

Fall 2007

A Very Clear Blue Line: Behavioral Economics, Public Choice, Public Art and Sea Level Rise

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A VERY CLEAR BLUE LINE: BEHAVIORAL ECONOMICS, PUBLIC CHOICE, PUBLIC ART AND SEA LEVEL RISE

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I. INTRODUCTION

The September 2007 conference on Balancing Private and Public Rights in the Coastal Zone in the Era of Climate Change¹ marked the fifteenth

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anniversary of *Lucas v. South Carolina Coastal Council*.² As part of this conference, one panel has addressed the policy implications of sea level rise.³ Input provided by scientists and coastal management policy experts is, of course, essential to designing appropriate policies for coastal resource management in an era of global climate change. The focus of my talk, and of this subsequent essay, is a little different, however, as I ultimately find that the arts—both literature and the visual arts—also have something to tell us.

II. SEA LEVEL RISE: MYTH, REALITY, PERCEPTION AND BEHAVIOR

A. *The Myth of the Flood*

We might wonder why so much attention is focused on sea level rise of somewhere from a few inches to less than a meter over the next century.⁴ Many of the other effects of the basic engine of climate change—a temperature rise of a few degrees⁵—are more dramatic. Perhaps the image

¹ Symposium, University of South Carolina School of Law & Georgetown University Law Center Environmental Law Conference: Balancing Private and Public Rights in the Coastal Zone in the Era of Climate Change (Sept. 20-21, 2007). The agenda for this conference can be accessed at Southeastern Environmental Law Journal, Balancing Private and Public Rights in the Coastal Zone in the Era of Climate Change: The Fifteenth Anniversary of *Lucas v. South Carolina Coastal Council*, <http://www.law.sc.edu/elj/2007symposium/agenda.shtml> (last visited Feb. 4, 2008).

² 505 U.S. 1003 (1992).

³ Margaret Caldwell, Kim Diana Connolly & Marc R. Poirier, The Policy Challenges Created by Rising Sea Level, Address at the University of South Carolina School of Law & Georgetown University Law Center Environmental Law Conference (Sept. 20, 2007). This panel presentation can be seen at Southeastern Environmental Law Journal, Balancing Private and Public Rights in the Coastal Zone in the Era of Climate Change: The Fifteenth Anniversary of *Lucas v. South Carolina Coastal Council*, <http://video.sc.edu/law/lucasvscd1s4.mov> (last visited Feb. 4, 2008).

⁴ This is the level projected, except in the unlikely event of the collapse of the Greenland or West Antarctic ice sheets. The Intergovernmental Panel on Climate Change (“IPCC”) projections show a sea level rise of between 0.18 to 0.59 meters during the 21st century. Gerald A. Meehl et al., *Global Climate Projections*, in INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS OF CLIMATE CHANGE: CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE IPCC 747, 820 (Susan Solomon et al. eds., Cambridge Univ. Press 2007), available at <http://ipcc-wg1.ucar.edu/wg1/wg1-report.html> [hereinafter IPCC REPORT 2007 PART I]; see also Richard B. Alley et al., *Summary for Policymakers*, in IPCC REPORT 2007 PART I, *supra*, at 1, 13 (discussing projected global average surface warming and sea level rise at the end of the 21st century).

⁵ The IPCC’s best estimate for climate change through the end of the 21st century is between 1.8° C and 4.0° C. Alley et al., *Summary for Policymakers*, in IPCC REPORT 2007 PART I, *supra* note 4, at 13. The IPCC also reports that the climate is warming and that the causes are

of a great flood is implanted in our cultural imagination. We have a Great Flood, in the story of Noah.⁶ We also have the story of Moses and the Israelites, in which the Red Sea parted for the Israelites and came crashing down upon the Egyptians.⁷ Greek and Anglo-Saxon stories tell of the encounters of King Xerxes and King Canute with the sea and the tides.⁸ In recent film images, we have the terrifying and highly inaccurate flood of New York City, one of the extreme weather events depicted in *The Day After Tomorrow*.⁹ In the non-fiction category, we have the gruesome images of the December 2004 tsunamis caused by an undersea earthquake off the coast of Sumatra.¹⁰ Indeed, the current salience of the issue of climate change is due in this country as much to Al Gore's award-winning film *An Inconvenient Truth*¹¹ as to the publicity surrounding the 2007 multi-part

likely not natural but of human origin. *Frequently Asked Questions, in IPCC REPORT 2007 PART I, supra* note 4, at 100-02, 111-13, 115-21.

⁶ *Genesis* 6-9.

⁷ *Exodus* 13:17-15:12.

⁸ Herodotus recounts that King Xerxes was angered when a storm destroyed a bridge he had built across the Hellespont from Asia to Europe. Xerxes had the sea whipped, tossed fetters into it, and (according to some accounts) also branded the ocean for its misdeeds. He also had the overseers of the faulty work beheaded. HERODOTUS, *THE HISTORY OF HERODOTUS* Book VII (George Rawlinson trans., Internet Classics Archive 1994) (440 B.C.E.), available at <http://classics.mit.edu/Herodotus/history.7.vii.html>. King Canute commanded the tide not to advance to where he sat on a throne on the beach, but the tide did not obey. He then removed his crown forever, showing by his behavior that there was only one King who could command the waves. Some versions of this story indicate that Canute was taught a lesson about Christian humility by the tide, some that he was using the tide to teach his flattering subjects a lesson about Christian humility. See James Baldwin, *King Canute on the Seashore, in FIFTY FAMOUS STORIES RETOLD* 10 (FQ Classics 2007) (1896) (containing the children's story version, in which Canute is teaching his subjects a lesson about Christian humility), available at <http://www.mainlesson.com/display.php?author=baldwin&book=fifty&story=canute>; Lord Raglan, *Canute and the Waves*, 60 *MAN* 7 (1960) (collecting various versions of the story). Thanks to my legal historian colleague Andrea McDowell for helping me to track down these ancient stories.

⁹ *THE DAY AFTER TOMORROW* (20th Century Fox 2004).

¹⁰ For an account of the December 26, 2004, tsunami, see *The Deadliest Tsunami in History?*, NAT'L GEOGRAPHIC NEWS, Jan. 7, 2005, available at http://news.nationalgeographic.com/news/2004/12/1227_041226_tsunami.html. For a compilation of video clips of this tsunami, see Full Tsunami Video Footage, Pictures, Clips and TV News Stories, http://www.masternewmedia.org/2005/01/02/full_tsunami_video_footage_pictures.htm (last visited Feb. 4, 2008). The consequences of this tsunami were enormous. The death toll was eventually estimated at more than 220,000. Anita Gates, *The Horror that Came from the Deep*, N.Y. TIMES, Mar. 29, 2005, at E5, available at <http://movies.nytimes.com/2005/03/29/arts/television/29gate.html>.

¹¹ AN INCONVENIENT TRUTH: THE PLANETARY EMERGENCY OF GLOBAL WARMING AND WHAT WE CAN DO ABOUT IT (Paramount Classics 2006) (featuring former Vice-President Al Gore) [hereinafter AN INCONVENIENT TRUTH]. The film won the Oscar for Best Documentary

report of the United Nations' Intergovernmental Panel on Climate Change ("IPCC").¹² When Al Gore and the IPCC subsequently shared the 2007 Nobel Peace Prize,¹³ effective communication and scientific consensus were fittingly acknowledged together.¹⁴ There are other gripping images of the effects of climate change, such as drowning or starving polar bears¹⁵ and

Feature. See Academy of Motion Picture Arts and Sciences: 79th Annual Academy Awards, Nominees and Winners, <http://www.oscars.org/79academyawards/nomswins.html> (last visited Feb. 4, 2008).

¹² The IPCC was established in 1988 by the United Nations Environmental Program and the World Meteorological Association. IPCC Home, About IPCC, <http://www.ipcc.ch/about/index.htm> (last visited Feb. 4, 2008). In 2007, it released its Fourth Assessment Report, in phases. The first of these was IPCC REPORT 2007 PART I, *supra* note 4. The second part was INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: IMPACTS, ADAPTATION, AND VULNERABILITY: CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE IPCC (Martin Perry et al. eds., Cambridge Univ. Press 2007), available at <http://www.ipcc-wg2.org> [hereinafter IPCC REPORT 2007 PART II]. The third part was INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: MITIGATION OF CLIMATE CHANGE: CONTRIBUTION OF WORKING GROUP III TO THE FOURTH ASSESSMENT REPORT OF THE IPCC (Bert Metz et al. eds., Cambridge Univ. Press 2007), available at http://arch.rivm.nl/env/int/ipcc/pages_media/AR4-chapters.html [hereinafter IPCC REPORT 2007 PART III].

¹³ See Nobelprize.org, http://nobelprize.org/nobel_prizes/peace/laureates/2007 (last visited Feb. 4, 2008). Walter Gibbs & Sarah Lyall report:

In its formal citation, the Nobel committee called Mr. Gore "probably the single individual who has done most to create greater worldwide understanding of the measures that need to be adopted." It praised the United Nations panel, which is made up of 2,000 scientists and is considered the world's leading authority on climate change, for creating "an ever-broader informed consensus about the connection between human activities and global warming."

Walter Gibbs & Sarah Lyall, *Gore Shares Peace Prize for Climate Change Work*, N.Y. TIMES, Oct. 13, 2007, at A1, available at <http://www.nytimes.com/2007/10/13/world/13nobel.html>.

¹⁴ There are still those who view with great skepticism the claim that global warming is so established and urgent an issue that it should govern many policy decisions. See, e.g., John R. Christy, *My Nobel Moment*, WALL ST. J., Nov. 1, 2007, at A19, available at <http://online.wsj.com/public/article/SB119387567378878423.html>; BJORN LOMBORG, COOL IT (2007). Mr. Christy was a participant in the IPCC process, and argues that there are far more important and immediate concerns than addressing the uncertain impacts of global warming. Christy, *supra*. Mr. Lomborg, a noted environmental skeptic, likewise argues that while global warming is real, its consequences are often wildly exaggerated; that many proposed responses are inappropriate, and that there are many more pressing problems in the world, such as hunger, poverty and disease. LOMBORG, *supra*, at 8.

¹⁵ *Special Report: Global Warming*, TIME, Apr. 3, 2006, available at <http://www.time.com/time/covers/0,16641,1101060403,00.html> (featuring cover page image of polar bear). See also, e.g., Jim Carlton, *Is Global Warming Killing the Polar Bears?*, WALL ST. J. ONLINE, Dec. 14, 2005, available at http://www.stopglobalwarming.org/sgw_read.asp?id=100419142006; Bill Moulton, *Global Warming Sees Polar Bears Stranded on Melting Ice*, DAILY MAIL, Feb. 1, 2007, available at <http://www.dailymail.co.uk/pages/live/articles/>

vanishing glaciers.¹⁶ These are the media's current and compelling images of the effects of climate change. But the reality of sea level rise, which is likely to amount to no more than a couple of feet over the course of a century, is simply not among them. No one depicts this small and gradual change. It is the mythical Flood that grips the public imagination.¹⁷

B. A Public Choice Critique of Lucas v. South Carolina Coastal Council: An Ill-Conceived Decision Facilitates Unwise Coastal Development

We will return to the idea of the mythical Flood. But first, let us consider *Lucas v. South Carolina Coastal Council*.¹⁸ The *Lucas* case was generated by a laudable and in my opinion clearly justifiable attempt by the South Carolina legislature to address unwise coastal development in areas that some people anticipated to be underwater in the future, as they had been in the past, due to the instability of the barrier islands on which they were built. The legislature prohibited building in certain especially risky areas.¹⁹

news/news.html?in_article_id=433170&in_page_id=1770; AN INCONVENIENT TRUTH, *supra* note 11 (animation of a polar bear swimming in search of polar ice); UN Works, Endangered Species: Polar Bear, <http://www.un.org/works/environment/animalplanet/polarbear.html> (last visited Feb. 4, 2008). *But see* Noel Sheppard, *Australian TV Exposes "Stranded Polar Bear" Global Warming Hoax*, NEWSBUSTERS, Apr. 6, 2007, available at <http://www.newsbusters.org/node/11879>. NewsBusters, which describes its mission as "Exposing and Combating Liberal Media Bias," denounces one familiar picture of stranded polar bears as a hoax, and with it the whole story of polar bears endangered by global warming. *Id.*

¹⁶ *See, e.g.*, UNESCO WORLD HERITAGE CENTRE, CASE STUDIES ON CLIMATE CHANGE AND WORLD HERITAGE 16-27 (2007), available at http://whc.unesco.org/documents/publi_climatechange.pdf (presenting case studies with pictures of shrinking glaciers and ice in Nepal, Peru, Denmark (Greenland), Tanzania and Switzerland); Jeffrey Kluger, *Global Warming Heats Up*, TIME, Mar. 26, 2006, available at <http://www.time.com/time/magazine/article/0,9171,1176980-1,00.html> (providing a comprehensive story featuring comparison photographs of the Upsala Glacier in the Argentine Andes in 1928 and 2004); AN INCONVENIENT TRUTH, *supra* note 11 (showing glacier reduction in Kilimanjaro, Glacier National Park, Alaska, Nepal, Italy, Switzerland, Peru, and Argentina); The Canary Project: Global Warming Photos, http://www.canary-project.org/photos_pasterze_austria.html (last visited Feb. 4, 2008) (providing photographs of the retreat of the Pasterze Glacier in Austria).

¹⁷ It apparently grips the vision of the Supreme Court as well. In finding that there was standing for plaintiffs to complain of the Environmental Protection Agency's failure to initiate a rulemaking to address greenhouse gases in motor vehicle emissions, the Court noted that global warming has many effects, but it focused in on the effects of sea level rise on the coast of the state of Massachusetts. *Massachusetts v. EPA*, 127 S. Ct. 1438, 1455-56 (2007).

¹⁸ *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992), *remanded to* 424 S.E.2d 484 (S.C. 1992).

¹⁹ South Carolina Beachfront Management Act, S.C. CODE ANN. §§ 48-39-10 to -360 (1988). For accounts of the stages of development of South Carolina's policy, *see* Vicki Been, *Lucas v. The Green Machine: Using the Takings Clause to Promote More Efficient Regulation?*, in

In *Lucas*, the United States Supreme Court employed a framework for analysis articulated by Justice Scalia, in accordance with the tenets of the nationwide property rights movement. It held that the South Carolina coastal land use regulation might well run afoul of constitutionally protected property rights.²⁰ On remand, the Supreme Court of South Carolina found that the state's attempt to prohibit this unwise land use did not fall within background limitations of nuisance and property law.²¹ Subsequent to this holding, the state agreed to pay compensation for Mr. Lucas's loss of all economic use occasioned by the regulation.²²

At the time of the opinion, many hailed the Scalian view of the constitutional protection of property rights articulated in *Lucas* as a watershed.²³ In retrospect, its fortunes have ebbed rather than flowed.²⁴ Instead of being a harbinger of things to come, the *Lucas* case appears to have been the high water mark of the Scalian view, for the time being at least.²⁵

Whatever its current significance for regulatory takings doctrine may be, the situation that generated the *Lucas* controversy—unwise coastal development on unstable barrier islands and other unstable coastlines—

PROPERTY STORIES 221, 228-30 (Gerald Korngold & Andrew P. Morriss eds., Foundation Press 2004); Carol M. Rose, *The Story of Lucas: Environmental Land Use Regulation Between Developers and the Deep Blue Sea*, in ENVIRONMENTAL LAW STORIES 237, 258-63 (Richard J. Lazarus & Oliver A. Houck eds., Foundation Press 2005); James G. Titus, *Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches Without Hurting Property Owners*, 57 MD. L. REV. 1279, 1334-39 (1998).

²⁰ *Lucas*, 505 U.S. at 1029 (As to "confiscatory regulations, i.e., regulations that prohibit all economically beneficial use of land: Any limitation so severe cannot be newly legislated or decreed (without compensation), but must inhere in the title itself, in the restrictions that background principles of the State's law of property and nuisance already place upon land ownership.").

²¹ See *Lucas*, 424 S.E.2d at 486.

²² *Been*, *supra* note 19, at 238. The State subsequently sold the properties for development. *Id.* at 239. But the properties have also been partly underwater since then. *Id.* at 239-40.

²³ *Rose*, *supra* note 19, at 269-70.

²⁴ See, e.g., Michael C. Blumm & Lucas Ritchie, *Lucas's Unlikely Legacy: The Rise of Background Principles as Categorical Takings Defenses*, 29 HARV. ENVTL. L. REV. 321 (2005) (discussing unexpected results of the *Lucas* decision); 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, 797-805 (2006) (discussing the impact Justice Scalia's opinions have had on the property rights movement); Laura S. Underkuffler, *Tahoe's Requiem: The Death of the Scalian View of Property and Justice*, 21 CONST. COMMENT. 727 (2004) (discussing the collapse of Justice Scalia's view of property rights and takings).

²⁵ See, e.g., Underkuffler, *supra* note 24, at 727.

continues unabated. We build, build, and build at the coast. Sea level rise will only contribute to the all too familiar risks involved in unwise coastal development, moving them inland bit by tiny bit.²⁶ Established, slightly inland development as well as new development ought to take heed of the rising ocean and the shifting sands. To be sure, the coup de grâce in any particular locale is not likely to be delivered by sea level rise itself, but by a storm—a hurricane or a nor'easter or, in other parts of the world, a cyclone or a typhoon—though coastal erosion and barrier island migration could independently do the trick. But the dynamics of ignoring the risk of unwise coastal development are the same.

There are any number of consequences of sea level rise, even of just a meter or two.²⁷ One is the destruction of some small island nations.²⁸ Another is the inundation of heavily populated low lying areas in some countries that are too poor to construct protective dikes and pumping systems.²⁹ Contrast the mouths of the Ganges, Brahmaputra and Meghna rivers in Bangladesh³⁰ and the Nile delta in Egypt³¹ with low-lying areas of London, Tokyo and New York City. Some low-lying cultural treasures and

²⁶ For a recent and altogether typical account, see Chris Dixon, *As Beaches Erode, So Do Solutions*, N.Y. TIMES, Nov. 2, 2007, at F1, available at <http://www.nytimes.com/2007/11/02/travel/escapes/02sand.html> (describing beach erosion, property damage from erosion and storms, and resulting community conflicts in beachfront communities in North Carolina and South Carolina). For a general assessment of the problem, see U.S. COMMISSION ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY 162 (2004), available at http://www.oceancommission.gov/documents/full_color_rpt/000_ocean_full_report.pdf (discussing how poorly planned coastal development projects and growing populations are leaving people at a higher risk of being affected by “storms, hurricanes, flooding, shoreline erosion, tornadoes, tsunamis, and earthquakes,” and noting that “climate change may lead to more frequent storms and sea-level rise, both of which increase coastal susceptibility”).

²⁷ See Neil Adger et al., *Summary for Policymakers*, in IPCC REPORT 2007 PART II, *supra* note 12, at 7-17.

²⁸ See generally Nobuo Mimura et al., *Small Islands*, in IPCC REPORT 2007 PART II, *supra* note 12, at 687-712 (assessing present and future vulnerabilities of small islands and implications for future sustainability).

²⁹ Robert J. Nicholls et al., *Coastal Systems and Low Lying Areas*, in IPCC REPORT 2007 PART II, *supra* note 12, at 317, 333, 336-38 (contrasting the ability of developed and developing countries to adapt coastal areas in light of sea level rise). Nicholls et al. explain, “greater access to wealth and technology generally increases adaptive capacity, while poverty limits adaptation options.” *Id.* at 336. The authors also note that coastal defenses are present in many European and East Asian countries. *Id.* at 333.

³⁰ See *id.* at 326 (discussing how most of Bangladesh lies in the deltas of these rivers); *id.* at 338 (explaining that a cyclone in Bangladesh caused the deaths of approximately 300,000 people in 1970).

³¹ See *id.* at 327 (discussing deltas and megadeltas as hotspots for vulnerability, especially in Asia).

sites, such as London and Venice, are more threatened than they already were.³² Some areas will have to deal with the effects of salt-water incursion on their water supply.³³ Undoubtedly, rare species and entire ecosystems will be lost.³⁴ Much of North America's coastal wetlands likely will be drowned.³⁵ One could also frame the sea level rise issue within the broader issue of global climate change, and investigate the costs and benefits of policy responses to climate change, including responses to sea level rise.³⁶ One could also certainly use sea level rise as the occasion for discussing what Professor Daniel Farber calls "disaster inequality."³⁷ However, this essay focuses on coastal development.

"It is likely ... that global warming will lead to a significant rise in sea level, increasing the amount of property at risk from storm-related flooding; scientists predict that a one-half meter rise in sea level would place six times more people at risk from storm surges."³⁸ I happen to have written about the dynamics of beachfront development and its intersection with the regulatory takings doctrine some fifteen years ago, in the wake of *Lucas* and of a

³² See UNESCO WORLD HERITAGE CENTRE, *supra* note 16, at 66-72 (discussing how rising sea levels may lead to daily flooding in London and Venice).

³³ See generally Zbigniew W. Kundzewicz et al., *Freshwater Resources and Their Management*, in IPCC REPORT 2007 PART II, *supra* note 12, at 179 (discussing how saline intrusion is expected to be exacerbated by the effect of sea-level rise, leading to higher salinisation and reduction of freshwater availability). See also MATTHEW J.P. COOPER ET AL., *FUTURE SEA LEVEL RISE AND THE NEW JERSEY COAST: ASSESSING POTENTIAL IMPACTS AND OPPORTUNITIES* 13 (2005) (discussing the effect of sea level rise on drinking water in southern New Jersey and along the Delaware River).

³⁴ See generally Andreas Fischlin et al., *Ecosystems, Their Properties, Goods, and Services*, in IPCC REPORT 2007 PART II, *supra* note 12, at 211-50 *passim* (discussing the loss of ecosystems in oceans and shallow seas and noting the loss of coral reef ecosystems as being primarily caused by temperature rise and increased concentration of CO₂ rather than sea level rise).

³⁵ See James G. Titus, *Does the U.S. Government Realize that the Sea is Rising? How to Restructure Federal Programs so that Wetlands and Beaches Survive*, 30 GOLDEN GATE U. L. REV. 717, 726-32 (2000).

³⁶ See, e.g., Robert L. Glicksman, *Global Climate Change and the Risks to Coastal Areas from Hurricanes and Rising Sea Levels: The Costs of Doing Nothing*, 52 LOY. L. REV. 1127 (2006).

³⁷ See Daniel A. Farber, *Disaster Law and Inequality*, 25 LAW & INEQ. 297 (2007); see also Matthew D. Adler, *Equity Analysis and Natural Hazards Policy*, in ON RISK AND DISASTER: LESSONS FROM HURRICANE KATRINA 129 (Ronald J. Daniels et al. eds., Univ. of Penn. Press 2006) [hereinafter ON RISK AND DISASTER] (presenting philosophical frameworks for equity analysis and natural hazards policy); Kathleen Tierney, *Social Inequality, Hazards, and Disasters*, in ON RISK AND DISASTER, *supra*, at 109 (presenting sociological frameworks for understanding disaster inequality).

³⁸ JUSTIN R. PIDOT, *COASTAL DISASTER INSURANCE IN THE ERA OF GLOBAL WARMING: THE CASE FOR RELYING ON THE PRIVATE MARKET* 12 (2007) (footnote omitted).

disastrous nor'easter in New York and New Jersey in December 1992.³⁹ In a nutshell (or clamshell), that article argued, “[b]eachfront building prohibitions protect the public from predictable, long-term interest group subsidies that cannot otherwise be prevented.”⁴⁰ I hypothesized that beachfront property owners, at least in risky but desirable locations, were generally unduly powerful, as well as concentrated geographically and socially.⁴¹ Therefore, they were more able to organize politically, so as to resist cost-effective regulatory measures and to command subsidies for their risky locational decisions.⁴² The article identified four basic types of subsidization of beachfront property owners by others: disaster relief, beach stabilization and replenishment, infrastructure, and subsidized flood insurance.⁴³

One general explanation for the regulatory takings doctrine has focused on preventing interest groups from hijacking legislatures to pass laws that disadvantage property owners.⁴⁴ The compensation obligation supposedly discourages such abuse.⁴⁵ However, the compensation obligation imposed by *Lucas* seemed, perversely, to discourage justifiable regulation and to exacerbate the undue influence beachfront property owners already had; and thus to increase the cost of natural disasters to the public and the subsidy to the beachfront owners. In the subset of circumstances represented by risky but desirable land uses, I argued that requiring compensation for building and rebuilding prohibitions seemed especially unwise, since it would tend to eliminate beachfront building prohibitions, which were an important strategy for managing coastal natural disasters.⁴⁶

Many of the examples in that 1993 article were contemporaneous to the time. Indeed, as one of my research assistants has boldly pointed out to me,

³⁹ Marc R. Poirier, *Takings and Natural Hazards Policy: Public Choice on the Beachfront*, 46 RUTGERS L. REV. 243 (1993).

⁴⁰ *Id.* at 247.

⁴¹ *Id.* at 268.

⁴² *Id.* at 260; see also Been, *supra* note 19, at 250-51; Rose, *supra* note 19, at 278.

⁴³ Poirier, *supra* note 39, at 260-61; see also Been, *supra* note 19, at 252-55.

⁴⁴ Poirier, *supra* note 39, at 327-38; see also Daniel A. Farber, *Economic Analysis and Just Compensation*, 12 INT'L. REV. L. & ECON. 125, 131 (1992); Daniel A. Farber, *Public Choice and Just Compensation*, 9 CONST. COMMENT. 279, 290 (1992); Saul Levmore, *Just Compensation and Just Politics*, 22 CONN. L. REV. 285, 308-11 (1990); Glynn S. Lunney, Jr., *A Critical Reexamination of the Takings Jurisprudence*, 90 MICH. L. REV. 1892, 1962-63 (1992).

⁴⁵ Poirier, *supra* note 39, at 329-30. This argument presupposes that a legislature will take into consideration and be influenced in a rational way by a compensation obligation—a problematic assumption in its own right.

⁴⁶ *Id.* at 247.

almost every footnote needs updating. But the basic analysis remains solid. One can find an updated version of it, for example, in Vicki Been's recent critique of the *Lucas* case and its implications for coastal management policy:

[T]o the extent that a compensation requirement may discipline government decision-makers, the *Lucas* story reveals several reasons to believe that such a requirement is likely to result in too *little* regulation of coastal development. History suggests that the political power of beachfront property owners has caused state and local governments to be much too reluctant to prevent inefficient land development in areas subject to natural hazards such as erosion and coastal storms. Adding a compensation requirement to the political tool-kit of those owners may lead to even less efficient levels of land use regulation.⁴⁷

Later in her chapter, Been writes:

The history of both beachfront development and disaster relief policies confirms what political theory predicts: beachfront owners repeatedly score considerable victories in federal, state and local political battles over the regulation of development on the coast. The result has been a "hesitation at all levels of government to enforce effective land use controls" on new development or redevelopment on eroding coasts.⁴⁸

C. *Unwise Coastal Development: Flaws in Risk Perception and Deliberate Behavior*

One important subsidiary theme that emerged at several points in my 1993 account is the failure of the public to behave rationally with regard to information about the risk of natural hazards, especially, perhaps, coastal hazards.⁴⁹ "The peculiarities of risk perception and risk communication . . . also play a part in the dynamics of the subsidization process, particularly in explaining why it is inadequate to rely on insurance to communicate the risk or to address effectively ex post the costs of natural disasters."⁵⁰

⁴⁷ Been, *supra* note 19, at 223-24 (emphasis in original).

⁴⁸ *Id.* at 250-51 (quoting RUTHERFORD B. PLATT, *DISASTERS AND DEMOCRACY* 99, 102 (Island Press 1999)).

⁴⁹ See Poirier, *supra* note 39, at 279.

⁵⁰ *Id.* at 247.

First, we should acknowledge that times immediately following disasters, when the risk of unwise coastal land use would be quite salient, differ from normal times. In normal times, for a variety of reasons, the potential of risk is systematically underestimated most of the time.⁵¹ As Daniel Farber and Jim Chen write, “we are all stunned by each new disaster, but rapidly come to view it as exceptional and never to be repeated. Thus, we fail to prepare for the next one.”⁵² Or, as framed in a punchy historical account by Oliver Houck:

Then the hurricanes came. They have, of course, always come, and when Betsy and Camille came ashore in the late 1960s the nation gasped. These were record storms, record damages, record loss of life, we must do something. What we did was go back on the same beaches and vulnerable strips of coastal wetlands and build the same stuff, only more expensive.⁵³

Justin Pidot makes a parallel observation, attributing this systematic forgetfulness to specific psychological processes, an interplay of salience, the availability heuristic, and the gambler’s fallacy.⁵⁴ Harvard psychologist Daniel Gilbert makes an argument from a different starting premise, suggesting generally that failure to respond to global warming is the result of inbred evolutionary sensitivities and blind spots that ignore gradual, unintentional, and non-human changes, even if they ultimately become severe and life-threatening.⁵⁵

The following factors are among those at work. In normal times, media information typically does not shape perception of natural hazard risk.⁵⁶ People typically disregard information about low-probability risks.⁵⁷ To the extent that one conceives of natural disasters as “acts of God,” it may well

⁵¹ *Id.* at 277-82.

⁵² DANIEL A. FARBER & JIM CHEN, *DISASTERS AND THE LAW: KATRINA AND BEYOND* xix (Aspen Pub. 2006).

⁵³ Oliver Houck, *Can We Save New Orleans?*, 19 TUL. ENVTL. L.J. 1, 23 (2006).

⁵⁴ PIDOT, *supra* note 38, at 33 n.123.

⁵⁵ Daniel Gilbert, Op-Ed., *If Only Gay Sex Caused Global Warming*, L.A. TIMES, July 2, 2006, at M1.

⁵⁶ Poirier, *supra* note 39, at 279. Indeed the media may ignore low probability risks altogether as just not newsworthy. Michael J. Trebilcock & Ronald J. Daniels, *Rationales and Instruments for Government Intervention in Natural Disasters*, in *ON RISK AND DISASTER*, *supra* note 37, 89, at 98.

⁵⁷ Poirier, *supra* note 39, at 279. There is a counter-principle here. “[C]ognitive psychology predicts that humans tend to fear low-probability events that carry grave consequences and lie beyond human control, at least relative to more commonplace or chronic risks.” FARBER & CHEN, *supra* note 52, at 71 (citing Paul Slovic, *Perception of Risk*, 236 SCI. 280 (1987)).

appear futile to try to avoid “acts of God” through appropriate preventive measures.⁵⁸ Worse, thinking of natural disasters as “acts of God” may tend to misdirect attributions of responsibility for disasters to moral issues.⁵⁹ Further, the availability of reassuring flood insurance diminishes the perception of risk and creates an alternative to dealing with the risk *ex ante* through precaution.⁶⁰

Importantly, the very existence of the beachfront community itself also diminishes the perception of risk.⁶¹ “Barrier islands (and floodplains) look to the untrained eye like flat land anywhere—not an obvious risk. This perception that the land is safe is likely to be heightened if it is already developed.”⁶² What is more, “developers and others selling property in high-risk areas may have an incentive to foster this perception of safety. So might local politicians concerned about the tax base and economic welfare of communities built in dangerous locations.”⁶³ Developers typically sell off in the short term, and will try to manage risk perception of longer term risk, perhaps even through deliberate deceit or threat of lawsuit.⁶⁴

At the time, I categorized many of these observations under a general rubric of risk perception and risk communication. Nowadays, many of the same observations, often bolstered by serious empirical work, are sometimes clustered under the heading “behavioral economics” or “behavioral law and economics.”⁶⁵ Some other behaviors constitute what I would characterize separately as “public choice” interest group behavior, involving deliberate

⁵⁸ Poirier, *supra* note 39, at 279; *see also* COOPER ET AL., *supra* note 33, at 24 (land use planning and building codes can play an important role in coastal hazard management; but flooding from storm surge events is perceived as a natural disaster, not a failure in land use planning and building code requirements); Trebilcock & Daniels, *supra* note 56, at 104.

⁵⁹ Poirier, *supra* note 39, at 279 n.100.

⁶⁰ *Id.* at 280.

⁶¹ *Id.*

⁶² *Id.* at 301.

⁶³ *Id.* at 301; *cf.* HENRIK IBSEN, *A Public Enemy* (1882), in *GHOSTS AND OTHER PLAYS* 103 (Peter Watts trans., Penguin Classics 1964) (exploring, in fictional dramatic form, the incentive for a town to conceal the danger to the public of an economically valuable spa contaminated by bacteria). The title of this play is often translated *An Enemy of the People*. Trebilcock and Daniels observe that politicians may not have an incentive to pay attention to risks of events likely to occur only after their tenure in office has ended. Trebilcock & Daniels, *supra* note 56, at 98. Because low-probability catastrophic risks are most likely to occur after the end of a politician’s current term, this observation suggests an endemic public choice type defect with natural hazard management.

⁶⁴ Poirier, *supra* note 39, at 280-81 & n.103.

⁶⁵ *See generally* BEHAVIORAL ECONOMICS AND ITS APPLICATIONS (Peter Diamond & Hannu Vartiainen eds., Princeton Univ. Press 2007); BEHAVIORAL LAW & ECONOMICS (Cass R. Sunstein ed., Cambridge Univ. Press 2000).

choices around the management of information concerning risk, the visibility of risk or the response to risk.⁶⁶ Whatever the current terminology, we should want to make our account of risk management, including coastal hazard policy, behaviorally realistic.⁶⁷

In “normal” times, when a natural disaster is not salient, people may well systematically underestimate the risk of natural disaster related to risky but desirable land uses, for some or all of the reasons I have catalogued. Let us also note an optimism bias,⁶⁸ a preference for sure gains over uncertain losses⁶⁹ and a strong preference to avoid immediate losses rather than losses that are more distant.⁷⁰ We should also consider the gambler’s fallacy, which misunderstands probability by assigning a low probability to an event that has occurred recently, incorrectly anticipating that it will not occur again for quite a while.⁷¹ Under this fallacy, someone might be tempted to think that if a 100-year storm has just occurred, another one will not occur for 100 years, so that person would mistakenly believe that it is safe to build or rebuild. For all these reasons, coastal property owners likely will engage in inappropriately risky land use and, at the same time, resist appropriate but costly measures to minimize future risk ex ante.⁷²

People also will under-purchase hazard insurance if they systematically underestimate the risk for behavioral economic reasons (risk perception), or discount the risk as a result of public choice behaviors (deliberate strategies).⁷³ They may view the availability of ex post disaster relief as an acceptable substitute both for insurance and for other ex ante precautions.⁷⁴ Others pay for ex post disaster relief, which makes it tempting as a

⁶⁶ For background information on public choice theory, *see generally* DANIEL A. FARBER & PHILIP P. FRICKEY, *LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION* (Univ. of Chicago Press 1991); DENNIS C. MUELLER, *PUBLIC CHOICE III* (Cambridge Univ. Press 2003); DENNIS C. MUELLER, *PERSPECTIVES IN PUBLIC CHOICE: A HANDBOOK* (Cambridge Univ. Press 1997).

⁶⁷ Baruch Fischhoff, *Behaviorally Realistic Risk Management*, in *ON RISK AND DISASTER*, *supra* note 37, 77, at 88.

⁶⁸ Christine Jolls, *Behavioral Law and Economics*, in *BEHAVIORAL ECONOMICS AND ITS APPLICATIONS*, *supra* note 65, at 115, 123 (referring to the optimistic idea that “it won’t happen to me”).

⁶⁹ *See* David A. Dana, *A Behavioral Economic Defense of the Precautionary Principle*, 97 *Nw. U. L. REV.* 1315, 1321-24 (2003).

⁷⁰ *Id.* at 1324-26.

⁷¹ *See* PIDOT, *supra* note 38, at 33-34.

⁷² Trebilcock & Daniels, *supra* note 56, at 98.

⁷³ Poirier, *supra* note 39, at 301.

⁷⁴ Saul Levmore, *Coalitions and Quakes: Disaster Relief and its Prevention*, 3 *U. CHI. L. SCH. ROUNDTABLE* 1, 20 (1996); Poirier, *supra* note 39, at 301.

subsidized approach to dealing with the risk of natural disasters.⁷⁵ Where ex ante precautions, including those required as a precondition of purchasing hazard insurance, could eliminate or lessen an eventual injury from natural disaster, the expected availability of disaster relief likely will create a kind of moral hazard, by encouraging failure to take appropriate ex ante precautions, including the avoidance of inappropriate ex ante locational decisions.⁷⁶

III. IMPROVING COASTAL LAND USE THROUGH BETTER AND DIFFERENT RISK COMMUNICATION

A portion of my 1993 article catalogued the options for dealing with inappropriately risky land use and briefly examined each in turn.⁷⁷ In a sentence or two, I asked whether better communication of the risk would help to ameliorate the problems of faulty risk perception and skewed political processes.⁷⁸ Could one lessen the public's general tendency for various reasons to misunderstand the risk of coastal hazard (behavioral economics) and to sweep it under the rug (public choice)?⁷⁹ Possibly, "[p]ersistent publicity about risks, perhaps combined with recordation of risk information directly on deeds, could be expected to have some effect on risky land use choices eventually, but its extent would be uncertain."⁸⁰

⁷⁵ Trebilcock & Daniels, *supra* note 56, at 104. Ex post relief "enabl[es] residents of disaster-prone areas to externalize a large fraction of the cost of their locational decisions onto other members of the community." *Id.*

⁷⁶ Scott E. Harrington, *Rethinking Disaster Policy*, 23 REG. 40, 41-42 (2000).

⁷⁷ Poirier; *supra* note 39, at 285 (providing a list of policy options for dealing with natural hazards, as follows:

- (1) Disaster aid;
- (2) Insurance;
- (3) Structural improvements and post-catastrophe infrastructure repair;
- (4) Land use controls;
 - (a) building codes;
 - (b) parcel-related use restrictions;
 - (c) area-wide land and water management requirements;
 - (d) building prohibitions; and
 - (e) rebuilding prohibitions;
- (5) Dissemination of risk information;
- (6) Special taxation of high-risk property owners;
- (7) Liability, whether of private individuals or governmental entities; and
- (8) Market purchases of the riskiest properties.).

⁷⁸ *Id.* at 247.

⁷⁹ *See id.* at 291.

⁸⁰ *Id.* at 291-92.

This suggestion still seems to have merit, and exploring it will occupy the remainder of this essay. It does require both qualification and expansion. Let me begin with the qualification. To the extent that one can mobilize strategies of risk communication to make the risk clearer, the group of beachfront property owners—which, public choice theory notes, is more focused, concentrated and empowered—might be induced to redouble its efforts to command various subsidies.⁸¹ Remedying problematic blind spots of risk perception might thus result in equally problematic enhanced public choice effects.⁸² Therefore, there might be some indeterminacy in the consequences of better and more persistent communication about the inevitability of sea level rise.⁸³ All I can do here is to note this issue.

The suggestion of “persistent publicity” also now seems to merit elaboration. Here is where the art angle comes back into the discussion. It is not simply a matter of getting hidden or unknown information about sea level rise out there—it is out there already—but of keeping the issue of sea level rise, and of the global climate change behind it, apparent and unavoidable. Although they wrote in a completely different area—the subject was controlling addictive behavior—Bernheim and Rangel point out the importance of managing visible cues, which turn out to be extremely powerful in influencing human behavior.⁸⁴ The communication issue is not about information qua information. Visual cues and the immediate visual environment affect self-control in ways different from verbal or textual information.⁸⁵ Similarly, public policy can influence behavior by changing the availability of visual cues or by creating visual counter-cues.⁸⁶ The medium that conveys the information matters and impacts the effectiveness of the message.⁸⁷

A. Blue Line Projects: Making the Future Flood Visible

Now let us consider sea level rise and blue line projects. In the wake of recent publicity about global climate change, artists in Santa Barbara and New York City decided to inscribe the reality of sea level rise right there on

⁸¹ *Id.* at 278.

⁸² *See id.* at 278-80.

⁸³ *Cf.* Trebilcock & Daniels, *supra* note 56, at 98 (suggesting that ex ante there might be underinvestment and ex post there might be overinvestment in precautions).

⁸⁴ B. Douglas Bernheim & Antonio Rangel, *Behavioral Public Economics: Welfare and Policy Analysis with Non-Standard Decision-Makers*, in *BEHAVIORAL ECONOMICS AND ITS APPLICATIONS*, *supra* note 65, 7, at 28, 43, 52-53.

⁸⁵ *Id.* at 60.

⁸⁶ *Id.* at 48.

⁸⁷ *Id.*

the ground. Bruce Caron of Santa Barbara proposed to paint a line seven meters above current sea level, which was to represent sea level if the Greenland ice sheet were to melt and flow into the ocean.⁸⁸ He calls his project “lightblueline.” Eve B. Mosher, in Brooklyn and lower Manhattan, demarcated a more modest ten foot rise in chalk powder, to represent the reach of a storm surge under current conditions.⁸⁹ She used the governmentally established elevation of 9.7 feet for a 100-year storm surge in her area, without any projected sea level rise at all.⁹⁰ Mosher’s project also involved placing beacons in parks, linked by the chalk line.⁹¹ Her project also provides information on the website about possible direct individual actions around global warming, and links to other information about global warming and climate change.⁹² Mosher calls her project the High Water Line.⁹³ Other similar projects are emerging, even as this essay is being finalized.⁹⁴ I will collectively call projects of this type blue line projects.

⁸⁸ See lightblueline.org, What is lightblueline?, <http://lightblueline.org/node/7> (last visited Feb. 4, 2008); lightblueline.org, *Santa Barbara Action—Now We Need New Ideas: Join in and Check Back Here for More Info!*, <http://www.lightblueline.org/taxonomy/term/101> (last visited Feb. 4, 2008).

⁸⁹ See [HighWaterLine.org](http://www.highwaterline.org), The Artist, <http://www.highwaterline.org/artist.html> (last visited Feb. 4, 2008) (introducing Mosher and describing the project); see also lightblueline.org, *Highwaterline Marking the 10 Foot Storm Surge Line in New York City*, <http://www.lightblueline.org/node/239> (last visited Feb. 4, 2008).

⁹⁰ See [HighWaterLine.org](http://www.highwaterline.org), The Science, <http://www.highwaterline.org/science.html> (last visited Feb. 4, 2008) (detailing Mosher’s project); see also [HighWaterLine.org](http://www.highwaterline.org), Welcome to HighWaterLine, <http://www.highwaterline.org/> (last visited Feb. 4, 2008); Tommywonk, *High Water Line in Brooklyn*, <http://tommywonk.blogspot.com/2007/06/high-water-line-in-brooklyn.html> (last visited Feb. 4, 2008) (presenting images showing Mosher’s Brooklyn project). A post dated October 7 indicates that Mosher has completed her project. See [HighWaterLine.org](http://www.highwaterline.org/wordpress/2007/10/08/a-never-ending-story/), *A Never Ending Story*, www.highwaterline.org/wordpress/2007/10/08/a-never-ending-story/ (last visited Feb. 4, 2008).

⁹¹ See [HighWaterLine.org](http://www.highwaterline.org), The Artist, *supra* note 89 (describing the project); [HighWaterLine.org](http://www.highwaterline.org), Take Action, http://www.highwaterline.org/hwl_action_cards.pdf (last visited Feb. 4, 2008) (listing steps that individuals can take); [HighWaterLine.org](http://www.highwaterline.org), Resources to HighWaterLine, <http://www.highwaterline.org/resources.html> (last visited Feb. 4, 2008) (offering links to sites providing scientific information on global climate change).

⁹² [HighWaterLine.org](http://www.highwaterline.org), Resources to HighWaterLine, *supra* note 91.

⁹³ See [HighWaterLine.org](http://www.highwaterline.org), The Artist, *supra* note 89.

⁹⁴ See, e.g., *16 Nations Meet in Isles over Global Warming: Plan to Cut Emissions is Urged*, STAR-BULLETIN (Honolulu), Jan. 31, 2008, available at <http://starbulletin.com/2008/01/31/news/story01.html> (describing two day conference of delegates from the world’s major economies to discuss reduction of greenhouse gas emissions; includes a paragraph describing a protest organized by the Sierra Club in which about fifty students “[drew] a line and artwork on the sidewalk for seven blocks”); Posting of Stuart Candy to The Sceptical Futurist, *Mapping C-change*, <http://futuryst.blogspot.com/2008/02/mapping-c-change.html>

The lightblueline project website describes Caron's project as "a public information project to paint on the streets the message that human induced climate change will impact coastal cities."⁹⁵ It is significant that it is a visual message, not a verbal one, and that it is a message in a particular place. The line is to be affixed to the ground, in public, in Santa Barbara.⁹⁶ It cannot be tossed out, tucked away in a drawer, or, in our internet age, turned off. As a semi-permanent visual cue (the paint in Caron's project is to dissipate in two to three years), blue line projects seem an effective refinement of the idea of "persistent publicity" about coastal hazard.

The fate of Caron's lightblueline project is also instructive. The Santa Barbara City Council approved it by a 6-1 vote in July 2007.⁹⁷ It was also approved by the Santa Barbara Historic Landmarks Committee on a 5-2 vote in August 2007, and the city even appropriated some money for it as a public art project.⁹⁸ Then the real estate lobby moved in. The lobby announced the formation of a committee dedicated to keeping the

(Feb. 22, 2008, 18:57 EST) (last visited Mar. 5, 2008) (describing blue line projects in Honolulu, San Francisco and Seattle, as well as Santa Barbara and New York); Posting of Stuart Candy to The Sceptical Futuryst, *A Thin Blue Line*, <http://futuryst.blogspot.com/2008/02/thin-blue-line.html> (Feb. 3, 2008, 21:18 EST) (last visited Mar. 5, 2008) (describing action coordinated by the Sierra Club Hawaii chapter in Honolulu during a climate change conference in January, 2008); FutureSeaLevel.org, *About Us*, <http://www.futuresealevel.org/learn/learn1.ad2> (last visited Mar. 5, 2008) (describing an ongoing collaboration between the Aquarium of the Bay Foundation, the Sierra Club, and the San Francisco Department of the Environment to install brightly colored tape around public buildings to demonstrate sea level rise if the Greenland or Antarctic ice cap were to melt); Will Reisman, *3-Minute Interview: John Frawley*, EXAMINER, Jan. 16, 2008, http://www.examiner.com/a-1160984~3_Minute_Interview__John_Frawley.html (last visited Mar. 5, 2008) (describing the latest in a series of project to install colored tape around public buildings to indicate sea level if the Greenland and Antarctic ice caps were to melt); Watermark, Home, <http://www.watermarkseattle.org/> (last visited Mar. 5, 2008) (describing a project to conduct walks through Seattle's waterfront, marking the line of a twenty foot sea level rise with soil).

⁹⁵ Lightblueline.org, *Drawing the Line Against Human Induced Climate Change*, <http://www.lightblueline.org> (last visited Feb. 4, 2008).

⁹⁶ See lightblueline.org, *Welcome to Santa Barbara's Lightblueline Action*, <http://www.lightblueline.org/node/72> (last visited Feb. 4, 2008) (detailing the Santa Barbara project and providing link to a graphic representation of project).

⁹⁷ See Eric Lindberg, *Council Approves "Lightblueline" Project*, DAILY SOUND, July 4, 2007, available at <http://sbdailysound.blogspot.com/2007/07/council-approves-lightblueline-project.html>; lightblueline.org, *Santa Barbara City Council Approves lightblueline*, <http://lightblueline.org/node/247> (last visited Feb. 4, 2008).

⁹⁸ Nick Welsh, *Light Blue Line Not Erased: Historic Landmarks OK's Project Despite Apprehension*, SANTA BARBARA INDEP., Aug. 9, 2007, available at <http://independent.com/news/2007/aug/09/light-blue-line-not-erased/>.

lightblueline project off Santa Barbara's streets.⁹⁹ Two days later, the artist announced he was withdrawing his application from City Hall.¹⁰⁰ As communicated by the artist to me, this move was actually part of a plan to regroup in light of media opposition, not a concession of defeat;¹⁰¹ he is waiting for the right moment to move forward.¹⁰² The principal concern of real estate interests was, of course, the diminution of property values.¹⁰³ Buyers might see more clearly that some property in Santa Barbara could be inundated, lowering property values and prices.¹⁰⁴ To be sure, part of the articulated opposition to the project was that the seven-meter level was based on a speculative event, the melting of Greenland's ice cap.¹⁰⁵ But I am quite sure that a similar project at the well-accepted ten-foot current storm surge elevation that Mosher selected would have generated similar opposition. This circumstance illustrates what I am calling public choice mobilization to counter a proposed attempt to address a risk perception defect through a particularly effective form of risk communication.

B. Blue Line Projects: Effective Communication and Catalyst for Community Dialog

Let us consider now why blue line projects might be especially effective as part of a strategy to address sea level rise; then catalog a couple of legal concerns; then consider the lessons of such projects for giving environmental debates over to specific places and communities.

⁹⁹ *Id.* (describing the real estate lobby's and Visual Art in Public Places Committee's opposition to the project).

¹⁰⁰ Nick Welsh, *White Flag on Blue Line, Proponent Withdraw Controversial Global Warming Project*, SANTA BARBARA INDEP., Aug. 23, 2007, available at <http://www.independent.com/news/2007/aug/23/white-flag-blue-line/>.

¹⁰¹ E-mail from Bruce Caron, creator of the lightblueline project and www.lightblueline.org, to Marc R. Poirier (Sept. 25, 2007) (on file with the author).

¹⁰² E-mail from Bruce Caron, creator of the lightblueline project and www.lighblueline.org, to Marc R. Poirier (Feb. 16, 2008) (on file with the author); E-mail from Bruce Caron, creator of the lightblueline project and www.lightblueline.org, to Marc R. Poirier (Nov. 3, 2007) (on file with the author).

¹⁰³ See Welsh, Aug. 9, 2007, *supra* note 98 (noting the real estate lobby's concern that the line would alarm customers, thereby reducing property values).

¹⁰⁴ Welsh, Aug. 23, 2007, *supra* note 100.

¹⁰⁵ *Id.*

1. The Signal Visibility of Landscape

While maps, animations, and movies about sea level rise are all available,¹⁰⁶ none of these has the immediacy and unavoidability of a message inscribed directly on and in the landscape. Carol Rose has noted that property law has “peculiar links with vision.”¹⁰⁷ A landscape can “dramatically affect the way one thinks about what can be done one, with, and to [the] landscape, and about what is changeable and what is not.”¹⁰⁸ “Vision mediates between what is given by the surroundings and what the viewers think that they and other can do, either to accommodate to their surrounding or to shape them anew.”¹⁰⁹ Quoting Justice Oliver Wendell Holmes, she suggests, “[t]he fact that tangible property is also visible tends to give rigidity to our conception of our rights in it that we do not attach to others less concretely clothed.”¹¹⁰

As Rose points out in her recent reflections on coastal development,¹¹¹ there are other important natural resources that are less fixed and that are, by the same token, less permanently visible. Rose contrasts the visibility and tangibility of land with the mobility and elusiveness of air and water.¹¹² “[L]and is the most visible and tangible of things you can own, and that

¹⁰⁶ Flood insurance maps delineating various kinds of hazard zones have been available in hard copy for decades, though they may well be in need of updating. But there is more. Remarkably, one can now, via the internet, view maps with shading to indicate how much land will be underwater at various projected levels of sea level rise. See Flood Maps, <http://flood.firetree.net> (last visited Feb. 4, 2008) (allowing visitors to view, at any scale, either maps or actual satellite images of the world and to impose on them a sea level rise of from 1 to 14 meters); see also Architecture 2030, Cutting Edge Research, Coastal Impact Study: Nation Under Siege, Visual Imaging, http://www.architecture2030.org/current_situation/research/sea_level/visual_imaging.html (last visited Feb. 4, 2008) (illustrating sea-level rise of between 1 and 5 meters in more than forty U.S. coastal locations); Federal Emergency Management Agency, Map Service Center, <http://msc.fema.gov> (last visited Feb. 4, 2008) (showing flood insurance rate maps for localities in the United States, which are viewable for free and can be purchased for a fee); United States Geological Survey, Center of Excellence for Geospatial Information Science, http://cegis.usgs.gov/sea_level_rise.html (last visited Feb. 4, 2008) (providing animations of large-scale territories showing sea level rise from 0 to 70 meters in a 30-second presentation).

¹⁰⁷ CAROL M. ROSE, *Seeing Property, in PROPERTY AND PERSUASION: ESSAYS ON THE HISTORY, THEORY, AND RHETORIC OF OWNERSHIP (NEW PERSPECTIVE ON LAW CULTURE, AND SOCIETY)* 267, 268 (Westview Press 1994).

¹⁰⁸ *Id.* at 267.

¹⁰⁹ *Id.* at 296-97.

¹¹⁰ Rose, *supra* note 19, at 237 (quoting *Block v. Hirsh*, 256 U.S. 135, 155 (1921) (sustaining a rent control statute against a due process/regulatory takings challenge)).

¹¹¹ *Id.*

¹¹² *Id.* at 238.

quality captures your attention, and enhances your sense of entitlement.”¹¹³ Air, water and wildlife are “elusive, spread-out, hard to capture, easily subject to invasion....”¹¹⁴ She suggests that this difference explains the recurrent regulatory takings litigation over environmental land use regulations at the water’s edge.¹¹⁵ As a result of our perception of land as stable and of other natural resources as fugitive and transitory, land is subject to “imbalanced propertization.”¹¹⁶

The visibility of landscape is also associated with changelessness and indefinite duration, and ignores time.¹¹⁷ In contrast, I suggest, the coastal hazards present by sea level rise, storms, and erosion are quintessentially time-bounded and episodic in nature. Their threat is not always visible. Without permanent visual cues, this episodic risk inherent in the coastal landscape is forgettable, concealable or deniable. What is visually present most of the time is the land. And it is land that looks like developed or developable land, not the high water or the raging storm.

Rose’s focus on the importance of permanent visibility to landscape and of landscape to one’s sense of property helps us to understand why the blue line concept is potentially effective and, by the same token, why it is potentially so threatening to those who wish to deny or conceal the risk of unwise coastal development. A blue line is more effective at communicating risk than a flood map or a mandated disclosure buried in a sheaf of closing documents. It is also more effective at communicating to the unwilling than any of the computer-drawn sea level rise projects, which one must actively seek out, and which do not confront a person at the moment she or he is in the landscape itself. The blue line is public, encountered daily, viscerally understandable, and in your face. If we were to have a blue line clearly indicating the threat of storm surge (at ten feet) or of the melting of one of the land-based polar ice sheets (at twenty-two feet) inscribed on the landscape around the country, I believe much of the resistance to other precautions about sea level rise and global climate change would weaken. It would certainly change the dynamics of coastal hazard management, both in their behavioral economic and public choice aspects.

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.* at 239.

¹¹⁶ Rose, *supra* note 19, at 278.

¹¹⁷ ROSE, *supra* note 107, at 272.

2. Blue Line Projects: Law and Politics

Is this kind of blue line public art/public information project possible on a large scale? It is contentious from a political perspective, precisely because it is likely to be effective and to threaten property values. If it were an approach that made everyone happy, it would already be here, given its comparatively low cost. Yet Eve Mosher completed her project in Brooklyn and Lower Manhattan without incident.¹¹⁸ Bruce Caron won approval from all the relevant governing bodies in Santa Barbara;¹¹⁹ and despite the resistance being mounted by real estate interests, he is not ready to abandon the fray.¹²⁰ Evidently, in some places the local politics are workable.

The next question, then, is whether widespread blue line projects could be done legally. The answer to that question is mostly yes. Public property could be blue lined easily enough, at the say-so of whatever governmental owner controlled each property. To be sure, there could be some harmful effect on a coastal town's economy if it went forward and its neighbors did not. This observation suggests that, to address the holdout problem, blue line projects probably need to be implemented eventually at a state level. The federal government might give the project a super boost by requiring a blue line on all its coastal property. The effect of a blue line on property values is not as likely to concern Uncle Sam. Moreover, Congress itself would not even have to act, since a blue line project on federal land would likely be the proper subject matter of an Executive Order of a future, green president.

Inscribing a blue line on private property is trickier. After *Loretto v. Teleprompter Manhattan CATV Corp.*,¹²¹ a regulation imposing a permanent physical invasion on unwilling property owners is going to be understood to effect a taking and therefore to require compensation.¹²² One possible response to this doctrinal consequence of requiring blue lines on private

¹¹⁸ See HighWaterLine.org, *A Never Ending Story*, *supra* note 90.

¹¹⁹ Santa Barbara's City Council, Historic Landmarks Commission, Arts Advisory Committee, and the Visual Art in Public Places Committee all approved the lightblueline project. See Welsh, Aug. 9, 2007, *supra* note 98; lightblueline.org, *Santa Barbara Newsroom Covers the lightblueline City Council Meeting Agenda*, <http://www.lightblueline.org/node/242> (last visited Feb. 4, 2008).

¹²⁰ E-mail from Bruce Caron, creator of the lightblueline project and www.lightblueline.org, to Marc R. Poirier (Feb. 16, 2008) (on file with author); E-mail from Bruce Caron, creator of the lightblueline project and www.lightblueline.org, to Marc R. Poirier (Nov. 3, 2007) (on file with author); E-mail from Bruce Caron, creator of the lightblueline project and www.lightblueline.org, to Marc R. Poirier (Sept. 25, 2007) (on file with author).

¹²¹ 458 U.S. 419 (1982).

¹²² *Id.* at 426 ("We conclude that a permanent physical occupation authorized by government is a taking without regard to the public interests that it may serve.").

property would be to impose a blue line easement or servitude as an exaction, in exchange for some required coastal land use or building permit. Wherever a permit is required for either fill or development along the coast, the blue line could probably be imposed as a permit condition, as it is reasonably related (roughly proportional) to problems created by the activity being permitted.¹²³

Another, complementary means of permanently inscribing the blue line is available wherever coastal private property owners who are sympathetic to the project voluntarily agree to blue line their properties. A standard form easement for a blue line across private property could be developed, so as to make such agreements stick from one owner to the next. This method would create a dominant tenement in favor of the public or a suitable conservation-oriented non-profit—basically a mini-conservation easement. The blue line agreement should not be a mere license, revocable subsequently simply at the will of the holder of the land; the point is permanence. In this way, environmentally-minded property owners could impose the blue line project on their successors so long as the dominant tenement holder did not agree to release the property from the servitude. Bit by bit, the coast would acquire a blue line.

In the most significant areas—low-lying and urban, for example—a governmental entity could also simply bite the *Loretto* bullet. The property being blue lined is still as useful as it ever was. Nothing has changed except that the information about its susceptibility to flooding and erosion is out in the open. If this information is true and already public, how does making the information more available cause harm? How much compensable loss can there be in that? It is perhaps important to keep in mind that the damages that Mrs. Loretto received for New York City's imposition of a cable box and wiring on her apartment building, after she won in the Supreme Court, amounted to one dollar.¹²⁴ If there is comparably little just compensation cost per property, even the physical invasion/takings/compensation issue might well not be an insurmountable one.¹²⁵

For the truly recalcitrant property owner, perhaps we still need a substitute for the physical blue line. A jurisdiction could require a very clear statement in the deed of where the blue line would fall. Just as a few states

¹²³ See *Dolan v. City of Tigard*, 512 U.S. 374, 391 (1994).

¹²⁴ *Loretto v. Teleprompter Manhattan CATV Corp.*, 446 N.E. 2d 428 (N.Y. 1983) (upholding commission award of one dollar in damages).

¹²⁵ *But cf.*, e.g., Eric R. Claeys, *Takings, Regulations, and Natural Property Rights*, 88 CORNELL L. REV. 1549, 1652 (2003) (arguing that the compensation in *Loretto* was too low).

require deed records to disclose toxic contamination¹²⁶ and California requires notification of natural hazards in property transactions,¹²⁷ a sympathetic jurisdiction could impose a virtual blue line requirement via a truly salient deed notice—something more than the flood maps that a potential purchaser might now have to confront. A deed notice would not be as effective as the physical, tangible blue line, for the reasons of landscape visibility and tangibility discussed above. Still, suppose that in a given community (or eventually a state or country, one might hope) the blue line appeared physically on more and more coastal property. The question of where a non-lined property was located vis-à-vis sea level rise and storm surge might become more salient. In turn, this salience would make more effective a virtual blue line consisting of a deed or document notice.

3. Blue Line Projects, Particular Local Places and the Evolution of Environmental Norms

I now would like to draw in themes of place and localism in political dialogue over global warming, in order to situate public and place-based art such as blue line projects at an important intersection of global processes and specific local places and communities. Blue line projects attempt to redirect cultural attitudes and political priorities around natural resource use and coastal development, in view of the apparent inevitability of climate change and concomitant sea level rise. In addition to their artistic character, they are also a public information campaign about natural resources management and land use, contributing to a discussion of issues simultaneously local and global in scale.

Changing culture and related social practice is inevitably a piecemeal thing. It typically occurs in a piecemeal fashion locally before it occurs on a larger scale.¹²⁸ We have already seen that blue line projects could be politically and legally embraced and implemented at many levels. At the small end are the actions of artists like Bruce Caron and Eve Mosher,¹²⁹ along with the potential consent of individual private property owners who

¹²⁶ See 36 AM. JUR. 3D *Proof of Facts* § 471 (2008) (“Many states have developed specific regulatory initiatives to eliminate the sale or transfer of property with serious environmental contamination.”).

¹²⁷ CAL. CIV. CODE §§ 1103-1103.4 (West 2005).

¹²⁸ I recently explored the process of piecemeal cultural change, leading to piecemeal legal change, in another context. See Marc R. Poirier, *Piecemeal and Wholesale Approaches Towards Marriage Equality in New Jersey: Is Lewis v. Harris a Dead End or Just a Detour?*, 59 RUTGERS L. REV. 291 (2007).

¹²⁹ See *supra* text accompanying notes 88-96.

might allow a permanent blue line on their property.¹³⁰ Then, one level of scale up, we might have localities like Santa Barbara, which granted all the necessary permits and even found funding for the lightblueline project.¹³¹ State and national arenas could also come into play, though we might expect them to do so piecemeal and perhaps later, as public opinion trends are established.

Cities and states sometimes indeed do serve as laboratories of policy experimentation.¹³² We currently see, for example, coastal states driving United States policy on greenhouse gases in a particular direction, in an attempt to force national norms and policies.¹³³ Many of the nation's mayors are also considering what steps they can take to reduce global warming by acting locally.¹³⁴ The United States Conference of Mayors recently convened a Climate Protection Summit, attended by more than 100 mayors.¹³⁵ In addition, more than 700 U.S. mayors have signed a pledge to reduce their cities' emissions of carbon dioxide and other greenhouse gases to the levels of the Kyoto Protocol.¹³⁶ Such small or smallish groups can set out to seed cultural and economic shifts.

Where environmental and natural resource policies are concerned, this localism arises in part from the nature of the feedback from the natural resources and environmental processes themselves. A number of property theorists have pointed out that we shift our notions of property rights and

¹³⁰ See *supra* paragraph following note 123.

¹³¹ See *supra* text accompanying notes 97-99. The San Francisco Department of the Environment has also been involved in one type of blue line project. FutureSeaLevel.org, *supra* note 94.

¹³² *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).

¹³³ See *Massachusetts v. EPA*, 127 S. Ct. 1438, 1454-55 (2007) (focusing on the special role of the state of Massachusetts in protecting natural resources, among other numerous plaintiffs in the suit, when dealing with an attempt to compel the Environmental Protection Agency to address carbon dioxide as a greenhouse gas under the jurisdiction of the Clean Air Act (citing *Georgia v. Tenn. Copper Co.*, 206 U.S. 230 (1907) (ruling on a public nuisance action brought by the state of Georgia to abate interstate air pollution)). *Kelo v. City of New London*, 545 U.S. 469 (2005), also contains interesting intimations of deference for respect for state management of natural resources within very broad limits. See Marc R. Poirier, *Federalism and Localism in Kelo and San Remo*, in PRIVATE PROPERTY, COMMUNITY DEVELOPMENT, AND EMINENT DOMAIN 101 (Robin Paul Malloy ed., 2008).

¹³⁴ See Mayors Climate Protection Center, <http://www.usmayors.org/climateprotection> (last visited Feb. 4, 2008).

¹³⁵ William Yardley, *Mayors, Looking to Cities' Future, are Told it Must be Colored Green*, N.Y. TIMES, Nov. 3, 2007, at A12 (reporting that the conference's two main themes were that the federal government must do more to address global warming and that in the meantime city mayors must take up the slack).

¹³⁶ *Id.*

environmental obligations (as well as other community-regarding obligations that limit private property rights) on an ongoing basis, even though that renegotiation process is not always clearly acknowledged.¹³⁷ Some of these theorists usefully distinguish between types of evolutionary dialectic around property. Thus, Eric Freyfogle contrasts a narrative of “property and the evolving community” and a “narrative of natural use.”¹³⁸ In the narrative of natural use, “the land itself is the lawgiver;”¹³⁹ a proper understanding of the natural world dictates that certain basic principles of natural resource management are not debatable.¹⁴⁰ Similarly, in an article analyzing the crosscurrents in *Lucas v. South Carolina Coastal Council*,¹⁴¹

¹³⁷ See, e.g., Gregory S. Alexander, *Takings and the Post-Modern Dialectic of Property*, 9 CONST. COMMENT. 259 (1992); Susan Ayres, *The Rhetorics of Takings Cases: It's Mine v. Let's Share*, 5 NEV. L.J. 615 (2005); Myrl L. Duncan, *Property as a Public Conversation, Not a Lockean Soliloquy: A Role for Intellectual and Legal History in Takings Analysis*, 26 ENVTL. L. 1095 (1996); Marc R. Poirier, *The Virtue of Vagueness in Takings Doctrine*, 24 CARDOZO L. REV. 93 (2002) [hereinafter Poirier, *Vagueness*] (setting takings doctrine in the context of an ongoing renegotiation of property rights); Marc R. Poirier, *Property, Environment, Community*, 12 J. ENVTL. L. & LITIG. 43 (1997) [hereinafter Poirier, *Property, Environment*] (positing an ongoing tension between self-regarding and community-regarding versions of property); Carol M. Rose, *Property and Expropriation: Themes and Variations in American Law*, 2000 UTAH L. REV. 1 (2000) (setting takings doctrine in a context of regular transitions from one property regime to another); Carol M. Rose, *Rethinking Environmental Controls: Management Strategies for Common Resources*, 1991 DUKE L.J. 1 (1991) (outlining an evolutionary theory of resource management, including regulation and property rights among the strategies). On the process of negotiating and renegotiating property regimes, see generally Richard A. Epstein, *The Allocation of the Commons: Parking on Public Roads*, 31 J. LEGAL STUD. (SPECIAL ISSUE) S515 (2002) (pointing out the complications of dynamic evolutionary analyses); Daniel J. Hulsebosch, *The Tools of Law and the Rule of Law: Teaching Regulatory Takings after Palazzolo*, 46 ST. LOUIS U. L.J. 713 (2002) (describing takings doctrine within a framework of evolving social norms); Joseph W. Singer & Jack M. Beerbaum, *The Social Origins of Property*, 6 CAN. J.L. & JURIS. 217 (1993); Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN. L. REV. 577 (1988) (describing a fluctuation between rules and standards in the management of property); Laura S. Underkuffler-Freund, *Property: A Special Right*, 71 NOTRE DAME L. REV. 1033 (1996). A classic text is Francis S. Philbrick, *Changing Conceptions of Property in Law*, 86 U. PA. L. REV. 691 (1938).

¹³⁸ Eric T. Freyfogle, *Owning the Land: Four Contemporary Narratives*, 13 J. LAND USE & ENVTL. L. 279, 297-303 (1998). Freyfogle actually outlines four approaches altogether, but the other two are relatively static, not evolutionary, accounts. *Id.* at 286-97. I provide a brief description of Freyfogle's taxonomy in Poirier, *Vagueness*, *supra* note 137, at 183-86; and point out that we should be troubled by the question whether property transitions are in fact always legitimately motivated by rational social welfare concerns. Poirier, *Vagueness*, *supra* note 137, at 179-83. Epstein, *supra* note 137, at S519-42 (The course of property transitions is often neither smooth nor rational.).

¹³⁹ Freyfogle, *supra* note 138, at 303.

¹⁴⁰ *Id.* at 301-03.

¹⁴¹ 505 U.S. 1003 (1992).

Joseph Sax distinguishes between a transformative economy and an economy of nature, with property rights in tension as between these two visions.¹⁴² The economy of nature requires one to take account of ecological services and interconnectedness in discerning how to parcel out land and regulate land uses, and makes property rights less absolute and more subject to community needs as they are discerned.¹⁴³ One can find a number of other articulations of similar ideas, all identifying the need to temper classic absolute property rights to account for communal dependence on shared environmental services or other shared resources such as public health and safety.¹⁴⁴

How do Freyfogle's "narrative of natural use"¹⁴⁵ or Sax's "economy of nature"¹⁴⁶ work themselves out as we become more and more aware of the issues posed by global warming and climate change? The problems of global warming, including those due to sea level rise, occur at a number of different levels of scale simultaneously,¹⁴⁷ as do also attempts to slow global warming and to adapt to its effects.¹⁴⁸ The problem and the possible responses are local and global at the same time. Sea level rise will affect many parts of the world in many different ways,¹⁴⁹ but each individual locality will be affected individually, community by community—even, one could say, property by property, house by house. And each community will be called to respond just as locally. The problem can be described abstractly and generally, but it also is inevitably local and concrete. Beaches erode.¹⁵⁰

¹⁴² Joseph L. Sax, *Property Rights and the Economy of Nature: Understanding Lucas v. South Carolina Coastal Council*, 45 STAN. L. REV. 1433, 1442 (1993).

¹⁴³ *Id.* at 1439-47.

¹⁴⁴ *E.g.*, GREGORY S. ALEXANDER, *COMMODITY AND PROPRIETY: COMPETING VISIONS OF PROPERTY IN AMERICAN LEGAL THOUGHT 1776-1970* (1997); J. Peter Byrne, *Green Property*, 7 CONST. COMMENT. 239 (1990); Terry W. Frazier, *The Green Alternative to Classical Liberal Property Theory*, 20 VT. L. REV. 299 (1995).

¹⁴⁵ Freyfogle, *supra* note 138, at 301.

¹⁴⁶ Sax, *supra* note 142, at 1459.

¹⁴⁷ Richard B. Alley et al., *Summary for Policymaker*, in IPCC REPORT 2007 PART I, *supra* note 4, at 5.

¹⁴⁸ See Neil Adger et al., *Technical Summary*, in IPCC REPORT 2007 PART II, *supra* note 12, at 24. See generally Hari M. Osofsky, *The Geography of Climate Change Litigation: Implications for Transnational Regulatory Governance*, 83 WASH. U. L.Q. 1789, 1793-94 (2005).

¹⁴⁹ See Neil Adger et al., *Summary for Policymakers*, in IPCC REPORT 2007 PART II, *supra* note 12, at 12.

¹⁵⁰ See, *e.g.*, Dixon, *supra* note 26.

Buildings fall down.¹⁵¹ Then communities try to figure out what to do about it.¹⁵²

At the local, place-based community level, land-based political art such as a blue-line project takes on an edge and holds an advantage that some other kinds of climate change advocacy do not. Consider, in contrast to blue line projects, the Canary Project,¹⁵³ another attempt to use public art to bring home to a public the effects of global warming. The Canary Project publishes on the internet compelling pictures of a number of the effects of climate change; images of some possible solutions or mitigation measures; and contacts for further information.¹⁵⁴ Yet consider its audience: individuals who voluntarily sign in to its website. While it thus can help to inform and motivate those who already are more or less persuaded, or at least open minded, it will not reach those who do not access it. One could say the same thing about the web-based blue line projects.¹⁵⁵ They too reach only the converted and the curious. They do not reach the entirety of the local, place-based community that actually encounters the resource and has to deal with the laws of nature.

In contrast, Caron's lightblueline project occurs in and communicates physically in Santa Barbara, California, USA. Mosher's High Water Line project occurs in and communicates physically in New York City, New York, USA. Santa Barbara and New York City are shared places, in contrast to a shared information space like a website. One cannot escape communication planted in such a place by websurfing over to a different channel.

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ The Canary Project, <http://canary-project.org> (last visited Feb. 4, 2008).

¹⁵⁴ *Id.* The Canary Project's website describes the project's mission as follows:

Visualize global warming in compelling ways that leverage data and communicate a sense of urgency.

Integrate the tools of art with those of science, education, mass communications and other disciplines that enhance our ability to engage diverse audiences.

Investigate questions lying at the root of our current ecological crisis and provoke reflection on those questions.

Cultivate media attention to further inform a broad public and to create excitement around the issue. Distribute information on concrete actions people can take to cut carbon emissions.

Id.

¹⁵⁵ See *supra* notes 88-89.

The community that inhabits a particular place is not necessarily like-minded in the way that the community of an internet space can be.¹⁵⁶ Its members are not bound by interest, but by necessity, the necessity of their shared physical space and resources. Generally speaking, human communities encounter, conceptualize and approach issues of natural resource management through time- and space-specific encounters and problems.¹⁵⁷ Blue line projects, then, provoke encounters and dialogues about one specific place and its resources, in that place, with others who share the same spatial and political community, although not necessarily the same views.¹⁵⁸ Blue line projects force the inhabitants of a local, place-based community to engage in a dialogue over the management of shared natural resources and socioeconomic processes such as coastal development. They foster locally focused awareness in a way that something like the Canary Project, for all its potential persuasive value, cannot. In Santa Barbara, Caron engaged the city leaders in dialog over the project and hence over sea level rise and global warming, with the public watching through the local media.¹⁵⁹ In New York City, Mosher discussed her projects with passers-by as well as in her blog.¹⁶⁰ Here is what Mosher writes generally about her project:

High Water Line seeks to engage people on the street, in the neighborhoods where they live, work and play. People will encounter the chalk line and the beacons while going about their

¹⁵⁶ See Posting of Bruce Caron to lightblueblog, *Back Room Ranting: Not Simply Misleading, but Untrue*, <http://lightblueblog.blogspot.com/2007/10/back-room-ranting-not-simply-misleading.html> (Oct. 18, 2007, 7:53 PST) (last visited Feb. 4, 2008) (showing that Bruce Caron experienced significant opposition from a City Council candidate and a local news press blog while trying to garner support and authorization for the implementation of a blue line project in Santa Barbara, California).

¹⁵⁷ Poirier, *Property, Environment*, *supra* note 137, at 48.

¹⁵⁸ *E.g.*, Posting of Eve S. Mosher to HighWaterLine Blog, *Brace Yourself*, <http://www.highwaterline.org/wordpress/2007/10/02/brace-yourself> (Oct. 2, 2007, 19:19 EST) (last visited Feb. 4, 2008) (“I heard a number of times as I passed by someone explaining the project to their friends. ‘Oh, yes, she’s marking the flood zone from climate change—she’s done it all around Brooklyn.’”).

¹⁵⁹ See *Back Room Ranting: Not Simply Misleading but Untrue*, *supra* note 156 (“It took several months of public city arts committee meetings . . . before the lightblue line effort was approved (unanimously and enthusiastically) at that level and thus ready to be considered by the City Council.”).

¹⁶⁰ See Posting of Eve S. Mosher to HighWaterLine Blog, *If a Tree Falls in the Forest and No One is Around to Hear It*, <http://www.highwaterline.org/wordpress/2007/10/08/if-a-tree-falls-in-the-forest-and-no-one-is-around-to-hear-it> (Oct. 8, 2007, 8:34 EST) (last visited Feb. 4, 2008) (“A great thing about the project was that I really had ‘conversations’ with people. I didn’t just hand over information and walk away.”).

daily lives. The work is an intervention in routine—the public’s as well as my own. This aspect of the piece ensures catching the public’s attention, and it assures easy and direct access. The simplicity of the project, aesthetically and visually, will appeal to people of all ages, ethnicities and economic backgrounds. Climate change is a silent, invisible threat—High Water Line gives voice and makes visible the affects [sic] of this threat. High Water Line is designed to engage the community and promote thoughtful, informed dialogue and action.¹⁶¹

IV. CONCLUSION: BLUE LINE PROJECTS, AS PLACE-BASED ART, ARE AN IMPORTANT MEANS OF IMPROVING OUR CONVERSATION ABOUT GLOBAL WARMING

Blue line projects are not only political art, not only public art, but also place-based art. They concern the very place where the art is lodged for public view.¹⁶² They are potentially effective as a way to change public opinion around global warming generally, and sea level rise and coastal land use specifically, not just because of their visibility, but because of their placeness¹⁶³ and localism. They situate the potential effects of sea level rise, sometimes uncomfortably, within the public’s plain view. Ultimately, as Freyfogle points out, the land (and, because it is after all the coast we are talking about, the ocean) are going to be the lawgivers here.¹⁶⁴ Nature itself will have its say, eventually, in a storm surge or erosion event. A very clear blue line right there on the ground, forcing each community to confront visually where the water will be at some times in fifty or one hundred years, may offer us an opportunity now to consider in advance how better to prepare or how to amend our ways.

¹⁶¹ See HighWaterLine.org, The Artist, *supra* note 89.

¹⁶² See HighWaterLine.org, Welcome to HighWaterLine, *supra* note 90 (explaining that HighWaterLine is a project intended to promote “immediate visual and local understanding of the affects [sic] of climate change” by marking a blue chalk line 10 feet above sea level, which represents the increased flooding associated with climate change).

¹⁶³ One could use a different, unfamiliar term, *ubiety*. It means the quality of having a place, a whereness. Cf. Marc R. Poirier, *The NAFTA Chapter 11 Expropriation Debate Through the Eyes of a Property Theorist*, 33 ENVTL. L. 851, 884 n.166 (2003) (describing a community of transnational investors as without *ubiety*; the article contrasted such investors’ interest in a stronger and more absolute view of property rights with the interest of land-based communities, whose territorially-based sovereigns would sometimes seek to respond to the negative externalities of land use and other natural resource uses with regulation, and therefore adopted a more flexible, dialogic view of property).

¹⁶⁴ See Freyfogle, *supra* note 138, at 302-03 (“Nature had its own limits, and human-created property rights were conditioned by these limits.”).

Seven hundred U.S. mayors have said they are committed to combating global warming.¹⁶⁵ Many of the methods of directly addressing greenhouse gas emission and energy conservation are complicated and expensive.¹⁶⁶ Some may be beyond the means of many cities. Blue line projects, in contrast, are comparatively low in cost. Well, except for those property values and perhaps the resulting loss of tax revenue.¹⁶⁷ The public conversations that local blue line projects would generate could help to soften some of the larger blindnesses and resistances around unwise coastal development. Perhaps some of those mayors in coastal towns would like to follow the lead of our artists.

¹⁶⁵ Yardley, *supra* note 135.

¹⁶⁶ See MCKINSEY & CO., REDUCING U.S. GREENHOUSE GAS EMISSIONS: HOW MUCH AT WHAT COST? (2007), available at http://www.mckinsey.com/clientservice/ccsi/pdf/US_ghg_final_report.pdf (full report) and http://www.mckinsey.com/clientservice/ccsi/pdf/Greenhouse_Gas_Emissions_Executive_Summary.pdf (executive summary).

¹⁶⁷ See *supra* text accompanying notes 103-105.

**THROUGH A GLASS DARKLY:
MEASURING LOSS UNDER OREGON’S MEASURE 37***

EDWARD J. SULLIVAN**

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* This Article is reprinted here courtesy of *The Urban Lawyer*. The original publication may be found at 39 URB. LAW. 563 (2007).

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