plaintiffs had adequately demonstrated causation, even though they relied upon indirect links between cause and effect.⁴⁹⁹ In

⁴⁹⁵ *Friends of the Earth, Inc. v. Watson*, No. C 02-4106 JSW, 2005 WL 2035596, at *1 (N.D. Cal. Aug. 23, 2005) (denying defendants' motion for summary judgment). Defendants are Peter Watson, Chief Executive Officer of the Overseas Private Investment Corporation (OPIC), and Peter Merrill, Vice Chairman and First Vice President of the Export-Import Bank of the United States (Ex-Im). *Id.* As the court explained, "OPIC, an independent government corporation, offers insurance and loan guarantees for projects in developing countries. . . . Ex-Im, an independent governmental agency and wholly-owned government corporation, provides financing support for exports from the United States." *Id.* (quoting 22 U.S.C. § 2197(a) (2000)).

⁴⁹⁶ *See id.* at *2 ("When, as here, a plaintiff seeks to challenge a procedural violation, some uncertainty about redressability and causality is allowed."); *see also id.* at *3 ("Here, any concern that Plaintiffs' asserted injuries are caused by third parties must be evaluated in light of lower threshold for causation in procedural injury cases.").

⁴⁹⁷ *See* Scott Lindlaw, *Federal Judge Allows Global Warming Lawsuit to Advance*, SIGNON-SANDIEGO.COM, Mar. 31, 2007, <http://signonsandiego.com>. Citing to the Al Gore documentary, *An Inconvenient Truth*, and to other sources, the court stated, "It would be difficult for the court to conclude that defendants have created a genuine dispute that [greenhouse gases] do not contribute to global warming." *Id.*

⁴⁹⁸ *Owens Corning*, 434 F. Supp. 2d at 971 (upholding standing in action alleging violations of Clean Air Act § 165(a)). After the court rejected defendant Owens Corning's motion to dismiss, the parties reached a settlement agreement. *See generally* Stipulated Order of Dismissal, *Owens Corning*, 434 F. Supp. 2d 957 (No. 04-CV-172-JE); Pac. Envtl. Advocacy Ctr., Court Rules Against Owens Corning Corporation, <http://law.lclark.edu/org/peac/latest.html> (last visited Sept. 16, 2007).

⁴⁹⁹ *Owens Corning*, 434 F. Supp. 2d at 967-68. The court noted:

Other forecasted impacts from [Defendant's] . . . emissions would operate less directly. For instance, ozone-depleting emissions from Defendant's facility must first ascend to the stratosphere before impacting persons on the ground in Oregon. Global warming likewise operates indirectly. Higher sea levels in Oregon will supposedly result from melting ice in the earth's polar regions. . . . Nevertheless, the adverse effects alleged in Plaintiffs' Complaint

declining to adopt a narrow view of standing, the court rejected the notion—derived from the special injury rule of public nuisance—that “injury to all is injury to none.”⁵⁰⁰ Under that view, the court explained that “if the proposed action threatened the very survival of our species, no person would have standing to contest it. The greater the threatened harm, the less power the courts would have to intercede. That is an illogical proposition.”⁵⁰¹ *Massachusetts* reinforced this view of the injury element of standing in the context of climate change, as the Supreme Court stated “[t]hat these climate-change risks are widely shared does not minimize Massachusetts’ interest in the outcome of this litigation.”⁵⁰²

4. New Learning on Global Warming as Legislative Catalyst

When the potential threat of climate change first came to national attention, many in government and industry responded with denial.⁵⁰³ International efforts to draft and ratify the Kyoto Protocol (the “Protocol”) highlight this opposition in the United States to aggressive regulation.⁵⁰⁴ The Clinton administration ultimately agreed, through the Protocol, to reduce U.S. emissions seven percent below 1990 levels, to be achieved by 2012.⁵⁰⁵ During its negotiations, however, the administration introduced several stumbling blocks that would continue to be hallmarks of U.S. policy through successive administrations.⁵⁰⁶ These hurdles included policy options to reduce the economic impact of compliance, as well as demanding that all nations (both developed and developing) agree to the Protocol.⁵⁰⁷ The George W. Bush administration later rejected the treaty, citing scien-

would be felt by them here in Oregon, and the source of Defendant’s emissions would be in Oregon.

Id. at 965; *see also id.* at 968 (recognizing more lenient requirement of causation in context of motion to dismiss for lack of standing than in context of merits of tort action).

⁵⁰⁰ *Id.* at 965–66.

⁵⁰¹ *Id.* at 966.

⁵⁰² *Massachusetts*, 127 S. Ct. at 1456 (internal quotation marks omitted).

⁵⁰³ *See infra* notes 504–514 and accompanying text.

⁵⁰⁴ *See infra* notes 505–508 and accompanying text.

⁵⁰⁵ DONALD A. BROWN, *AMERICAN HEAT: ETHICAL PROBLEMS WITH THE UNITED STATES’ RESPONSE TO GLOBAL WARMING* 30 (2002). The author had been “a former liaison of the U.S. Environmental Protection Agency to the United Nations from 1995 to 1998, a member of several U.S. delegations to UN negotiations on environmental and development issues, and a long-time observer of the U.S. role in international environmental issues . . .” *Id.* at xv.

⁵⁰⁶ *Id.* at 30.

⁵⁰⁷ *Id.*

tific uncertainty, as well as the factors advanced by the Clinton administration.⁵⁰⁸ For its part, the Senate refused to ratify the Protocol.⁵⁰⁹ A prominent senator stated, for example, “Any way you measure this, this is a bad deal for America.”⁵¹⁰ Similarly, another senator would later denounce the threat of catastrophic global warming as “the greatest hoax ever perpetrated on the American people.”⁵¹¹ Industry, too, mounted an attack on the Protocol, airing commercials that “showed a scissors cutting those countries out of a world map that would not have enforceable emissions targets . . . [thereby suggesting] that a Kyoto treaty would unfairly exempt these nations.”⁵¹² Several years later, industry would engage in another memorable television advertising campaign, this time in response to the movie, *An Inconvenient Truth*.⁵¹³ Showing an attractive, pigtailed young girl blowing onto a dandelion stalk to scatter its seeds, the narrator states, “[carbon dioxide] is essential to life [because] we breathe it out.” The narrator concludes, referring to carbon dioxide, “They call it pollution. We call it life.”⁵¹⁴

Over time, there has been an evolution in the attitudes of political and industrial leaders about the seriousness of the threat posed by global warming.⁵¹⁵ Some have called for governmental measures to encourage voluntary efforts to protect the global atmosphere.⁵¹⁶ For example, in 2005, Senator Chuck Hagel—a staunch opponent of the Kyoto Protocol—introduced three legislative bills to spur the devel-

⁵⁰⁸ *Id.* at 40–41.

⁵⁰⁹ *Id.* at 31.

⁵¹⁰ BROWN, *supra* note 505, at 37 (quoting Sen. Chuck Hagel).

⁵¹¹ 149 CONG. REC. 19913, 19943 (2003) (statement of Sen. James Inhofe).

⁵¹² BROWN, *supra* note 505, at 33 (describing “an industry coalition of oil companies, electric utilities, automobile manufacturers, and farm groups [that] launched a multi-million-dollar advertising campaign to generate public opposition to a Kyoto treaty”).

⁵¹³ See Competitive Enter. Inst., *We Call It Life*, <http://streams.cei.org> (last visited Sept. 23, 2007) (showing clip of “Energy,” a “60-second television spot[] [aired from May 18 to May 28, 2006] focusing on the alleged global warming crisis and the calls by some environmental groups and politicians for reduced energy use”). In a similar vein, global warming skeptic and British filmmaker Mark Durkin sought to cast doubt on the role of human emissions in causing climate change in his video, *The Great Global Warming Swindle*. See Raphael G. Satter, *Scientists Demand Changes to Film by Global Warming Skeptic*, ENVTL. NEWS NETWORK, Apr. 26, 2007, available at http://www.enm.com/top_stories/article/6461. British scientists noted that the video contains a “long catalog of fundamental and profound mistakes.” *Id.* (quoting Bob Ward, former spokesman for the Royal Society, Britain’s academy of science, and describing critical letter written by “38 scientists, including the former heads of Britain’s academy of sciences and Britain’s weather office”).

⁵¹⁴ See Competitive Enter. Inst., *supra* note 513.

⁵¹⁵ See *infra* notes 516–527 and accompanying text.

⁵¹⁶ See *infra* notes 517–522 and accompanying text.

opment of clean-energy technologies.⁵¹⁷ He stopped well short of endorsing mandatory emission caps, however, relying instead upon voluntary public-private partnerships and upon incentives to industry.⁵¹⁸ Similarly, commenting on the release of *Climate Change 2007*,⁵¹⁹ the Bush administration embraced the report, but indicated that it would continue to rely primarily upon voluntary methods to address the problem.⁵²⁰ Also promoting voluntary efforts, Wal-Mart launched a broad sustainability campaign in 2006.⁵²¹ Among other things, the effort seeks to double the efficiency of its vehicle fleet in ten years, and to reduce the energy use in its stores by thirty percent.⁵²²

Others have gone even further, seeking mandatory federal regulation of atmospheric pollution contributing to climate change.⁵²³ For example, some politicians have called for the prompt enactment of mandatory caps on U.S. greenhouse gas emissions.⁵²⁴ Increasingly, industry has supported such calls.⁵²⁵ In a move that would have been largely unthinkable just a decade ago, a coalition of prominent businesses and environmental groups—the U.S. Climate Action Partner-

⁵¹⁷ See Amanda Griscom Little, *The Chuck Stops Here: An Interview with Senator Chuck Hagel, Republican from Nebraska, on His New Climate Bills*, GRIST, Mar. 1, 2005, <http://www.grist.org/news/maindish/2005/03/01/hagel>. With respect to his position on climate change treaties, the Senator asserted:

My position has been very consistent. In 1997, I introduced the Byrd-Hagel Resolution, and if you read that it says two things: the Senate would not ratify any climate-change treaty that does not include developing nations and does harm to the U.S. economy. So I'm right where I was in 1997, and that's reflected in the legislation that I introduced. I've always said that climate change is a cycle of the world. We've always had extreme swings in climate, long before there was a combustion engine or a great population of human beings in the world.

Id.

⁵¹⁸ See *id.*

⁵¹⁹ See *supra* note 450 and accompanying text.

⁵²⁰ See Dean Scott & Larry Speer, *Bush Administration Embraces IPCC Findings but Resists Call for Capping U.S. Emissions*, 38 BNA ENV'T REP. 301, 301 (2007).

⁵²¹ See Marc Gunther, *The Green Machine*, FORTUNE, July 31, 2006, available at http://money.cnn.com/magazines/fortune/fortune_archive/2006/08/07/8382593/index.htm.

⁵²² *Id.*

⁵²³ See *infra* notes 524–527 and accompanying text.

⁵²⁴ Dean Scott, *Senators Say Consensus Building for Bill with Mandatory Caps on Greenhouse Gases*, 38 BNA ENV'T REP. (2007); Dean Scott, *Pelosi Says House Will Not Wait for Bush, Will Pass "Groundbreaking" Legislation*, 38 BNA ENV'T REP. 174, 174 (2007); see also *Climate Change, Congressional Research Service Comparison of Key Provisions of Greenhouse Gas Reduction Bills Introduced in 110th Congress*, BNA DAILY ENV'T REP., Feb. 2, 2007, at E-1 (describing four congressional proposals introduced in the 110th Congress that would set an absolute cap on specified greenhouse gas emissions).

⁵²⁵ See *infra* notes 526–527 and accompanying text.

ship—recently called on the federal government to “quickly enact strong national legislation to require significant reductions of greenhouse gas emissions.”⁵²⁶ This alliance includes an impressive roster of powerful corporations, including Alcoa, British Petroleum America, Caterpillar, Inc., Duke Energy, DuPont, General Electric, Lehman Brothers, and PG&E.⁵²⁷

Undoubtedly, a constellation of factors has prompted what appears to be a growing acceptance of mandatory climate legislation.⁵²⁸ In some instances, corporations may be engaged in strategic gamesmanship, opposing state legislation in the name of federal preemption now,⁵²⁹ and perhaps opposing federal legislation under alternative theories later. In other cases, businesses may view federal legislation as inevitable, and seek to position themselves as participants in the development of such legislation.⁵³⁰ Still others may seek profitable opportunities available to climate change leaders.⁵³¹ And some may even be motivated by a sense of duty and moral obligation.⁵³²

⁵²⁶ See United States Climate Action Partnership, <http://www.us-cap.org> (last visited Oct. 5, 2007).

⁵²⁷ *Id.* Environmental partners include Environmental Defense, Natural Resources Defense Council, Pew Center on Global Climate Change, and the World Resources Institute. *Id.*

⁵²⁸ See *infra* notes 529–536 and accompanying text.

⁵²⁹ See *supra* notes 465–469 and accompanying text.

⁵³⁰ See Dean Scott, *Alcoa, Duke Energy, Others See Federal Curb on Greenhouse Gas Emissions As Inevitable*, BNA DAILY ENV'T REP., Oct. 19, 2006, at A-1 (discussing survey of thirty-one multinational corporations in which sixty-seven percent predicted that federal greenhouse gas regulations will be implemented between 2010 and 2015).

⁵³¹ See *id.* (reporting that firms said they are “no longer focused solely on managing the financial risks of climate change . . . but are also finding new business opportunities in cutting greenhouse gas emissions”); see also Tom Blass, *British Report on Economics of Warming Prompts New Initiatives to Cut Emissions*, BNA DAILY ENV'T REP., Oct. 31, 2006, at A-4 (describing a U.K. government report entitled *Stern Review on the Economics of Climate Change*, which concludes that the costs of inaction outweigh the risks and that “markets for low carbon energy products are likely to be worth at least \$500 billion per year by 2050, perhaps much more”); John Herzfeld, *Goldman Sachs Sets Environmental Policy, Calls for Urgent Action on Greenhouse Gases*, BNA DAILY ENV'T REP., Nov. 28, 2005, at A-4 (quoting Goldman Sachs policy statement that the “government can help the markets . . . by establishing a strong policy framework that creates long-term value for greenhouse gas emissions reductions and consistently supports and incentivizes the development of new technologies that lead to a less carbon-intensive economy”); Mark Rice-Oxley, *Never Mind Altruism: “Saving the Earth” Can Mean Big Bucks: Some \$1 Trillion in “Green” Business Opportunities Await Creative Entrepreneurs, a Report Finds*, CHRISTIAN SCI. MONITOR, Oct. 25, 2006, at 4, available at <http://www.csmonitor.com/2006/1025/p04s01-wogi.html>.

⁵³² See Bill Redeker, *Evangelicals See an Evolution of Their Own: Movement Seen as Distancing from GOP, Homosexuality, Taking Up Global Warming*, ABC NEWS, May 4, 2007, available at <http://abcnews.go.com/Politics/story?id=3138468&page=1> (noting that eighty-six evangelical leaders recently issued an “Evangelical Call to Action” stating that there is “no

Perhaps the dominant factor leading to greater acceptance of global warming legislation is the new scientific learning about the threats and causes of climate change—embodied in prominent reports such as *Climate Change 2001* and *Climate Change 2007*.⁵³³ As the knowledge base increases, society's reaction may change from that of *environmental cynicism* to that of appreciating *environmental connectivity*.⁵³⁴ As a result, the new nuisance has evolved in the context of global warming. Through offensive nuisance law suits, courts have increasingly been asked to expand the conventional wisdom on cause and effect.⁵³⁵ As an attorney from the Georgetown Environmental Law and Policy Institute has surmised, “successful common law nuisance suits can spur legislative action. . . . Today's global warming nuisance suits could have the effect of encouraging Congress to adopt more comprehensive legislative solutions a few years from now.”⁵³⁶

CONCLUSION: ENVIRONMENTAL PATRIOTISM AND THE THIRD INDUSTRIAL REVOLUTION

Lucas v. South Carolina Coastal Council purported to establish a new bright-line threshold of takings liability, triggered when regulation deprives landowners of all economically beneficial use. Ironically, however, the *new nuisance* defense has proved to be more enduring than the rule. As one commentator stated, what Justice Scalia “hoped to serve as a *per se* takings rule proves, in its practical operation, to work more often as a *per se* no takings rule.”⁵³⁷ As a result of the new rule and defense, courts have placed renewed emphasis on a broad balancing of public and private interests. Drawing upon the long tradition of nuisance law, courts weigh factors as concrete as market value and as ephemeral as happiness.⁵³⁸ As an opinion from the U.S.

longer a debate about the dangers of global warming so the government should . . . create a federal law that would mandate lower carbon dioxide emissions”).

⁵³³ See *supra* notes 445–457 and accompanying text.

⁵³⁴ See *supra* notes 85–111, 285–311 and accompanying text.

⁵³⁵ See *supra* notes 438–443 and accompanying text.

⁵³⁶ PIDOT, *supra* note 460, at 5 (observing that “a good deal of the modern federal environmental law adopted in the 1970s was enacted in response to rulings in common law suits brought to redress environmental injuries”).

⁵³⁷ See Lazarus, *supra* note 227, at 823–24.

⁵³⁸ See, e.g., *Travis v. Moore*, 377 So. 2d 609, 611 (Miss. 1979) (describing nuisance in terms of impairment to neighborhood happiness, in context of undertaking establishments); *San Diego v. Carlstrom*, 16 Cal. Rptr. 667, 671 (Cal. Ct. App. 1961) (describing nuisance in terms of “unnecessary and extreme danger to the life, property and happiness of others”); 17 ME. REV. STAT. ANN. tit 17, § 2802 (2006) (defining nuisance to include the

Court of Appeals for the District of Columbia Circuit stated, courts have returned to a “gestalt approach” that evaluates both the purpose and desired effect of governmental regulation.⁵³⁹

Perhaps the broader lesson from *Lucas* and its progeny is that the public interest—and its supporting regulations—should not be circumscribed by a single measure as narrow as the economic impact of regulation on landowners’ wallets. Rather, as recognized long ago by the U.S. Supreme Court in *Penn Central Transportation Co. v. City of New York*, economic impact is but one factor that societies should consider in a just and equitable distribution of the burdens of modern life. Courts should identify all of the impacts of an action—in accordance with changed circumstances and new learning—in determining whether such action may be regulated without compensation in the name of the public good. In this context, the reincorporation of nuisance into the law of regulatory takings levels the playing field between public and private interests. By examining cause-effect relationships, nuisance is capable of defusing the modern one-sided rhetoric of rights that portrays landowners as the victims of government regulators, even when those landowners generate negative externalities that adversely affect their neighbors.

The legacy of *Lucas* may go far beyond the context of regulatory takings litigation. More broadly, innovators are beginning to see greater profit in fighting global warming than in fighting the government’s regulation of greenhouse gases. The first and second industrial revolutions brought new technologies to England and the United States, respectively,—including the “spinning Jenny,” the “water frame,” the steam engine, and the locomotive.⁵⁴⁰ Some claim that a “third industrial revolution” may now be underway, fueled by the development of technological solutions to increasingly prominent environmental challenges such as providing sustainable energy and addressing global warming.⁵⁴¹ Banking on this entrepreneurial spirit, British billionaire Richard Branson and former Vice President Al Gore announced a contest to remove at least one billion tons of car-

discarding of motor vehicles in a manner “injurious to the comfort and happiness of individuals and the public”).

⁵³⁹ See *Bass Enters. Prod. Co. v. United States*, 381 F.3d 1360, 1370 (Fed. Cir. 2004).

⁵⁴⁰ See Sch. History, *Inventions that Fueled the Industrial Revolution*, <http://www.schoolshistory.org.uk/IndustrialRevolution/inventions.htm> (last visited Sept. 23, 2007).

⁵⁴¹ See Moises Velasquez-Manoff, *Unions See Greenbacks in “Green” Future: Organized Labor is Joining Forces with Environmentalists to Push for an Eco-Friendly Economy*, *CHRISTIAN SCI. MONITOR*, Jan. 25, 2007, at 13.

bon dioxide annually from the atmosphere.⁵⁴² As a prize, Branson has offered \$25 million.⁵⁴³ Looking at the related potential for developing clean, renewable energy sources to achieve national energy independence, one analysis by environmental and labor organizations predicts that an annual investment of \$30 billion for ten years would trigger the creation of 3.3 million jobs and a \$1.4 trillion increase in the gross domestic product.⁵⁴⁴

Beyond profit, there may even be an evolving sense of *environmental patriotism*,⁵⁴⁵ the notion of a civic duty to make our nation stronger by protecting the wetlands, natural landscapes, and healthy atmosphere that sustain us. In at least a small measure, perhaps these developments can be attributed to *Lucas*, spawning a reinvigorated nuisance law, and a concomitant examination of the actions that threaten critical environmental resources.

⁵⁴² Kevin Sullivan, *\$25 Million Offered in Climate Challenge: Tycoon Hopes to Spur Milestone Research*, WASH. POST, Feb. 10, 2007, at A13 (discussing February 9, 2007 announcement by chief of Virgin Atlantic Airlines and Virgin Trains).

⁵⁴³ *Id.*

⁵⁴⁴ Velasquez-Manoff, *supra* note 541.

⁵⁴⁵ See Christine Klein, Editorial, *"Patriotism" Is Redefined by Environmental Conservation*, GAINESVILLE SUN, Apr. 22, 2007, available at <http://www.gainesvillesun.com/article/20070422/EDITORIALS0101/704220310> (advancing notion of "environmental patriotism").

