

THE ENVIRONMENTAL DEFICIT: APPLYING LESSONS FROM THE ECONOMIC RECESSION

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In 2007, the nation entered its greatest financial downturn since the Great Depression of the 1930s. What followed was a period of national introspection. Although prescriptions for financial rescue varied widely in the details, a surprisingly broad consensus emerged as to the underlying pathology of the crisis. This Article explores three principal contributing factors and the lessons associated with each that make up this pathology. These factors include: rejecting rules through deregulation, trivializing risk through overly optimistic analyses, and overconsumption supported by reckless borrowing and lending practices.

The powerful lessons from this pathology, considered by a stunned nation in the midst of financial collapse, apply with equal force to the growing environmental deficit, which this Article defines as the unsustainable spending-down of natural resource assets. This Article argues that the environment could benefit from a dose of the same medicine that has been suggested for the economy: enforcing rules through re-regulation, abandoning inaccurate models of cost-benefit analysis that trivialize risks, and limiting consumption to sustainable levels.

This Article tells two parallel stories of fiscal and environmental unraveling, capturing the cultural moment through the often frank admissions of political and intellectual leaders amidst crisis. It features a Section (Part II.A) on the curious phenomenon of “midnight regulations,” including an Appendix showing the most recent enactments in table format.

INTRODUCTION: THE DEBT CULTURE

In August 2007, the United States entered its greatest financial crisis since the Great Depression of the 1930s.¹ Triggered in part by subprime lending practices, the crisis deepened as homeowners defaulted on their mortgages. The

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1. See generally Martin Neil Bailly et al., *The Origins of the Financial Crisis*, BROOKINGS INST., Nov. 2008, http://www.brookings.edu/papers/2008/11_orgins_crisis_bailly_litan.aspx.

problem spread as banks, poisoned by so-called toxic assets in their portfolios, restricted the flow of new credit. Overall, home prices fell 18% in 2008.² In that year's final quarter, the gross domestic product (GDP) experienced its worst decline in over twenty-five years.³ By December 2008, the National Bureau of Economic Research confirmed that the country's economy was in a recession.⁴ In response, the stock market dropped 7.7% in one day.⁵ In the first half of 2009, the national unemployment rate climbed to 9.5%⁶ and consumer confidence was at the lowest level in recorded history.⁷

As the financial crisis unfolded, many politicians and scholars searched for a coherent framework to explain what had gone wrong. One prominent report suggested that the financial maelstrom had spun-off from the nation's evolving "culture of debt."⁸ As the report explained:

When a society creates democratic institutions to encourage thrift, more people are likely to engage in the positive activities of saving, conservation, and asset building. When a society fails to nurture such institutions, limits access to them, or supports institutions opposed to thrift, more people are likely to over-spend, fall into consumerism as a philosophy of life, and go into debt.⁹

Riffing off the theme of debt, *New York Times* columnist David Brooks described the "great seduction" of the debt culture, which exposed its victims to predatory lenders and other opportunists as the country's "moral structure around money" deteriorated.¹⁰ As Brooks explained, "what happened to . . . the nation's financial system . . . is part of a larger social story. America once had a culture of

2. Catherine Rampell & Jack Healy, *Fed Chairman Says Recession Will Extend Through the Year*, N.Y. TIMES, Feb. 25, 2009, at B1 (reporting that the "value of single-family homes in 20 major metropolitan areas was 18.5% lower in December than a year earlier," according to the Standard & Poor's Case-Shiller home price index).

3. Catherine Rampell, *G.D.P. Revision Suggests Long, Steeper Downturn*, N.Y. TIMES, Feb. 28, 2009, at B3 (noting a 6.2% decline in gross domestic product in the fourth quarter of 2008, the worst reduction since the recession of 1982).

4. The NBER is a nonpartisan group, widely recognized as the institution "charged with making the call for the history books." Michael M. Grynbbaum, *Dow Plunges 680 Points as U.S. Recession is Declared*, INT'L HERALD TRIB., Dec. 1, 2008.

5. *Id.* (describing a 680-point drop in the Dow Jones industrial average).

6. U.S. BUREAU OF LABOR STATISTICS, LABOR FORCE STATISTICS FROM THE CURRENT POPULATION SURVEY, http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?data_tool=latest_numbers&series_id=LNS14000000 (last visited Aug. 17, 2009).

7. Rampell & Healy, *supra* note 2 (noting that the Conference Board's index of consumer confidence hit twenty-five in February 2009, representing "the lowest since [the Board] began tracking consumer sentiment in 1967").

8. COMM'N ON THRIFT, FOR A NEW THRIFT: CONFRONTING THE DEBT CULTURE (2009). See Inst. for American Values, *Join the Initiative: For a New Thrift*, www.NewThrift.org (visited Aug. 17, 2009) [hereinafter *Join the Initiative*].

9. *Join the Initiative*, *supra* note 8.

10. David Brooks, Op-Ed., *The Great Seduction*, N.Y. TIMES, June 10, 2008, at A23 [hereinafter Brooks, *The Great Seduction*] (describing FOR A NEW THRIFT: CONFRONTING THE DEBT CULTURE, *supra* note 8, as "one of the most important think-tank reports you'll read this year").

thrift. But over the past decades, that unspoken code has been silently eroded.”¹¹ After the culture of thrift had eroded, the country was left with a culture that embraced “rampant . . . financial decadence, [and] the trampling of decent norms about how to use and harness money.”¹²

Just as the debt culture was part of a larger social story, it was also part of a larger environmental story. As the nation’s attention was riveted to the unraveling of the financial sector, another crisis was developing in the natural environment. The same debt culture that decimated financial assets had also long been attacking environmental assets: the nation’s stock of “natural capital.”¹³ Although the degradation of the earth’s atmosphere by greenhouse gas emissions received prominent media attention, the accelerating depletion of fresh water, biodiversity, and other natural resources was less well known.¹⁴ In the parallel ecological universe, the environmental deficit was growing silently in the shadow of the highly publicized fiscal deficit.

In this Article, I argue that the debt culture—with its attendant rejection of regulation, skewed perception of risk, and reckless borrowing and lending practices—is a pathology shared by the fiscal and environmental crises. Drawing on new lessons emerging from the financial sector, I argue that the environment could benefit from a dose of the same medicine prescribed for the economy: enforcing rules through re-regulation, abandoning inaccurate models of cost-benefit analysis that trivialize the risks of environmental degradation, and limiting consumption of the country’s natural capital to sustainable levels. Together, these three measures are a prescription for sustainability, which promotes a “new thrift”¹⁵ to stabilize both financial and natural systems.

Part I considers factors that led to the collapse of the national economy, identifying three particularly compelling lessons that offer utility well beyond the financial context. Part II examines a related narrative, that of environmental decline. This part uses the bookends of 1980—just after the dawn of the modern environmental era—and early 2009—the end of the George W. Bush Administration. In retrospect, this period encompasses the rise and potential fall of the national experiment with deregulation. Part III returns to the lessons uncovered in the rubble of the fallen debt culture, considering their potential applicability to the environmental deficit. The Article concludes that a new culture of thrift is necessary to redress both the financial and environmental deficits.

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11. David Brooks, Op-Ed., *The Culture of Debt*, N.Y. TIMES, Jul. 22, 2008, at A19.
12. Brooks, *The Great Seduction*, *supra* note 10.
13. *See infra* note 99 and accompanying text.
14. *See infra* Part II.C.
15. *See supra* notes 8–9, *infra* note 145, and accompanying text.

I. THE ECONOMY UNDONE

We are in the midst of a once-in-a-century credit tsunami.

—Alan Greenspan¹⁶

As the economic crisis unfolded, thoughtful analysts reexamined longstanding paradigms that may have contributed to the collapse. Although this period of national introspection did not yield a universal consensus, it produced some startlingly honest admissions. Notably, a significant number of high-level politicians and commentators were willing to consider—and, at times, embrace—ideas that would have been anathema just a few months earlier. This Part highlights three contributing factors to the nation’s economic woes and the lessons associated with each. In conformity with this Article’s comparative focus, the following discussion of three of the main causes of the recent economic crisis will emphasize the cultural value system that disastrously misdirected both economic and environmental policy.

A. Rejecting Rules

Beginning about 1980, lawmakers generated considerable political currency by emphasizing the virtues of the free market unhampered by governmental rules or enforcement measures. This dislike of regulation morphed into a deep antipathy toward the federal government itself, including taxation and other core governmental functions. *Deregulation* and *privatization* became the watchwords of the day.

The anti-regulatory movement, however, gained traction much earlier than 1980. Ronald Reagan famously set the tone in 1964, asserting that the nation’s Founders intended to restrict the powers of the central government:

A government can’t control the economy without controlling people. And [the Founders knew] when a government sets out to do that, it must use force and coercion to achieve its purpose. They also knew, those Founding Fathers, that outside of its legitimate functions, government does nothing as well or as economically as the private sector of the economy.¹⁷

Reagan concluded with the quip, “[G]overnments’ programs, once launched, never disappear. Actually, a government bureau is the nearest thing to eternal life we’ll ever see on this earth.”¹⁸

Succeeding Presidents—both Republican and Democratic—took up the charge. In his 1996 State of the Union Address, President Bill Clinton declared, “The era of big Government is over,” adding the caveat, “[b]ut we cannot go back

16. *The Financial Crisis and the Role of Federal Regulators: Hearing Before the Comm. on Oversight & Government Reform*, 110th Cong. 3 (2008) (testimony of Dr. Alan Greenspan, Former Chairman of the Federal Reserve) [hereinafter *Greenspan Testimony*].

17. Ronald Reagan, *A Time for Choosing* (Oct. 27, 1964), available at <http://www.reagan.utexas.edu/archives/reference/timechoosing.html>.

18. *Id.*

to the time when our citizens were left to fend for themselves.”¹⁹ Later, President George W. Bush proposed to modify the Social Security program by allowing younger workers to establish “voluntary personal retirement accounts.”²⁰ The President explained his proposal in terms that emphasized the virtues of the free market over government programs:

Here is why the personal accounts are a better deal. Your money will grow over time at a greater rate than anything the current system can deliver. . . . In addition, you’ll be able to pass along the money that accumulates in your personal account, if you wish, to your children and—or grandchildren.²¹

The President concluded in terms distrustful of government: “And best of all, the money in the account is yours, and the Government can never take it away.”²²

As the economy declined precipitously in 2007, many began to question their wholehearted faith in the free market. Perhaps the most striking soul-searching of all was undertaken by Alan Greenspan, Chairman of the Board of Governors of the Federal Reserve system from 1987 to 2006.²³ During better economic times, members of Congress lauded Chairman Greenspan for his service: “You have guided monetary policy through stock market crashes, wars, terrorist attacks and natural disasters. . . . You have made a great contribution to the prosperity of the U.S. and the nation is in your debt.”²⁴ But in 2009, a somber Greenspan testified for four hours before the House Oversight Committee as it probed the causes of the economic crisis.²⁵ Speaking of his former unquestioning faith in the free market unhampered by governmental oversight, the eighty-year-old Greenspan’s angst was palpable as he acknowledged that his “whole intellectual edifice . . . collapsed in the summer of last year.”²⁶ Noting that he was “distressed” to discover “a flaw” in his ideology, Greenspan admitted that “[t]hose of us who have looked to the self-interest of lending institutions to protect shareholder’s equity (myself especially) are in a state of shocked disbelief.”²⁷

Time Magazine was less circumspect in its assessment, with a February 2009 cover story entitled *25 People to Blame: The Good Intentions, Bad Managers and Greed Behind the Meltdown*.²⁸ As one of the primary offenders, *Time* named

19. President William J. Clinton, Address Before a Joint Session of the Congress on the State of the Union, 1 PUB. PAPERS 79, 79 (Jan. 23, 1996).

20. President George W. Bush, Address Before a Joint Session of the Congress on the State of the Union, 41 WEEKLY COMP. PRES. DOC. 126, 129 (Feb. 2, 2005).

21. *Id.*

22. *Id.*

23. Chairman Greenspan presided over the Board of Governors from August 11, 1987 through January 31, 2006, serving four presidents over a span of more than 18 years.

24. Kara Scannell & Sudeep Reddu, *Greenspan Admits Errors to Hostile House Panel*, WALL ST. J., Feb. 20, 2009, at A1 (quoting 2005 statement of Representative Jim Saxton (R., N.J.)).

25. *Id.*

26. *Greenspan Testimony*, *supra* note 16.

27. *Id.*

28. Nancy Gibbs, *25 People to Blame: The Good Intentions, Bad Managers and Greed Behind the Meltdown*, TIME, Feb. 23, 2009, at 20.

Phil Gramm, Chair of the Senate Banking Committee from 1995 through 2000, criticizing him as “Washington’s outspoken champion of deregulation.”²⁹ Likewise, *Time*’s offender number three, Alan Greenspan, was faulted because “his long-standing disdain for regulation underpinned the mortgage crisis.” Coming in fourth was Chris Cox, the former Chief of the SEC, taken to task for his failure “to limit the massive leveraging that led to the financial collapse.”³⁰

In 2009, President Obama embraced this lesson concerning the dangers of deregulation:

Nor is the question before us whether the market is a force for good or ill. Its power to generate wealth and expand freedom is unmatched, but this crisis has reminded us that without a watchful eye, the market can spin out of control—and that a nation cannot prosper long when it favors only the prosperous.³¹

Prominent politicians and analysts on both ends of the political spectrum went even farther, considering whether the federal government should not merely exert a “watchful eye,” but should also take a temporary ownership interest in some of the nation’s floundering banks.³² This flirtation with nationalization was astounding. As one television analyst noted, “The idea of nationalization would have been [politically] radioactive just six months ago, but now we are moving toward a consensus that this is what will be needed.”³³ Republican Governor Arnold Schwarzenegger agreed, distinguishing American practices from European nationalization:

There’s a difference of the way it is in Europe, where the . . . federal government *owns* some of those banks, whereas here only if there is a problem financially . . . the federal government comes in and takes over and helps out. . . . And that’s a huge service to the people of America, to have that security³⁴

29. *Id.* at 22–23.

30. *Id.*

31. President Barack Obama, Inaugural Address (Jan. 20, 2009). Later, President Obama described excessive deregulatory practices in this way: “Regulations were gutted for the sake of a quick profit at the expense of a healthy market.” President Barack Obama, Address to Joint Session of Congress on the State of the Union (Feb. 24, 2009) [hereinafter President Obama, State of the Union]. See also Baily et al., *supra* note 1 (concluding that subprime lending practices “thrived in an environment of easy monetary policy by the Federal Reserve and poor regulatory oversight”).

32. The Emergency Economic Stabilization Act of 2008 authorized the Department of the Treasury to purchase troubled assets under certain conditions. 12 U.S.C. § 5211 (2008). See generally CONG. BUDGET OFFICE, 111TH CONG., THE TROUBLED ASSET RELIEF PROGRAM: REPORT ON TRANSACTIONS THROUGH JUNE 17, 2009 I (June 2009).

33. *ABC News: This Week with George Stephanopoulos* (ABC television broadcast Feb. 22, 2009) (transcript of comments on file with author). See also Sam Stein, *Bank Nationalization: “As American As Apple Pie”*, HUFFINGTON POST, Feb. 22, 2009, http://www.huffingtonpost.com/2009/02/22/bank-nationalization-as-a_n_168948.html (quoting remarks of George Stephanopoulos).

34. *ABC News, supra* note 33 (emphasis added). See also *ABC News: This Week with George Stephanopoulos* (ABC television broadcast May 13, 2009) (interviewing

As Nobel Prize winning economist Paul Krugman asserted, “[I]sn’t nationalization un-American? No, it’s as American as apple pie.”³⁵

B. Trivializing Risk

The systematic underestimation of risk was a second significant cause of the recession. As Federal Reserve Chairman Alan Greenspan admitted, the modern risk-management paradigm was deeply flawed, due in part to its trivialization of risk. As Greenspan explained, “the data inputted into the risk-management models generally covered only the past two decades, [which were] a period of euphoria.”³⁶ Greenspan elaborated, noting that “[i]t was the failure to properly price such risky assets that precipitated the crisis.”³⁷

Risk-management paradigms were revealed to be nothing but a house of cards. Risk was passed off from institution to institution as substandard loans were pooled together and sold.³⁸ Under such circumstances, even the best models and data would have difficulty keeping up with what a Brookings Institution report described as “new kinds of financial innovations that masked risk; . . . companies that failed to follow their own risk management procedures; and . . . regulators and supervisors that failed to restrain excessive risk taking.”³⁹ The report found “especially shocking” the pervasiveness of the risk underestimation:

What is especially shocking, though, is how institutions along each link of the securitization chain failed so grossly to perform adequate risk assessment on the mortgage-related assets they held and traded. From the mortgage originator, to the loan servicer, to the mortgage-backed security issuer, to the CDO [collateralized debt obligations] issuer, to the CDS protection seller, to the credit rating agencies, and to the holders of all those securities, at no point did any institution stop the party or question the little-understood computer risk models, or the blatantly unsustainable deterioration of the loan terms of the underlying mortgages.⁴⁰

With brutal honesty, one loan analyst summed up the problem of risk assessment: “[A bond] could be structured by cows and we would rate it.”⁴¹

California Governor Arnold Schwarzenegger), available at <http://i.abcnews.com/ThisWeek/Story?id=6932196&page=3>.

35. Paul Krugman, Op-Ed., *Banking on the Brink*, N.Y. TIMES, Feb. 23, 2009, at A27. In more restrained terms, Alan Greenspan agreed, “It may be necessary to temporarily nationalize some banks in order to facilitate a swift and orderly restructuring.” *Id.* (quoting the former Federal Reserve Chairman).

36. *Greenspan Testimony*, *supra* note 16, at 3.

37. *Id.* (referring to subprime securities).

38. Baily et al., *supra* note 1 (“With the ability to immediately pass off the risk of an asset to someone else, institutions had little financial incentive to worry about the actual risks of the assets in question.”).

39. *Id.*

40. *Id.*

41. Gibbs, *supra* note 28 (quoting e-mail written by analyst employed by Standard & Poors).

C. Reckless Consumption

A third contributing factor of the economic decline was excessive consumerism, tolerated at the expense of the traditional reverence for thrift and frugality.⁴² Americans borrowed freely, financing the purchase of everything from homes to consumer goods. In 1982, households owed an average of 60% of their income.⁴³ By 2007, consumer debt had skyrocketed to 130% of income.⁴⁴ During the same period, personal savings dropped from 9% to 0.6%.⁴⁵

Such profligate spending, borrowing, and lending was supported by evolving cultural norms that tolerated, and even encouraged, overconsumption. Reflecting the angry national mood, *Time Magazine's* February 2009 listing of those who caused the financial crisis included the "American consumer" as number five among the culprits.⁴⁶ *Time* scolded:

We really enjoyed living beyond our means. No wonder we wanted to believe it would never end. But the bill is due. . . . We've been borrowing, borrowing, borrowing—living off and believing in the wealth effect, first in stocks, which ended badly, then in real estate, which has ended even worse. Now we're out of bubbles.⁴⁷

Political leaders shared this outrage. As a presidential candidate, Senator John McCain decried the nation's growing debt as "generational theft."⁴⁸ Likewise, President Barack Obama expressed his concern for future generations:

Now, if we're honest with ourselves, we'll admit that for too long, we have not always met [our] responsibilities—as a government or as a people. . . . And though [many] challenges went unsolved, we still managed to spend more money and pile up more debt, both as individuals and through our government, than ever before. . . .

42. Brooks, *The Great Seduction*, *supra* note 10.

43. Gibbs, *supra* note 28.

44. *Id.*

45. Paul Krugman, *Decade at Bernie's*, N.Y. TIMES, Feb. 16, 2009, at A23 (citing 1980-2007 data from FED. RESERVE BD., SURVEY OF CONSUMER FINANCES (Feb. 2009)). Krugman concluded:

[T]here has been basically no wealth creation at all since the turn of the millennium: the net worth of the average American household, adjusted for inflation, is lower now than it was in 2001. . . . For most of the last decade America was a nation of borrowers and spenders, not savers.

Id.

46. Gibbs, *supra* note 28.

47. *Id.* See also Thomas L. Friedman, Op-Ed., *Obama's Ball and Chain*, N.Y. TIMES, Mar. 4, 2009, at A27 ("This problem is more complicated than anything you can imagine. We are coming off a 20-year credit binge.")

48. Paul Krugman, Op-Ed., *Failure to Rise*, N.Y. TIMES, Feb. 13, 2009, at A31 (quoting Senator John McCain, arguing in favor of tax cuts rather than the Obama Administration's proffered \$800 billion stimulus package). See also DONELLA H. MEADOWS ET AL., LIMITS TO GROWTH: A REPORT TO THE CLUB OF ROME'S PROJECT ON THE PREDICAMENT OF MANKIND (1972) (predicting that then-current levels of economic growth were unsustainable, supplying short-term needs in a way that led to an "environmental deficit," the consequences of which would be borne by future generations).

People bought homes they knew they couldn't afford from banks and lenders who pushed those bad loans anyway.⁴⁹

The President concluded with a sobering call to action: "And all the while, critical debates and difficult decisions were put off for some other time on some other day. Well that day of reckoning has arrived, and the time to take charge of our future is here."⁵⁰

II. THE ENVIRONMENT UNDONE

It's morning again in America.

—Ronald Reagan Presidential Campaign⁵¹

The era of deregulation—blamed, in part, by many analysts for the 2008 recession—began innocently enough with the sunny optimism of President Ronald Reagan. As applied to the environmental realm, the deregulatory period can be collapsed into the span of a single day: from the "morning" of President Reagan to the "midnight" regulations promulgated by President George W. Bush.⁵² Clearly, much environmental progress occurred during that time frame—from roughly 1980 through 2008.⁵³ But just as clearly, the deregulatory philosophy—coupled with the trivialization of environmental risk and the unsustainable consumption of

49. President Obama, State of the Union, *supra* note 31.

50. *Id.* The President's conclusion continued:

In other words, we have lived through an era where too often, short-term gains were prized over long-term prosperity, where we failed to look beyond the next payment, the next quarter, or the next election. A surplus became an excuse to transfer wealth to the wealthy instead of an opportunity to invest in our future.

51. In the 1984 campaign leading to Ronald Reagan's election to a second term as president, the Reagan campaign ran a television advertisement with the following narration:

It's morning again in America. Today more men and women will go to work than ever before in our country's history. With interest rates at about half the record highs of 1980, nearly 2,000 families today will buy new homes, more than at any time in the past four years. This afternoon 6,500 young men and women will be married, and with inflation at less than half of what it was just four years ago, they can look forward with confidence to the future. It's morning again in America, and under the leadership of President Reagan, our country is prouder and stronger and better. Why would we ever want to return to where we were less than four short years ago?

President Reagan: Leadership That's Working (Ronald Reagan Presidential Campaign 1984).

52. *See infra* Part II.C.

53. *See, e.g.*, ENVTL. PROT. AGENCY, 2008 REPORT ON THE ENVIRONMENT: HIGHLIGHTS OF NATIONAL TRENDS (2008), available at http://www.epa.gov/roehd/pdf/roe_hd_layout_508.pdf. *See also* Control of Emissions of Air Pollution From Nonroad Diesel Engines and Fuel, 69 Fed. Reg. 124, 38,958 (Jun. 29, 2004) (to be codified in scattered sections of 40 C.F.R.) (cutting sulfur levels in nonroad diesel fuel in farming, construction, mining, and industrial engines from 3400 parts per million to 15 parts per million, estimated to prevent over 12,000 premature deaths annually).

environmental assets—ignored looming environmental problems that will pose challenges for many generations.⁵⁴

The flawed paradigm that triggered the recession of 2008 transformed President Reagan's sunny morning into a long night of epic financial storms. That same mindset also had ruinous consequences for the natural environment. The following Sections identify key legal developments that precipitated environmental decline and highlight the shared philosophical underpinnings of the nation's economic and environmental policies from 1980 through 2008.

A. Rejecting Rules

Beginning about 1980, the forces opposing governmental regulation grew increasingly vocal, resulting in a systematic dismantling of numerous environmental protections. Some of the most powerful deregulatory weapons took aim at federal administrative agencies, a target largely unnoticed by the general public and the mainstream media. At least three key changes were instrumental in limiting the ability of agencies to write new environmentally protective rules. Notably, all three developments involved the executive branch of government.⁵⁵ First, President Reagan began a systematic overhaul of the process through which administrative agencies develop rules. In 1981, Reagan signed Executive Order 12,291, requiring federal agencies to prepare a "Regulatory Impact Analysis" for every proposed "major rule."⁵⁶ The analysis must describe the projected costs and benefits of the rule.⁵⁷ Moreover, the Order established a default presumption against regulation, with agencies bearing the burden of proving the need for regulation.⁵⁸ This sweeping mandate had a particularly chilling effect upon

54. See *infra* notes 107–24 and accompanying text.

55. For a discussion of the recent evolution of the executive power, see Robert D. Sloane, *The Scope of the Executive Power in the Twenty-First Century: An Introduction*, 88 B.U. L. REV. 341 (2008).

56. Exec. Order No. 12,291, 46 Fed. Reg. 13,193, 13,194 (Feb. 17, 1981). The Order defined "major rule" as any regulation that is likely to result in an "annual effect on the economy of \$100 million or more; a major increase in costs or prices . . . ; or significant adverse effects on competition, employment, investment, productivity, innovation, or [competition] with foreign-based enterprises." *Id.* at 13,193.

57. *Id.* at 13,194.

58. The Order states:

- (a) Administrative decisions shall be based on adequate information concerning the need for and consequences of proposed government action;
- (b) Regulatory action shall not be undertaken unless the potential benefits to society from the regulation outweigh the potential costs to society;
- (c) Regulatory objectives shall be chosen to maximize the net benefits to society;
- (d) Among alternative approaches to any given regulatory objective, the alternative involving the least net cost to society shall be chosen; and
- (e) Agencies shall set regulatory priorities with the aim of maximizing the aggregate net benefits to society, taking into account the condition of the particular industries affected by regulations, the condition of the

environmental regulations because the benefits of a healthy environment are difficult, if not impossible, to quantify in any meaningful way. At the time of the Order, techniques had not been developed to accurately measure the dollar value of the human services provided by a healthy environment.⁵⁹ Moreover, the cost-benefit mindset is incapable of appreciating the idea that, at least in some cases, the natural environment itself may be simply priceless.⁶⁰

A second important development took place a decade later, when President Clinton signed Executive Order 12,866,⁶¹ thereby endorsing the deregulatory movement initiated by President Reagan. The Order strengthened the presumption against regulation and made the scientific and technical expertise of regulatory agencies subservient to the political oversight of the President. For example, the Order's preface expressed a clear bias against federal regulation and a clear preference for deferring to the free market and the private sector:

The American people deserve a regulatory system that works for them, not against them: a regulatory system that protects and improves their health, safety, environment, and well-being and improves the performance of the economy without imposing unacceptable or unreasonable costs on society; regulatory policies that recognize that the private sector and private markets are the best engine for economic growth; regulatory approaches that respect the role of State, local, and tribal governments; and regulations that are effective, consistent, sensible, and understandable. We do not have such a regulatory system today.⁶²

The Clinton Order strengthened the presumption against regulation by asserting that

[f]ederal agencies should promulgate only such regulations as are required by law, necessary to interpret the law, or are made necessary by compelling public need, such as material failures of private markets to protect or improve the health and safety of the public, the environment, or the well-being of the American people.⁶³

With perhaps unintended symbolism, the Order's alphabetized list of regulatory priorities placed economic concerns before environmental protection.

national economy, and other regulatory actions contemplated for the future.

Id. at 13,193–13,194.

59. See generally J.B. Ruhl & James Salzman, *The Law and Policy Beginnings of Ecosystem Services*, 22 J. LAND USE & ENVTL. L. 157 (2007).

60. See FRANK ACKERMAN & LISA HEINZERLING, PRICELESS: ON KNOWING THE PRICE OF EVERYTHING AND THE VALUE OF NOTHING 203 (2004).

61. Exec. Order No. 12,866, 58 Fed. Reg. 51,735 (1993). Although the Order revokes President Reagan's Executive Order 12,291, the Clinton Order draws from the same underlying philosophy. See *id.*

62. *Id.* Emphasizing his faith in the market system, President Clinton ordered agencies to identify alternatives to regulation, "including providing economic incentives to encourage the desired behavior, such as user fees or marketable permits, or providing information upon which choices can be made by the public." *Id.*

63. *Id.*

As the Order directs, “[I]n choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity).”⁶⁴

Most importantly, Executive Order 12,866 weakens the authority of federal agencies with scientific and technical expertise. In particular, the Order requires the Office of Information and Regulatory Affairs (OIRA)—a subdivision of the White House Office of Management and Budget (OMB)⁶⁵—to review significant agency rules before they are finalized. The Order requires OIRA to “provide meaningful guidance and oversight so that each agency’s regulatory actions are consistent with applicable law, the President’s priorities, and the principles set forth in this Executive order.”⁶⁶ In addition, OIRA has the authority to “return” proposed rules to agencies for “further consideration.”⁶⁷ Disagreements between the agencies and OIRA are to be resolved by the President.⁶⁸ Although seemingly benign, the role of OIRA has received severe criticism. As environmentalist Robert F. Kennedy, Jr. argues:

Practically unknown outside the Beltway, OIRA’s power is unmatched among federal agencies. Its official charter is to review every economically significant regulation proposed by the federal government and report the fiscal impacts to the White House. Federal departments and agencies develop these new regulations through an open process, guided by expert advice and mandatory public comment. Typically this takes six or seven years. Then, at the end of this highly democratic process, these regulations disappear into OIRA—only to emerge dramatically altered or not at all.⁶⁹

Kennedy concludes, “OIRA may be the most antidemocratic institution in government.”⁷⁰

A third important development that has weakened environmental protection involves so-called “midnight regulations.” It has become common practice for late-term Presidents to focus upon legacy-building during the waning hours of their administrations.⁷¹ Increasingly, Presidents have done so by ordering the administrative agencies under their control to develop new rules under a schedule carefully timed to bind the next President. Although this practice is not

64. *Id.*

65. The Office of Information and Regulatory Affairs was created by the Paperwork Reduction Act of 1980, 42 U.S.C. §§ 3501–3520 (2006).

66. Exec. Order No. 12,866, *supra* note 61, at § 6(b).

67. *Id.*

68. *Id.*

69. ROBERT F. KENNEDY, JR., CRIMES AGAINST NATURE 59 (2004).

70. *Id.*

71. During the George W. Bush Administration, for example, the rate of rulemaking approvals generally increased each year as the Administration drew to a close. The Office of Information and Regulatory Affairs (OIRA) approved 81 final rules in 2005, 92 in 2006, 83 in 2007, and 157 in 2008. See RegInfo.gov, Where to Find Federal Regulation Information, www.reginfo.gov (last visited Aug. 19, 2009) (tallying number of OIRA approvals from September 1 to December 31 of each year).

inherently biased toward deregulation, the most recent spate of midnight regulations weakened or dismantled previously existing regulatory safeguards, many in the environmental realm.⁷²

The midnight regulations finalized late in the second term of President George W. Bush reflect a worldview remarkably similar to the prevailing economic theory. This view consisted of an unquestioning faith in the political philosophy of deregulation and a deep distrust of government in general, and the federal government in particular. The environmental midnight regulations translate this philosophy into a consistent set of code words—language so bureaucratic and malleable that it is nearly impossible for the casual reader to discern the core purpose or likely consequences of the regulations. Words such as “efficiency,” “flexibility,” “voluntary,” and “regulatory burden” are ubiquitous in the new regulations and generally signal that a particular program is aimed at weakening environmental protection.

For example, in the name of “efficiency,” several midnight regulations substantially weakened a number of environmental protections.⁷³ One regulation, which was intended to “clarify” existing regulations and to “streamline the permitting process,” allows coal mining activities to be conducted near perennial or intermittent streams, potentially allowing over 1000 miles of Appalachian streams to be filled with the debris from mountaintops, blasted off to expose underlying coal deposits.⁷⁴ A second regulation, whose purpose was to “clarify” existing requirements and to produce a process that “is less time-consuming and a more effective use of our resources,”⁷⁵ allows federal agencies to conduct activities that may harm threatened or endangered species without first consulting wildlife experts.⁷⁶ A third regulation passed under the auspices of “reduc[ing] reporting

72. See Appendix.

73. *Id.*

74. Excess Spoil, Coal Mine Waste, and Buffers for Perennial and Intermittent Streams, 73 Fed. Reg. 75,814, 75,816 (Dec. 12, 2008) (to be codified at 30 C.F.R. pts. 780, 784, 816, 817) (promulgated under the authority of the Surface Mining Control and Reclamation Act of 1977). See also *id.* at 75,816 (discussing 1983 amendment to the stream buffer rule, which had prohibited coal mining activities within 100 feet of watercourses, and amendment’s purpose of “improving the ease of administration and eliminating the possibility of applying the rule to ephemeral streams and other relatively insignificant water bodies”). Opponents claim that the 2008 rule would allow coal companies to fill over 1000 additional miles of Appalachian streams with the debris from mountaintop removal coal mining. See Press Release, Congressman Frank Pallone, Jr. (D-N.J.), Pallone says Bush Administration’s Mountaintop Removal Mining Proposal Threatens Rivers and Streams (Mar. 30, 2004) (remarks of senior member of the House Energy and Commerce Committee), available at http://www.house.gov/list/press/nj06_pallone/pr_mar30_mining.html. But see *infra* note 167 (noting Obama Administration’s judicial challenge to the rule).

75. Press Release, Dep’t of the Interior, Secretary Kempthorne Proposes Narrow Changes to ESA Consultation Process (Aug. 11, 2008), available at http://www.doi.gov/news/08_News_Releases/080811a.html.

76. Interagency Cooperation Under the Endangered Species Act, 73 Fed. Reg. 76,272, 76,275 (to be codified at 50 C.F.R. pt. 402) (Dec. 16, 2008). But see *infra* notes 171–72 (revocation of rule).

burdens on America's farms" exempts farmers from an obligation to report certain hazardous air emissions from animal waste, potentially applying to feedlots that generate more raw waste than an entire city.⁷⁷ A final example, which was designed in part to "give the greatest respect to the democratic judgments of State Legislatures with respect to concealed firearms," weakens the federal prohibition against carrying concealed weapons in national parks and wildlife refuges by deferring to state gun law.⁷⁸

B. Trivializing Risk

As a counterpart to the economic optimism that led many investors and borrowers to undervalue risk, environmental optimism led many to simultaneously underestimate the risks posed by human activities and to overestimate the capacity of future technologies to counteract environmental damage. As Thomas Friedman, *New York Times* columnist and Pulitzer Prize winner, observes, "it's now obvious that the reason we're experiencing a simultaneous meltdown in the financial system and the climate system is because we have been mispricing risk in both arenas—producing a huge excess of both toxic assets and toxic air that now threatens the stability of the whole planet."⁷⁹ This Section considers two of the most important methods through which environmental risk has been trivialized: the politicization of science and the requirement of cost-benefit analysis.

First, environmental risks may be underestimated when politicians, rather than scientific experts, make the relevant calculations. For example, a 2008 report by the U.S. Department of the Interior, Office of Inspector General, found that a former Deputy Assistant Secretary for Fish, Wildlife and Parks and other

77. Press Release, Env'tl. Prot. Agency, Better Approach to Reporting Hazardous Substances from Farm Animal Waste (Dec. 12, 2008), *available at* <http://yosemite.epa.gov/opa/admpress.nsf/>. See also CERCLA/EPCRA Administrative Reporting Exemption for Air Releases of Hazardous Substances from Animal Waste at Farms, 73 Fed. Reg. 76,948 (Dec. 18, 2008) (to be codified at 40 C.F.R. pts. 302, 355) (in compliance with the Paperwork Reduction Act, estimating that "final rule will reduce burden on farms . . . by approximately 1,290,000 hours over the ten year period beginning in 2009"). In analyzing this rule, the General Accounting Office reported that some "concentrated animal feeding operations" (CAFOs) generate more raw waste annually than U.S. cities. See Press Release, Rep. John D. Dingell (D-Mich.), Chairman, Comm. on Energy & Commerce, Government Report Links Factory Farms to Harmful Air Emissions, Water Pollution: Lawmakers Question EPA Plan to Loosen Air and Water Reporting Requirements (Sept. 24, 2008), *available at* http://energycommerce.hluse.gov/Press_110/110nr353.shtml.

78. General Regulations for Areas Administered by the National Park Service and the Fish and Wildlife Service, 73 Fed. Reg. 74,966, 74,967 (Dec. 10, 2008) (to be codified at 36 C.F.R. pt. 2). *But see infra* notes 180–81 and accompanying text (describing subsequent developments).

79. Thomas L. Friedman, Op-Ed., *The Price is Not Right*, N.Y. TIMES, Apr. 1, 2009, at A31. As Friedman explained, "Whenever products are mispriced and do not reflect the real costs and risks associated with their usage, people go to excess. And that is exactly what happened in the financial marketplace and in the energy/environmental marketplace during the credit bubble." *Id.* (concluding that a carbon tax is necessary "to price in the true risks and costs to society from . . . climate-changing fuels").

employees had improperly influenced agency decisions in accordance with their own political views. As a result, the agency withheld the protection of the Endangered Species Act through more than a dozen agency decisions.⁸⁰ The Inspector General found:

[The Deputy Assistant Secretary] pursued her agenda by exerting political influence on [FWS offices]. She frequently contested the scientific findings of FWS biologists and often replaced their scientific conclusions with her own, even though she was not a biologist. [The Deputy] also acted as an economist—again without professional training—in her efforts to restrict critical habitat designations⁸¹

In a second major investigation, the House Oversight and Government Reform Committee considered allegations that government climate change science had been manipulated to achieve political ends. The Committee asserted, “The evidence before the Committee leads to one inescapable conclusion: the Bush Administration has engaged in a systematic effort to manipulate climate change science and mislead policymakers and the public about the dangers of global warming.”⁸² As a result, the risks posed by climate change were deliberately understated through the editing of scientific reports by non-scientists in the White House.⁸³

A second method that has systematically trivialized environmental risk is the mechanism of cost-benefit analysis. At its core, cost-benefit analysis incorporates assumptions about the risks posed by various unregulated activities and the associated monetary savings to be realized by reducing risky behaviors. If the risks are understated, then regulation is less likely to occur. The Environmental Protection Agency’s evolving methodology provides a representative example of how federal agencies perform this analysis. After President Reagan issued Executive Order 12,291,⁸⁴ the EPA issued guidelines in 1983 for analyzing

80. U.S. DEP’T OF THE INTERIOR, OFFICE OF INSPECTOR GEN., INVESTIGATIVE REPORT: THE ENDANGERED SPECIES ACT AND THE CONFLICT BETWEEN SCIENCE AND POLICY (Dec. 10, 2008), available at http://wyden.senate.gov/newsroom/interior_ig_report.pdf.

81. *Id.* at 1.

82. U.S. HOUSE OF REPRESENTATIVES, COMM. ON OVERSIGHT & GOV’T REFORM, POLITICAL INTERFERENCE WITH CLIMATE CHANGE SCIENCE UNDER THE BUSH ADMINISTRATION i (Dec. 2007), available at <http://oversight.house.gov/documents/20071210101633.pdf>.

83. *Id.* at ii (describing “at least 294 edits to the Administration’s *Strategic Plan of the Climate Change Science Program* to exaggerate or emphasize scientific uncertainties or to deemphasize or diminish the importance of the human role in global warming”).

84. See *supra* notes 56–58 and accompanying text.

regulatory impacts, with appendices added in 1991.⁸⁵ The guidelines were revised in 2000,⁸⁶ and a second revision is in progress.⁸⁷

Overall, the agency makes a three-part analysis. First, the EPA *identifies* the benefits of proposed environmental regulations by listing the types of “environmental improvements” they are likely to generate.⁸⁸ These projected improvements fall into numerous categories, including human health improvements, ecological improvements, and aesthetic improvements.⁸⁹ Second, the agency *quantifies* the level of anticipated benefits, incorporating assumptions

85. NAT’L CTR. FOR ENVTL. ECON., OFFICE OF POLICY ECON. & INNOVATION, U.S. ENVTL. PROT. AGENCY, GUIDELINES FOR PERFORMING REGULATORY IMPACT ANALYSIS, EPA-230-84-003, Dec. 1983 [hereinafter EPA 1983 GUIDELINES] (reprinted with Appendices in March 1991), available at [http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0228A-1.pdf/\\$file/EE-0228A-1.pdf](http://yosemite.epa.gov/ee/epa/erm.nsf/vwAN/EE-0228A-1.pdf/$file/EE-0228A-1.pdf).

86. See NAT’L CTR. FOR ENVTL. ECON., OFFICE OF POLICY ECON. & INNOVATION, U.S. ENVTL. PROT. AGENCY, GUIDELINES FOR PREPARING ECONOMIC ANALYSES [hereinafter EPA 2000 GUIDELINES], available at <http://yosemite.epa.gov/EE/epa/erm.nsf/vwSER/DEC917DAEB820A25852569C40078105B?OpenDocument>.

87. See NAT’L CTR. FOR ENVTL. ECON., OFFICE OF POLICY ECON. & INNOVATION, U.S. ENVTL. PROT. AGENCY, GUIDELINES FOR PREPARING ECONOMIC ANALYSES, at 2-1 through 2-6 (external review draft, Sept. 12, 2008) [hereinafter EPA 2008 DRAFT GUIDELINES], available at [http://yosemite.epa.gov/ee/epa/ermfile.nsf/vwAN/EE-0516-01.pdf/\\$file/EE-0516-01.pdf](http://yosemite.epa.gov/ee/epa/ermfile.nsf/vwAN/EE-0516-01.pdf/$file/EE-0516-01.pdf) (describing statutory and executive order requirements for conducting economic analyses). Although the header of the draft itself states “DRAFT, 9/15/2008: DO NOT CITE OR QUOTE,” the EPA subsequently released the draft on its website, noting its commitment “to periodically revise the *EA Guidelines* to account for further growth and development of economic tools and practices.” Nat’l Ctr. for Envtl. Econ., Office of Policy Econ. & Innovation, U.S. Envtl. Prot. Agency, *Guidelines for Preparing Economic Analyses: External Review Draft*, <http://yosemite.epa.gov/ee/epa/erm.nsf/vwRepNumLookup/EE-0516?OpenDocument> (last visited Aug. 30, 2009). As explained by the *Summary* to the 2008 Draft Guidelines:

In an effort to fulfill that commitment [to periodically revise the *Economic Analyses Guidelines*], this draft document incorporates new literature published since the last revision of the *EPA Guidelines*, describes new Executive Orders and recent guidance documents that impose new requirements on analysts, and fills information gaps by providing more expansive information on selected topics. Furthermore, to facilitate the adoption of new information in the future, this document will be released electronically and in a loose-leaf format. This new, more flexible format will allow future updates and additions without requiring a wholesale revision of the document.

Id. See also Office of Mgmt. & Budget, *OMB Circular A-4: Regulatory Analysis*, available at <http://www.whitehouse.gov/omb/circulars/a004/a-4.pdf>; John D. Graham, Adm’r, Office of Info. & Regulatory Affairs, Memorandum to the President’s Management Council on OMB’s Circular No. A-4, New Guidelines for the Conduct of Regulatory Analysis (Mar. 2, 2004), available at http://www.whitehouse.gov/omb/inforeg/memo_pmc_a4.pdf. See generally Press Briefing, Tony Fratto, Deputy Press Sec’y (Oct. 31, 2008), available at <http://georgewbush-whitehouse.archives.gov/news/releases/2008/10/20081031-6.html>.

88. See EPA 1983 GUIDELINES, *supra* note 85, at M5; EPA 2000 Guidelines, *supra* note 86, at 62–63; EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-2, 7-3, 7-5, and 7-16.

89. See *id.*

about the risks posed if human activities remain unregulated.⁹⁰ For example, human health improvements are based upon estimates of “mortality risk reductions” and “morbidity risk reductions.”⁹¹ Similarly, ecological improvements consider, among other things, avoiding the risks posed by climate change.⁹² Finally, the EPA *monetizes* the benefits of potential regulations.⁹³ To do this, the EPA seeks to measure the “utility” or “satisfaction” that people derive from the relevant goods or services.⁹⁴

Cost-benefit analysis is controversial. Throughout the analysis, several forces lead to the consistent underestimation of risk. The tendency is more pronounced in the environmental context, where cost-benefit analysis may lend an aura of precision to an inherently subjective venture. Federal agencies have begun to acknowledge that these methodological challenges are significant and can lead to unreliable results. As the EPA warned in its 2008 draft update to its *Guidelines for Preparing Economic Analyses*, “[E]conomic analysis is but one component in the decision making process and under some statutes cannot be used in setting standards.”⁹⁵ With respect to the estimation of benefits, in particular, the EPA

90. See EPA 1983 GUIDELINES, *supra* note 85, at M5–M10; EPA 2000 GUIDELINES, *supra* note 86, at 62–66; EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-17 through 7-18 (calling for consultation with experts including human health and ecological risk assessors).

91. See EPA 1983 GUIDELINES, *supra* note 85, at M5–M8; EPA 2000 GUIDELINES, *supra* note 86, at 66–71 and 87–98; EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-1 (considering “‘typical’ EPA . . . regulation that reduces emissions or discharges of contaminants”). Mortality risk reductions include reduced risk of cancer fatalities and acute fatalities. Morbidity risk reductions include reduced risk of cancer, asthma, and nausea. *Id.* at 7-5.

92. See EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-11 (identifying ecological improvements in terms of the “ecosystem services” provided by protected resources, including “[s]uch valuable ecological functions . . . [as] the partial stabilization and moderation of climate conditions, the regulation of water availability and quality, and nutrient retention”).

93. See EPA 1983 GUIDELINES, *supra* note 85, at M8; EPA 2000 GUIDELINES, *supra* note 86, at 71–72 (listing three methodologies for the measurement of the benefits of environmental improvements, including market methods, revealed preference methods, and stated preference methods); EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-19.

94. See EPA 1983 GUIDELINES, *supra* note 85, at M9 (describing a variety of methods for valuing environmental effects, including the “contingent valuation method,” based upon what people “would be willing to pay to enjoy alternative levels of environmental quality”); EPA 2000 GUIDELINES, *supra* note 86, at 73 (describing method that studies “people’s behavior in associated markets [to] reveal[] the value they place on the environmental improvements”) and 83–85 (describing “contingent valuation” and “conjoint analysis and contingent ranking” methodologies); EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-2.

95. EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 1-1. See also EPA 2000 GUIDELINES, *supra* note 86, at 62 (“One challenge facing analysts of environmental policies is the lack of a market for most environmental improvements. Because ‘cleaner air’ or ‘cleaner water’ is not normally bought or sold, market data are generally not available for benefit valuation.”) and 71 (“Unfortunately, direct markets for environmental goods and services do not often exist. In the absence of these markets, environmental and natural

admits that many of its analyses “face several major obstacles.”⁹⁶ Three such obstacles are particularly noteworthy.

First, the monetization of benefits is problematic, particularly in the case of environmental goods for which no market has been established to give an indication of value. In numerous cases, the EPA simply estimates the benefit of an environmental improvement, using one of a number of “preference valuation methods.”⁹⁷ For example, the EPA may use “willingness to pay”—defined as “the maximum amount of money an individual would voluntarily pay to obtain an improvement”—as a proxy for the value of environmental benefits.⁹⁸ This methodology is far from ideal, creating the potential to dramatically understate the value of environmental assets.⁹⁹ As the EPA explains, a major obstacle of benefits analysis “arises from the lack of appropriate analytical tools and/or data with which to apply them. . . . [A]nalytists often must either adapt existing tools to the situation using their best professional judgment or simply leave some benefit categories non-monetized,”¹⁰⁰ an admission that, in some cases, the EPA simply omits environmental benefits from the ledger. As a result, the costs of regulation would necessarily outweigh benefits monetized as valueless, leading the agency to conclude that protective rules should not be enacted.

A second flaw of cost-benefit methodology is its use of discounting techniques. After an agency monetizes costs and benefits, both are “discounted to present value.” This practice is premised upon the assumption that “people prefer consumption today over consumption in the future, and the fact that invested capital is productive and provides greater consumption in the future.”¹⁰¹ When benefits will not accrue for several generations, the EPA employs a “social discounting” analysis.¹⁰² In either case, the discounting exercise is premised upon the assumption that consumption is to be encouraged—a preference that might be

resource economists must rely upon alternative methodologies to measure the benefits of environmental improvements.”).

96. EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-1.

97. *See supra* note 94 and accompanying text; *see also* EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-1 to 7-3.

98. *See* EPA 2000 GUIDELINES, *supra* note 86, at 60–61, 94, 97; EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-3.

99. *See, e.g.,* Sidney A. Shapiro & Christopher H. Schroeder, *Beyond Cost-Benefit Analysis: A Pragmatic Reorientation*, 32 HARV. ENVTL. L. REV. 433 (2008).

100. EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 7-1 to 7-2; *see also* EPA 2000 GUIDELINES, *supra* note 86, at 52 (“Despite analysts’ best efforts to assign monetary values to all of the consequences of an environmental policy, there are instances in which monetization is not feasible.”) and 54 (noting that difficulties of discounting non-monetized benefits because “sometimes the available measures of benefits are very poor proxies for ultimate damages”).

101. EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 6-1; *see also* EPA 2000 GUIDELINES, *supra* note 86, at 33–34.

102. EPA 2008 DRAFT GUIDELINES, *supra* note 87, at 6-8. As the EPA explains, “If costs and benefits can be represented as changes in consumption profiles over time, then discounting should be based on the rate at which society is willing to postpone consumption today for consumption in the future.” *Id.* *See also* EPA 2000 GUIDELINES, *supra* note 86, at 38.

justified in the context of a fiscal system dependent upon economic growth, but dangerous when applied to encourage the consumption of limited natural resources. In a chapter entitled *Honey, I Shrunk the Future*, one prominent critique argues:

The notion that adults should teach children to understand and plan for the future is lost in the new mathematics of impatience. . . . [T]he world [our children] will inherit is scarcely worth taking seriously, its present value too small to outweigh a minor change in consumption today. Diseases that will affect us decades from now, environmental crises that will eventually change the earth's climate for the worse, nuclear and toxic wastes that will be unsafe for human contact for centuries—all these and more can be made to disappear with the flick of an equation.¹⁰³

The authors conclude, “Discounting society’s most profound values endorses profligacy and shuns discipline.”¹⁰⁴

Finally, the excessive use of cost-benefit analysis has been criticized for its potential to emasculate congressional mandates for environmental protection. Referring to the independent review by the White House (through OIRA) of all proposed major environmental regulations,¹⁰⁵ some critics allege:

[Traditional cost-benefit analysis] conflicts with the statutory standards established by Congress for health, safety, and environmental agencies. Only two of 22 major health, safety, and environmental statutes rely on a cost-benefit test to determine the level of regulation. In many cases, the OMB’s insistence on superimposing this imperfect methodology trumps the considerations that must be the focus of agency decisionmaking: the criteria for decisionmaking established by the statutes themselves.¹⁰⁶

The EPA’s own advisory board has indicated its concern. For example, in its surprisingly harsh draft critique of the *EPA’s 2008 Draft Guidelines*, the Science Advisory Board (SAB) reminded the agency that “only the legislative branch has the power to . . . specify what kinds of regulations [the] EPA might promulgate.”¹⁰⁷ As a result, the EPA “should make clear that while economic

103. ACKERMAN & HEINZERLING, *supra* note 60, at 203.

104. *Id.* The EPA has also acknowledged the difficulties of social discounting. See EPA 2000 GUIDELINES, *supra* note 86, at 33 (“Despite the relative simplicity of the discounting concept, choosing a discount rate has been one of the most contentious and controversial aspects of EPA’s economic analyses of environmental policies.”).

105. See *supra* Part II.A.

106. Letter from Rena Steinzor, President, Ctr. for Progressive Reform, to the Honorable Peter Orszag, Dir., Office of Mgmt. & Budget 5 (Feb. 20, 2009), available at www.progressivereform.org [hereinafter CPR Letter]. The author is a member scholar of CPR, but did not participate in the writing of the letter. See also *Entergy Corp. v. Riverkeeper, Inc.*, 129 S. Ct. 1498, 1499 (2009) (approving consideration of costs in clean air regulation).

107. Letter from Sci. Advisory Bd., Env’tl. Econ. Advisory Comm., to the Honorable Lisa P. Jackson, Adm’r, U.S. Env’tl. Prot. Agency, Science Advisory Board (SAB) Review of EPA’s Draft Guidelines for Preparing Economic Analyses 1-2 (2008)

analysis can identify superior policy options, EPA's legal authority defines and limits its menu of choices. . . . [The EPA should] better inform readers about economic analysis that is relevant for EPA, rather than mimicking the treatment in environmental economics textbooks."¹⁰⁸

C. Reckless Consumption

Until recently, the prevailing wisdom in the economic sector encouraged a frenzy of borrowing and lending, supported by deregulated markets and a pervasive denial of the attendant risks. In the environmental realm, similar frenetic behavior has encouraged the present generation to spend down the planet's "natural capital"¹⁰⁹ by consuming environmental resources at an unsustainable pace. This Section considers two examples that illustrate the depth of the environmental counterpart to unsustainable economic practices: wetlands consumption and the ecological "credit crunch."

The first example is microscopic, focusing on one particular resource in one particular country: wetlands in the United States. The United States has lost

(draft Jan. 28, 2009) [hereinafter SAB Draft Letter], available at [http://yosemite.epa.gov/sab/sabproduct.nsf/WebBOARD/E8DC140D2EF0F1E68525754C0069DD9B/\\$File/EEAC+Draft+Advisory+-+Guidelines+for+Preparing+Eco+Analyses+1-28-09.pdf](http://yosemite.epa.gov/sab/sabproduct.nsf/WebBOARD/E8DC140D2EF0F1E68525754C0069DD9B/$File/EEAC+Draft+Advisory+-+Guidelines+for+Preparing+Eco+Analyses+1-28-09.pdf). The header of the draft itself states "WORKING DRAFT FOR DISCUSSION on March 4, 2009 EEAC Teleconference. This draft Report does not represent SABEEAC consensus or EPA policy. It has not been approved by the chartered SAB, Do not cite or quote. 1/28/98." Subsequently, however, the SAB released the draft on its website for public comment. U.S. Evtl. Prot. Agency, Sci. Advisory Bd. (SAB), Economic Analysis Guidelines Update: Advisory Meeting and Report Development, *Review of EPA's Draft Guidelines for Preparing Economic Analyses* (2008) (draft January 28, 2009), available at <http://yosemite.epa.gov/sab/SABPRODUCT.NSF/0/2dd3f407cb483bd685257352004b72b7!OpenDocument&TableRow=2.2#2>; see also EPA Sci. Advisory Bd. Staff Office; Notification of Two Public Teleconferences of the Chartered Science Advisory Board, 74 Fed. Reg. 34,348 (July 15, 2009) (announcing two public teleconferences on August 6, 2009, and August 28, 2009, of the chartered SAB to conduct quality reviews of two draft SAB reports). The Science Advisory Board was established by Congress to provide independent scientific and technical advice, consultation, and recommendations to the EPA on the technical basis for the agency's positions and regulations. See 42 U.S.C. § 4365 (2006).

108. SAB Draft Letter, *supra* note 107, at 2. The SAB has also criticized portions of the 2000 Guidelines. See EPA 2000 GUIDELINES, *supra* note 86, at app. A: An SAB Report on the EPA Guidelines for Preparing Economic Analysis. Overall, the SAB noted, "Although some concerns remain about particular parts of the Guidelines, our overall assessment is that the Guidelines are excellent." *Id.* Among its concerns, the SAB noted that the "proper application of discounting in an intergenerational context . . . remains controversial in the published literature" and the quantification of the value of the social benefits of reducing fatal human health risks "could be refined." *Id.* app. A, at 3, 5.

109. See, e.g., Robert Costanza et al., *Natural Capital*, in ENCYCLOPEDIA OF EARTH (Cutler J. Cleveland ed., 2008); GRETCHEN C. DAILY & KATHERINE ELLISON, THE NEW ECONOMY OF NATURE: THE QUEST TO MAKE CONSERVATION PROFITABLE (2002); PAUL HAWKEN ET AL., NATURAL CAPITALISM: CREATING THE NEXT INDUSTRIAL REVOLUTION (1999); NATURE'S SERVICES: SOCIETAL DEPENDENCE ON NATURAL ECOSYSTEMS (Gretchen C. Daily ed., 1997).

over half of its original pre-settlement wetlands. In the early 1600s, the area now occupied by the United States (excluding Alaska and Hawaii) included approximately 221 million acres of wetlands; by 2004, that number had declined to about 107.7 million acres.¹¹⁰ Despite a longstanding national goal of “no *net* loss” of wetlands,¹¹¹ the nation continued to experience an annual *gross* loss of about 30,000 natural wetland acres from 2001 to 2003.¹¹²

The official reports are more optimistic, made possible through counter-intuitive accounting practices that paper over the continuing destruction of wetlands. For example, in a 2005 report to Congress, Secretary of the Interior Gail Norton stated:

I am pleased to report that the nation is making excellent progress in meeting [our national wetlands acreage] goals. For the first time . . . wetland gains, achieved through the contributions of restoration and creation activities, surpassed . . . wetland losses. This is the result of a multitude of governmental, corporate and private partnerships working together to secure and conserve our wetland resources for future generations.¹¹³

The report estimated a *net* gain of 191,750 wetland acres between 1998 and 2004, equivalent to an average annual net gain of approximately 32,000 acres.¹¹⁴

How can these reports of gross losses be reconciled with reports of net gains? Drilling down through the data, it becomes apparent that Secretary Norton’s rosy assessment was made possible only through reliance upon the practice of “mitigation,” which allows natural wetlands to be destroyed in some cases as long

110. T.E. DAHL, STATUS AND TRENDS OF WETLANDS IN THE CONTERMINOUS UNITED STATES 1998 TO 2004 16 (U.S. Fish & Wildlife Serv. 2006) [hereinafter DAHL, STATUS AND TRENDS], available at <http://www.fws.gov/wetlands/statusandrends/index.html>; Thomas E. Dahl & Gregory J. Allord, *History of Wetlands in the Conterminous United States*, U.S. Geological Survey Water Supply Paper 2425 (1997).

111. DAHL, STATUS AND TRENDS, *supra* note 110, at 7 (emphasis added). In 1988, the National Wetlands Policy Forum, a group of twenty state and local officials, environmentalists, and land developers, recommended that the nation adopt the goal of “no net loss” of wetlands. That is, although some wetlands may be destroyed by development, such loss would be mitigated by the creation of new, human-made wetlands. See RESOLVE, INC., NATIONAL WETLANDS POLICY FORUM (1988), available at <http://www.resolve.org/experience/cases/pdfs/wetlands.pdf>. Presidents George Bush and Bill Clinton embraced this goal, at least in theory. In 2005, an even more challenging goal was set by President George W. Bush: the restoration, improvement, and protection of more than three million acres in five years.

112. United States Dep’t of Agriculture, *Table: Changes in Palustrine and Estuarine Wetlands on Non-Federal Land and Water Area*, in NATURAL RESOURCES CONSERVATION SERVICE, NATURAL RESOURCES INVENTORY: 2003 ANNUAL NRI, available at <http://www.nrcs.usda.gov/Technical/nri/2003/table4.html> (showing gross losses, gross gains, and net change from 1992 to 2003 in acres per year). Annual gross losses were reported at 99,000 acres (1992–1997), 53,000 acres (1997–2001), and 30,000 acres (2001–2003).

113. DAHL, STATUS AND TRENDS, *supra* note 110, at 7.

114. *Id.* at 46.

as they are replaced through methods such as the creation of artificial wetlands.¹¹⁵ Overall, the federal Fish and Wildlife Service (FWS) notes three cautionary factors relevant to the reports' methodology. First, the recent net gains were reported by a study that measured only the quantity of wetland acreage, not its quality, a potentially more significant measure of ecosystem health.¹¹⁶ Second, as the FWS acknowledged, its data does not account for Hurricanes Katrina and Rita during the summer of 2005, which destroyed vast expanses of coastal wetlands.¹¹⁷ Finally, the numbers rely heavily upon wetland mitigation, the creation of artificial ponds and other aquatic areas to replace natural wetlands. As the FWS reported:

Without the increased pond acreage, wetland gains would not have surpassed wetland losses during the time frame of this study. The creation of artificial freshwater ponds has played a major role in achieving wetland quantity objectives. . . . [But] [s]ome freshwater ponds would not be expected to provide the same range of wetland values and functions as [the] vegetated freshwater wetland [areas that they replace].¹¹⁸

Reinforcing this concern about the reliability and effectiveness of mitigation, the National Research Council reported in 2001 that “[t]he goal of no net loss of wetlands is not being met,” in part because mitigation promises may not always be fulfilled. As the panel explained, “[I]n many cases the construction of substitute wetlands was often delayed or never finished,” and “even when the final result satisfied regulations, the artificial wetlands did not duplicate the ecological functions of the natural wetlands that were buried.”¹¹⁹

As a second example of reckless environmental consumption, the World Wildlife Fund's *Living Planet Report 2008* drew a direct link between fiscal and ecological crises: “The recent downturn in the global economy is a stark reminder of the consequences of living beyond our means. But the possibility of financial recession pales in comparison to the looming ecological credit crunch.”¹²⁰ In particular, the *Report* noted three disturbing trends. First, it documented a 30% decline in vertebrate species populations from 1970 to 2005.¹²¹ Second, it found that the worldwide “ecological footprint” had doubled from 1961 to 2005, defining

115. See *Compensatory Mitigation for Losses of Aquatic Resources*, 73 Fed. Reg. 19,594 (Apr. 10, 2008) (to be codified at 33 C.F.R. pts. 325, 332; 40 C.F.R. pt. 230), available at http://www.epa.gov/owow/wetlands/pdf/wetlands_mitigation_final_rule_4_10_08.pdf. Under the rule, “compensatory mitigation” involves “actions taken to offset unavoidable adverse impacts to wetlands, streams and other aquatic resources authorized by [federal] . . . permits.” *Id.* Four methods are possible: 1) the restoration of previously existing wetlands, 2) the enhancement of existing wetland functions, 3) the creation of a new wetland, or 4) the preservation of an existing wetland. *Id.*

116. DAHL, STATUS AND TRENDS, *supra* note 110.

117. *Id.*

118. *Id.* at 17.

119. See Andrew C. Revkin, *Efforts to Save Wetlands Are Inadequate, Study Says*, N.Y. TIMES, June 27, 2001, at A14.

120. WORLD WILDLIFE FUND, THE 2008 LIVING PLANET REPORT 1 (2008), available at http://www.panda.org/about_our_earth/all_publications/living_planet_report/lpr_2008/.

121. *Id.* at 2–3.

the footprint as “the area of biologically productive land and sea required to provide the resources we use and to absorb our waste.”¹²² Third, the *Report* calculated the “ecological debtor” rate at more than 75%, finding that “more than three-quarters of the world’s people live in nations that are *ecological debtors*—their national consumption has outstripped their country’s biocapacity.”¹²³ In its sobering conclusion, the *Report* predicted, “Our global footprint now exceeds the world’s capacity to regenerate by about 30 percent. If our demands on the planet continue at the same rate, by the mid-2030s we will need the equivalent of two planets to maintain our lifestyles.”¹²⁴ These findings are reinforced by the United Nations’ *Millennium Ecosystem Assessment*,¹²⁵ which concluded that “[o]ver the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history, largely to meet rapidly growing demands. . . . This has resulted in a substantial and largely irreversible loss in the diversity of life on Earth.”¹²⁶

III. A NEW DAY: REDUCING THE ENVIRONMENTAL DEFICIT THROUGH RE-REGULATION

[The] day of reckoning has arrived, and the time to take charge of our future is here.

—President Barack Obama¹²⁷

Out of adversity, thoughtfully examined, emerges wisdom. As the nation learns from its financial mistakes, it may uncover valuable lessons applicable well beyond the financial sector. Part III of this Article will apply the tentative learning from the financial crisis to the equally serious challenge of protecting the nation’s environmental resources.

122. *Id.* at 14–17.

123. *Id.* at 1–3, 16–17 (emphasis added).

124. *Id.* at 1.

125. The *Millennium Ecosystem Assessment* (MA), initiated in 2001 at the urging of United Nations Secretary General Kofi Annan, sought to “assess the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being.” World Resource Inst., *Overview of the Millennium Ecosystem Assessment*, in MILLENIUM ECOSYSTEM ASSESSMENT (2005), <http://www.millenniumassessment.org/en/About.aspx>. As the MA website explains:

The MA has involved the work of more than 1,360 experts worldwide. Their findings, contained in five technical volumes and six synthesis reports, provide a state-of-the-art scientific appraisal of the condition and trends in the world’s ecosystems and the services they provide (such as clean water, food, forest products, flood control, and natural resources) and the options to restore, conserve or enhance the sustainable use of ecosystems.

Id.

126. *Id.*

127. President Obama, State of the Union, *supra* note 31.

A. Taking Responsibility

There is a growing acceptance of the value of federal regulation, at least to prevent egregious practices harmful to important national interests. In the context of the financial system, President Obama argued, “Now, if we’re honest with ourselves, we’ll admit that for too long, we have not always met [our] responsibilities—as a government or as a people. . . . Regulations were gutted for the sake of a quick profit at the expense of a healthy market.”¹²⁸ In the context of environmental protection, re-regulatory efforts have focused heavily upon the abusive potential of midnight regulations—a practice common among Presidents of both political parties. As one observer stated, “[S]udden bursts of regulatory activity at the end of a presidential administration are systematic, significant, and cut across party lines.”¹²⁹

Executive, administrative, legislative, or judicial action can reverse or delay the effect of midnight regulations, as illustrated by the fate of many of the George W. Bush Administration’s midnight regulations.¹³⁰ In the limited case of rules that have not yet been published as final in the *Federal Register*, the incoming President can impose a moratorium on new rulemaking, as well as order the postponement of the effective date of rules that have already been published.¹³¹ If proposed rules do not pass muster with the new administration, they need not be promulgated as final rules.¹³² Through a much lengthier process, administrative agencies can replace undesirable rules through an entirely new administrative rulemaking process under the Administrative Procedure Act.¹³³

Congress can also overturn or restrict agency rules. In most cases, Congress will do so through traditional statutory promulgation. The Congressional Review Act provides a more expeditious alternative, allowing Congress to introduce a joint resolution of disapproval of an agency rule within sixty days after it has been submitted to Congress.¹³⁴ If the President does not veto the resolution, then the rule shall not take effect, either in its original form or in substantially similar form.¹³⁵ This legislative authority has been used sparingly. As of the end of 2008, Congress invalidated only one of the some 50,000 final rules submitted to it

128. *Id.*

129. Susan E. Dudley, *Reversing Midnight Regulations*, REGULATION, Spring 2001, at 9.

130. See Appendix col. 4.

131. CURTIS W. COPELAND, CONG. RESEARCH SERV., MIDNIGHT RULEMAKING: CONSIDERATIONS FOR CONGRESS AND A NEW ADMINISTRATION, RL 34747, at 1 (updated Nov. 24, 2008).

132. *Id.*

133. See 5 U.S.C. §§ 551–559 (2006) (specifying informal rulemaking procedures). In some cases, expedited rulemaking may be possible. See Dudley, *supra* note 129, at 11–12.

134. Congressional Review Act of 1996, 5 U.S.C. §§ 801–808 (2006). See generally RICHARD S. BETH, CONG. RESEARCH SERV., DISAPPROVAL OF REGULATIONS BY CONGRESS: PROCEDURE UNDER THE CONGRESSIONAL REVIEW ACT, RL 31160 (Oct. 10, 2001). The President may veto the joint resolution. *Id.*

135. 5 U.S.C. § 801(b)(2) (2006).

since the Congressional Review Act was passed in 1996.¹³⁶ As a third technique, Congress may target specific rules through language inserted into bills affecting agency appropriations.¹³⁷ In the omnibus appropriations bill passed in 2009, for example, Congress authorized the Secretary of the Interior to “withdraw or reissue” two Bush-era midnight regulations,¹³⁸ affecting Endangered Species Act consultations¹³⁹ and the listing of polar bears under the Endangered Species Act.¹⁴⁰

Like Congress and the President, the courts have a role in overseeing agency rulemaking. Through judicial review of agency action, a court may invalidate agency rules on a number of grounds,¹⁴¹ including cases where a

136. COPELAND, *supra* note 131, at 13 (discussing disapproval of the Occupational Safety and Health Administration’s November 2000 final rule on ergonomics).

137. *Id.* at 15.

138. Omnibus Appropriations Act, Pub. L. No. 111-008, § 429, 123 Stat. 524 (2009). Section 429 provides,

(a) During the 60-day period beginning on the date of the enactment of this Act [March 11, 2009]—

(1) the Secretary of the Interior and the Secretary of Commerce may withdraw or reissue the rule described in subsection (c)(1) without regard to any provision of statute or regulation that establishes a requirement for such withdrawal; and

(2) the Secretary of the Interior may withdraw or reissue the rule referred to in subsection (c)(2) without regard to any provision of statute or regulation that establishes a requirement for such withdrawal.

(b) If the Secretary of the Interior or the Secretary of Commerce (or both) withdraws a rule under subsection (a), such Secretary shall implement the provisions of law under which the rule was issued in accordance with the regulations in effect under such provisions immediately before the effective date of such rule, except as otherwise provided by any Act or rule that takes effect after the effective date of the rule that is withdrawn.

(c) The rules referred to in subsection (a) are the following:

(1) The final rule relating to “Interagency Cooperation under the Endangered Species Act”, issued by the United States Fish and Wildlife Service and the National Marine Fisheries Service and signed November 26, 2008, by the Assistant Secretary of Fish and Wildlife and Parks of the Department of the Interior and the Deputy Assistant Administrator for the Regulatory Programs of the National Marine Fisheries Service.

(2) The final rule relating to “Endangered and Threatened Wildlife and Plants; Special Rule for the Polar Bear”, issued by the Assistant Secretary of Fish and Wildlife and Parks of the Department of the Interior on December 10, 2008.

139. *Id.* at § 429(c)(1). *See supra* note 138 and accompanying text (discussing rule). *See infra* notes 174–75 and accompanying text (discussing revocation of rule).

140. *Id.* at § 429(c)(2).

141. *See* Administrative Procedure Act, 5 U.S.C. § 706 (2006) (scope of review of agency action).

regulation represents an abuse of discretion¹⁴² or an unreasonable or impermissible interpretation of relevant legislation.¹⁴³

B. Acknowledging Risk

Beyond re-regulation, cost-benefit reform will be necessary to curb the growing environmental deficit. As Chairman Greenspan learned to his dismay, fiscal risk-management models failed disastrously due to the input of unrealistically optimistic data.¹⁴⁴ Applying this lesson to the environment, a first-step reform could narrow the circumstances under which the cost-benefit methodology is employed. Currently, as critics note, cost-benefit analysis is applied indiscriminately as a “one-size-fits-all technique applied to policy problems as varied as regulating mercury emissions from power plants to the roof strength standard for new automobiles.”¹⁴⁵ Moreover, the analysis is unnecessarily redundant. First, action agencies determine whether rules are necessary to achieve statutory goals, and then the White House OIRA office determines whether such rules advance the President’s political goals.¹⁴⁶ The second review is particularly susceptible to abuse. As critics complain, the OIRA review “has served mainly to suppress regulation thought to be excessive.”¹⁴⁷ To rectify this problem, OIRA must adopt a new paradigm, one that encourages and supports agencies in their congressionally mandated missions to protect the environment and the public health, safety, and welfare.¹⁴⁸

As a second reform measure, cost-benefit analysis must develop techniques to provide an accurate monetization of environmental benefits. This need was underscored by the Science Advisory Board, in its draft critique of the EPA’s 2008 *Draft Guidelines*. As the SAB explains:

[W]e urge the Agency to vastly expand its guidance on characterizing non-monetized benefits. We recommend that the *Guidelines* incorporate the concept of ecosystem services and its various components . . . and highlight treatment of ecological systems and services in benefit-cost analysis. Users of the *Guidelines* should be warned that an inappropriate focus only on impacts that can be monetized can provide misleading policy guidance (as with other cases of asymmetric information).¹⁴⁹

142. See, e.g., *Motor Vehicles Mfrs. Ass’n v. State Farm*, 463 U.S. 29 (1983) (setting forth standards for invalidating agency action as “arbitrary and capricious” under the Administrative Procedure Act, 5 U.S.C. § 706(2)(A)).

143. See *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

144. See *supra* note 36 and accompanying text.

145. Shapiro & Schroeder, *supra* note 99, at 435.

146. See *supra* notes 65–70 and accompanying text.

147. CPR Letter, *supra* note 106, at 2.

148. The Center for Progressive Reform argues that “[r]ather than chiding agencies for their alleged excesses,” the OIRA should rescue agencies by “giving them adequate resources to fulfill their statutory mandates, helping them develop strong proactive agendas, and ensuring they receive enhanced legal authority to take decisive action.” *Id.*

149. SAB Draft Letter, *supra* note 107, at 15.

At the least, as the SAB urges, the EPA should clarify the limitations of its analysis by labeling its compilation of aggregate monetized benefits as “total monetized economic benefits” rather than “total benefits.”¹⁵⁰

As an even broader reform, some have suggested that environmental cost-benefit analysis should be replaced with a new analytical approach—the so-called “pragmatic regulatory impact analysis.”¹⁵¹ Under the proposed methodology, agencies would first consider whether environmental harm (or anticipated harm) poses a risk sufficient to trigger regulation under applicable statutes.¹⁵² If such threshold has been crossed, then agencies should regulate up to the level authorized by Congress.¹⁵³ Proponents believe that this proposed pragmatic regulatory impact analysis will be more faithful to congressional mandate and will provide a more accurate assessment of environmental risks by eliminating cost-benefit’s “emphasis on pinpoint benefit estimates . . . [that] has the effect of hiding the underlying uncertainties in the risk evidence.”¹⁵⁴

C. Consuming Sustainably

Reversing the trend of unsustainable consumption will require both legal and cultural change. For almost a half century, Congress has imposed a sustainability mandate upon federal agencies. For example, the National Forest Service must assure that its forest plans conform to principles of “sustained yield,” defined as “the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land.”¹⁵⁵ But that mandate has been weakened in actual practice. Now we must breathe new life into the commitment to sustainability, recognizing that our very lives may depend upon the success of that effort.

A growing social movement has already begun to lay the cultural groundwork for change. For example, a diverse group of national leaders launched a “new thrift” campaign in 2008, calling for the creation of new institutions to promote a culture of thrift.¹⁵⁶ Others have called for change at the individual level,

150. *Id.* (emphasis added). See also SCI. ADVISORY BD., ENVTL. PROT. AGENCY, VALUING THE PROTECTION OF ECOLOGICAL SYSTEMS AND SERVICES (2009); MILLENNIUM ECOSYSTEM ASSESSMENT, ECOSYSTEMS AND HUMAN WELL-BEING: OPPORTUNITIES AND CHALLENGES FOR BUSINESS AND INDUSTRY (2005).

151. See, e.g., Shapiro & Schroeder, *supra* note 99; CPR Letter, *supra* note 106, at 6–8.

152. CPR Letter, *supra* note 106, at 6 (discussing the concept of “risk trigger”).

153. For example, the statutory standards under the Clean Air Act and the Clean Water Act require regulation to provide an “adequate margin of safety” or implement the “best” technologies for pollution control. *Id.*

154. *Id.* at 7.

155. Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. § 531(b) (2006) (defining of “sustained yield”); National Forest Management Act of 1976, 16 U.S.C. § 1604(e)(1) (2006) (requiring assurances that forest plans incorporate sustained yield principles).

156. Sheila Weber, *A New Trend Toward Thrift: Leaders Launch National Campaign to Confront the Debt Culture*, REUTERS, May 5, 2008 (describing the call for

such as the “not so big house” movement.¹⁵⁷ Focusing specifically upon natural resources, the World Wildlife Fund (WWF) has issued a call to turn back the tide and work toward sustainability.¹⁵⁸ In an attempt to reduce the globe’s “ecological debt”—the amount by which our demand for environmental resources exceeds or overshoots the earth’s biological supply—the WWF has broken down the “overshoot” into smaller, manageable “sustainability wedges.”¹⁵⁹ The wedge approach suggests workable strategies to address the environmental deficit in areas such as energy conservation, vehicle efficiency, population growth, and overconsumption.¹⁶⁰

CONCLUSION: TOWARD A PARADIGM OF THRIFT

The economic lessons discussed in this Article point toward thrift as a long-term antidote to the financial crisis. An interesting array of forces have embraced this notion, offering hope that the parallel call for reducing the environmental deficit through thrift may fall upon fertile cultural soil. Prominent among these forces is the nonprofit, nonpartisan Institute for American Values and its “For a New Thrift” campaign.¹⁶¹ Other support for thrift comes from less-expected sources, such as Citigroup. Launching a new credit card in 2009 during the same period when the bank was flailing, Citibank lectured young people about the rewards of fiscal responsibility under the slogan “I am Generation Forward”:¹⁶²

I am Generation Forward.

I look not backward, but forward.

I reject the selfish ways of the past.

The environment, the economy, our very security . . .

“creation of a pro-thrift institutional environment that would encourage financial health, regular savings and wealth building for all Americans”), <http://www.reuters.com/article/pressRelease/idUS124537+05-May-2008+PRN20080505> (last visited Mar. 4, 2009).

157. See SARAH SUSANKA, *THE NOT SO BIG HOUSE: A BLUEPRINT FOR THE WAY WE REALLY LIVE* (Taunton Press, 10th anniversary ed. 2008).

158. WORLD WILDLIFE FUND, *supra* note 120, at 22.

159. *Id.* at 23, figs.33 (gap between supply and demand) and 34 (sustainability wedges).

160. *Id.* at 22–29.

161. See *supra* note 156 and accompanying text. Some have likened the 2007 financial crisis to a “near-death experience,” triggering the resolve to change bad behavior such as Wall Street’s reduction of debt relative to equity, or “deleveraging.” See Geoff Colvin, *A Return to Thrift: Main Street Should Follow Wall Street’s Example When it Comes to Deleveraging*, CNNMONEY.COM, Oct. 30, 2008, http://money.cnn.com/2008/10/29/magazines/fortune/thrift_colvin.fortune/index.htm?postversion=2008103005 (arguing that “Main Street should be deleveraging too”).

162. See Madlen Read, *Citigroup’s Loans Using TARP Grow to \$ 44.75B*, MINNEAPOLIS STAR TRIB., May 11, 2009. The irony of this new campaign was not lost on commentators. One asserted, “Citigroup—the mega-bank that managed its own finances so badly that it has required three taxpayer bailouts totaling at least \$45 billion so far—is preaching fiscal responsibility to young people.” Vindu Goel, *Citi Urges MySpace Users to Spend Wisely*, N.Y. TIMES, Mar. 6, 2009, <http://bits.blogs.nytimes.com/2009/03/06/citi-urges-myspace-users-to-spend-wisely/>.

I believe in sharing the wealth, spreading the peace, helping the unfortunate, recycling, alternative energy sources, exercise, eating healthy, giving back, spending wisely and setting a good example.

I believe in good design, keeping my word, paying on time, using the Internet instead of paper and fiscal responsibility.¹⁶³

Perhaps the nation will learn from its past mistakes. The economic tsunami has hit.¹⁶⁴ The culture is churning. The day of reckoning has arrived.¹⁶⁵ What result will follow? As early signs suggest, perhaps the reckoning will take the form of a new culture of thrift to address both the fiscal and environmental deficits.

163. MySpace, *Citi FORWARD by MySpace*, <http://www.myspace.com/citiforward> (follow "Read the Manifesto" hyperlink) (last visited Aug. 18, 2009).

164. *See supra* note 16 and accompanying text.

165. *See supra* note 50 and accompanying text.

APPENDIX

Bush Era Midnight Regulations (selected examples)			
Topic	Citation	Description	Response (current as of 6/1/2009)
Water Pollution	73 Fed. Reg. 70,418 (Nov. 20, 2008)	<u>Confined animal feeding operations</u> : Allows CAFO owner/operators, rather than agency, to determine whether CAFO has duty to apply for discharge permit.	
	73 Fed. Reg. 33,697 (June 13, 2008)	<u>Water transfers</u> : Exempts water transfers from NPDES permitting requirements.	
Air Pollution	73 Fed. Reg. 77,882 (Dec. 19, 2008)	<u>Fugitive emissions rule</u> : Weakens "new source review" requirements by excluding specified "fugitive emissions" from threshold calculation.	EPA granted request for reconsideration under Clean Air Act § 307(d)(7)(B) and stayed rule for three months (Apr. 24, 2009). ¹⁶⁶
	73 Fed. Reg. 76,948 (Dec. 18, 2008)	<u>Hazardous farm emissions</u> : Exempts certain hazardous farm animal waste emissions from reporting requirements.	

166. See Letter from Lisa P. Jackson, Adm'r, U.S. Env'tl. Prot. Agency, to John Walke, Clean Air Dir., Natural Resources Def. Council (Apr. 24, 2009), available at <http://www.epa.gov/nsr/documents/NRDC.pdf>.

Hazardous Waste	73 Fed. Reg. 77,954 (Dec. 19, 2008)	<u>Emission-comparable fuels rule</u> (“ECF rule”): Creates new exclusion to Resource Conservation and Recovery Act disposal requirements for, and permits burning of, certain hazardous secondary materials.	EPA announced intention to propose rule withdrawing ECF rule; petitions for judicial review stayed pending completion of administrative review process. ¹⁶⁷
	73 Fed. Reg. 64,668 (Oct. 30, 2008)	<u>Definition of solid waste</u> (“DSW rule”): Creates new conditional exclusion to Resource Conservation and Recovery Act requirements for certain hazardous secondary materials by redefining “solid waste”; critics allege rule will deregulate over 100,000 tons of hazardous waste. ¹⁶⁸	Sierra Club filed petition for administrative stay of rule; petitions for judicial review stayed pending completion of administrative review process. ¹⁶⁹

167. See Press Release, U.S. Env'tl. Prot. Agency, EPA Announces Next Steps on Two Hazardous Waste Rules (May 5, 2009) [hereinafter EPA Announces Next Steps], <http://yosemite.epa.gov/opa/admpress.nsf/e51aa292bac25b0b85257359003d925f/e595d762cb308a89852575ad004be7de!OpenDocument>.

168. Earthjustice, *EPA to Deregulate Over 100,000 tons of Hazardous Waste*, <http://www.earthjustice.org/library/factsheets/epa-must-come-clean-about-plans-to-deregulate-hazardous-waste.pdf> (last visited Aug. 18, 2009).

169. See Definition of Solid Waste Public Meeting, 74 Fed. Reg. 25,200 (May 27, 2009) (to be codified at 40 C.F.R. pts. 260–261) (announcing public meeting in connection with review of Sierra Club petition); EPA Announces Next Steps, *supra* note 167.

Mining	73 Fed. Reg. 75,814 (Dec. 12, 2008)	<u>Stream buffer zone rule:</u> Creates exceptions to the buffer-zone rule that allows mountaintop coal mining waste to be deposited into perennial and intermittent streams.	Secretary of the Interior filed petition to vacate Stream Buffer Zone Rule. ¹⁷⁰
	73 Fed. Reg. 69,414 (Nov. 18, 2008)	<u>Oil shale leasing:</u> Opens 2 million acres of western federal lands to oil shale development.	After court issued preliminary injunction against oil and gas leasing on 77 contested parcels in Utah, ¹⁷¹ Interior Secretary Ken Salazar withdrew leases; ¹⁷² DOI "Hayes Report" concludes that challenged oil and gas leases were procedurally flawed. ¹⁷³

170. See Press Release, U.S. Dep't of the Interior, Salazar Moves to Withdraw 11th Hour Mountaintop Coal Mining Rule: Restores Protections Against Dumping in Streams (Apr. 27, 2009) available at http://www.doi.gov/news/09_News_Releases/042709.html; see also Press Release, U.S. Env'tl. Prot. Agency, Obama Administration Takes Unprecedented Steps to Reduce Environmental Impacts of Mountaintop Coal Mining, Announces Interagency Action Plan to Implement Reforms (June 11, 2009), available at http://www.epa.gov/owow/wetlands/pdf/MTM_Release_6-11-09.pdf; Siobhan Hughes, *Obama Seeks to Reverse Mountaintop-Mining Rule*, WALL ST. J., Apr. 28, 2009, at A6 (describing Justice Department lawsuit to invalidate rule).

171. *S. Utah Wilderness Alliance v. Allred*, 2009 WL 765882 (D.D.C. Jan. 17, 2009) (mem.).

172. Press Release, U.S. Dep't of the Interior, Bureau of Land Mgmt., Interior Review Shines Light on Controversial Utah Oil and Gas Leases (Jun. 10, 2009), available at http://www.blm.gov/wo/st/en/info/newsroom/2009/june/NR_0611_2009.html; see also Mark Jaffe, *Salazar Halts Oil-Shale Leases*, DENVER POST, Feb. 26, 2009, at B-01.

173. U.S. DEP'T OF THE INTERIOR, REPORT TO SECRETARY KEN SALAZAR REGARDING THE POTENTIAL LEASING OF 77 PARCELS IN UTAH (Jun. 11, 2009), available at <http://www.doi.gov/utahreport/>.

Endangered Species	73 Fed. Reg. 76,272 (Dec. 16, 2008)	<u>Interagency Cooperation:</u> Narrows circumstances under which federal action agencies must consult with expert wildlife agencies (Fish & Wildlife Service and National Marine Fisheries Service).	Fish and Wildlife Service revoked rule under the authority of the Omnibus Appropriations Act of 2009 ¹⁷⁴ and reinstated the regulations that were in effect immediately before the effective date of the Dec. 16, 2008 rule. ¹⁷⁵
	73 Fed. Reg. 76,249 (Dec. 16, 2008)	<u>Polar Bear Special Rule:</u> Sets forth specific prohibitions and exceptions under § 9 ¹⁷⁶ of the Endangered Species Act for the threatened polar bear, ¹⁷⁷ but allows “incidental takes” of polar bears caused by activities that occur outside the current range of the species, such as the emission of greenhouse gases that contribute to the melting of Arctic sea ice. ¹⁷⁸	The Obama Administration affirmatively decided to retain the Bush Administration rule. A press release announced, “We must do all we can to help the polar bear recover, recognizing that the greatest threat to the polar bear is the melting of Arctic sea ice caused by climate change. . . . However, the Endangered Species Act is not the proper mechanism for controlling our nation’s carbon emissions” ¹⁷⁹

174. Omnibus Appropriations Act of 2009, Pub. L. No. 111-8, 123 Stat. 524 (2009).

175. Interagency Cooperation Under the Endangered Species Act, 74 Fed. Reg. 20,421 (May 4, 2009) (to be codified at 50 C.F.R. pt. 402).

176. The protections of § 9 of the Endangered Species Act do not apply automatically to species listed as “threatened,” rather than “endangered.” 16 U.S.C. § 1538 (2006) (prohibiting the “take” of species listed as endangered). Instead, the applicability of § 9 to threatened species is determined by rule on a case-by-case basis. Endangered Species Act § 4(d), 16 U.S.C. § 1533(d) (2006) (providing that for threatened species “the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of such species” and the Secretary may by regulation extend the protections of § 9(a)(1) to threatened species).

177. The polar bear was listed as threatened based upon the findings that “polar bear habitat—principally sea ice—is declining throughout the species’ range, that this decline is expected to continue for the foreseeable future, and that this loss threatens the species throughout all of its range.” Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Polar Bear (*Ursus maritimus*) Throughout Its Range, 73 Fed. Reg. 28,212 (May 15, 2008) (to be codified at 50 C.F.R. pt. 17).

178. 73 Fed. Reg. at 76,254–76,255. See also Press Release, U.S. Fish & Wildlife Serv., Salazar Retains Conservation Rule for Polar Bears, Underlines Need for Comprehensive Energy and Climate Change Legislation (May 8, 2009), available at <http://www.fws.gov/news/NewsReleases/showNews.cfm?newsId=20FB90B6-A188-DB01-04788E0892D91701>.

179. U.S. Fish & Wildlife Serv., *supra* note 178 (concluding that instead of controlling carbon emissions through the Endangered Species Act, “we need a

Federal Lands	73 Fed. Reg. 74,039 (Dec. 5, 2008)	<u>Bureau of Land Management</u> : Revokes Congress's authority under emergency conditions to withdraw BLM lands from development.	
	73 Fed. Reg. 74,966 (Dec. 10, 2008)	<u>National Parks</u> : Lifts 25-year ban on carrying loaded weapons in national parks.	After a federal district court preliminarily enjoined rule, ¹⁸⁰ Congress voted to allow park visitors to carry loaded guns if allowed by state law. ¹⁸¹

comprehensive energy and climate strategy that curbs climate change and its impacts—including the loss of sea ice”). See Andrew C. Revkin, *U.S. Curbs Use of Species Act in Protecting Polar Bear*, N.Y. TIMES, May 8, 2009, at A13.

180. Brady Campaign to Prevent Gun Violence v. Salazar, 612 F. Supp. 2d 1 (D.D.C. 2009) (issuing preliminary injunction against rule and finding that the rulemaking process had been “astoundingly flawed”).

181. See Credit Card Accountability, Responsibility and Disclosure Act of 2009, Pub. L. No. 111-24 (May 22, 2009) (codified in scattered sections of 15 U.S.C.). The gun provision was attached to unrelated legislation enforcing new consumer-protection measures against credit card companies. See *id.* at § 512 (entitled “Protecting Americans from Violent Crime”).