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ARTICLE

THE LEGACY OF *EXXON VALDEZ*: HOW DO WE STOP THE CRISIS?

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Within five hours of running aground on Blight Reef, the *Exxon Valdez* spilled over ten million gallons of oil into Prince William Sound.¹ Over twenty years later, oil remains,² and it will likely be there for many, many more years to come.³ It is remarkable to imagine: Fewer than three hundred minutes resulted in ecological damage that may never be repaired.

The 2009 *University of St. Thomas Law Journal* Symposium, *Exxon Valdez Revisited: Rights and Remedies*, offered an opportunity to reflect on the disaster's lessons in a broader legal framework. The central lesson, one that permeates almost every discussion of the case, is the failure of the legal system to afford full relief to those affected by the disaster.⁴

My objective here, however, is different: I want to dig deeper into the root causes of why an oil spill of this magnitude occurred; why, in short,

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1. See SAMUEL K. SKINNER & WILLIAM K. REILLY, *THE EXXON VALDEZ OIL SPILL: A REPORT TO THE PRESIDENT* 9 (1989), <http://www.uscg.mil/History/webshipwrecks/ExxonValdezNRT1989Report.pdf>.

2. See Rebecca Luczycki, *The State of the Sound*, ALASKA MAG., Sept. 2009, at 22, 22; EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL, *REPORT ON RECENT LINGERING OIL STUDIES*, <http://www.evostc.state.ak.us/universal/documents/LingeringOilReport.pdf>.

3. See *Exxon Valdez Oil Spill Trustee Council, Oil Remains: The Persistence, Toxicity, and Impact of Exxon Valdez Oil*, <http://www.evostc.state.ak.us/Recovery/lingeringoil.cfm> (last visited March 14, 2010) (reporting that the remaining oil will take decades and possibly centuries to disappear entirely).

4. See, e.g., Doug Rendleman, *Common Law Punitive Damages: Something for Everyone?*, 7 U. ST. THOMAS L.J. 1, 8 (2010) ("Native Alaskans could not recover for losing their subsistence culture to the *Exxon Valdez* oil spill."); Leo M. Romero, *Punishment for Ecological Disasters: Punitive Damages and/or Criminal Sanctions*, 7 U. ST. THOMAS L.J. 154, 158 (2010) ("If the total harm to the environment in an oil spill cannot be correctly valued or compensated under tort law, punitive damages can no longer be relied on to provide the missing compensation.") (footnote omitted); Sanne Knudsen, *A Precautionary Tale: Assessing Ecological Damages After The Exxon Valdez Oil Spill*, 7 U. ST. THOMAS L.J. 95, 107 (2010) ("Our existing tools for remedying harm . . . are not enough [to] adequately [remedy] ecological harm.")

people misuse nature. It is clear that the environmental statutes and regulations in effect at the time of the disaster fell well short of preventing the all too-predictable consequence of shipping large amounts of oil through sensitive aquatic ecosystems. There was no comprehensive liability scheme in place, and even simple measures such as better tanker hull design and licensing requirements that would allow for drug and alcohol testing—both of which may have prevented the *Exxon Valdez* spill—were not implemented.⁵

When it did respond to the *Exxon Valdez* crisis, Congress enacted the Oil Pollution Act (OPA).⁶ That act, however, has yielded mixed results over its twenty-year history.⁷

Despite its shortcomings, we might be tempted to chalk the *Exxon Valdez* disaster to unique circumstances—an accident that will never happen again because we now have at least some legal regime in place that governs oil carriers and their liability. We could, in other words, assume all is well. I believe, however, the *Exxon Valdez* spill illustrates a far deeper problem with environmental law and our approach to the environment in this country, a problem that continues to this day.

Federal environmental law has remained largely unchanged in its approach and coverage for almost four decades now. It separates the environment into discrete pieces and has rarely developed anything more than a triage approach to environmental problems. As many have suggested, we are long overdue for a new and different legal approach.

But before we begin to design new solutions and write new environmental laws, we need to take another step: we need to explore the root causes of environmental degradation. We need to consider why (1) a tanker holding (2) fifty-three million gallons of (3) oil was in (4) Prince William Sound on that fateful day in 1989.

I begin with lessons from some of the best-known conservation writers, including environmental historians and environmental economists, in the hope of getting to the bottom of what has caused our environmental predicament. I then turn to how these root causes have shaped current environmental law and the flaws that we see in them. I conclude with some suggestions for how, in light of these lessons, we might edge closer to the next generation of environmental law.

5. See 2 WILLIAM H. RODGERS JR., ENVIRONMENTAL LAW: AIR AND WATER § 4.37A (Winter Supp. 2009).

6. Oil Pollution Act, 33 U.S.C. §§ 2701–2762 (2006).

7. See *infra* note 147.

I. ROOT CAUSES OF OUR CURRENT ENVIRONMENTAL PREDICAMENT

When god-like Odysseus returned from the wars in Troy, he hanged all on one rope a dozen slave-girls of his household whom he suspected of misbehavior during his absence.

This hanging involved no question of propriety. The girls were property. The disposal of property was then, as now, a matter of expediency, not of right and wrong.⁸

These opening sentences from environmental giant Aldo Leopold's oft-quoted "The Land Ethic" are later extended to the relationship between humans and land: "There is as yet no ethic dealing with man's relation to land and to the animals and plants which grow upon it. Land, like Odysseus' slave-girls, is still property. The land-relation is still strictly economic, entailing privileges but not obligations."⁹ After adding to this a recognition of our collective ignorance regarding nature, Leopold prescribes a solution to our problem: we must come to see ourselves as members of a community that includes soil, waters, plants, and animals, or what he refers to collectively as "the land."¹⁰ "Conservation," he tells us, "is getting nowhere because it is incompatible with our Abrahamic concept of land. We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect."¹¹

This is a harsh indictment, but we can clearly see that the *Exxon Valdez* disaster, albeit involving the seas, is consistent with Leopold's tough words. A tanker was sent into sensitive waters, home to thousands of aquatic species, to quench our thirst for oil. But few among us truly question this thirst for oil.

As Leopold further explains, "There are two spiritual dangers in not owning a farm. One is the danger of supposing that breakfast comes from the grocery, and the other that heat comes from the furnace."¹² We could add to these another danger: thinking that gas comes from the pump at the gas station. In the course of swiping our card and twisting the cap off of our gas tank, do we ever imagine the long journey of that gas and the many ecosystems disrupted during that journey to the pump? Do we consider the environmental havoc that the process of oil pumping, refining, and burning wreaks?¹³ Most of us worry more about whether gas is cheaper at the gas

8. ALDO LEOPOLD, *A SAND COUNTY ALMANAC AND SKETCHES HERE AND THERE* 201 (1949).

9. *Id.* at 203.

10. *Id.* at 204.

11. *Id.* at viii.

12. *Id.* at 6.

13. David M. Driesen & Amy Sinden, *The Missing Instrument: Dirty Input Limits*, 33 HARV. ENVTL. L. REV. 65, 71 (2009).

station down the street than either of these questions. Why is this? And what can we do?

To Leopold, the answer is not to ask the government to fix it or to pay us to make better choices.¹⁴ In order to solve our environmental problems, Leopold tells us that we can no longer let today's economics dictate all land use decisions; the only remedy is "[a]n ethical obligation"¹⁵—an obligation that Leopold's later writings explain should focus on an overall conservation vision that he called land health.¹⁶

In short, although writing long before the rise of McDonald's, Wal-Mart, and iPhones, Leopold points the finger squarely at us. It is our system of economics and the culture that system of economics has bred, Leopold argues, that is the root cause of our environmental woes.

Although Leopold painted with broad strokes, others have filled in more details. Donald Worster, Herman Daly, J.R. McNeill, David Ehrenfeld, and Eric Freyfogle are among them.

A. *It All Starts with Economics*

Historian Donald Worster, like Leopold, argues that the "most important roots of the modern environmental crisis lie not in any particular technology of production or health care . . . but rather in modern culture itself."¹⁷ He then explains, "Let us call this modern culture by a simple name but think of it as a complex phenomenon: The worldview of *materialism*. It has two parts, economic and scientific, so intertwined and interdependent that even now historians have not fully probed their intellectual linkage."¹⁸ Unlike many who assume that the roots of this culture shift began relatively recently, Worster traces this change back many centuries, to as early as the seventeenth century in fact, after "a long spawning period."¹⁹ The change in thought that occurred can be traced, in Worster's view, to three causes.

First, there was a massive global transformation from a religious outlook to secularism. According to Worster, "This secularized culture came to supersede not only Judeo-Christianity but almost all the other traditional religious and ethical systems of the world—not entirely but enough to make

14. *Id.* at 213–14.

15. LEOPOLD, *supra* note 8, at 214.

16. *See id.*; *see also* Aldo Leopold, *The Land-Health Concept and Conservation*, in FOR THE HEALTH OF THE LAND 219, 219 (J. Baird Callicott & Eric T. Freyfogle eds., 1999); Amy J. Withermuth, *Eco-Pragmatism and Ecology: What's Leopold Got to Do With It?*, 87 MINN. L. REV. 1145, 1152–54 (2003).

17. Donald Worster, *The Wealth of Nature*, in THE NEW AGRARIANISM 161, 167 (Eric T. Freyfogle ed., 2001).

18. *Id.*

19. *See id.*

them secondary, marginal influences.”²⁰ The result was less focus on the afterlife and much more emphasis on this life.

Second, there was a new progressive impulse. Instead of abiding by years of tradition, people sought to “escap[e] the patterns of the past.”²¹ As a result, “[W]e think of progress mainly as an endless economic or technological improvement on the present.”²²

Finally, there was the advent of rationalism, which, Worster explains, “was supposed to take the place of authority or spiritual revelation.”²³ Rationalism encouraged people—ordinary people—to use reason to discover the laws of nature.²⁴ It then encouraged them to use these newly discovered laws of nature to act in their own self-interest.²⁵

In combination, these three elements—secularism, progressivism, and rationalism—led to the new worldview of materialism. Although this shift did not happen overnight or result from a single person, Worster notes that “this new world-view . . . stole onto the European scene” and was later carried to places far and wide as Europeans invaded other continents.²⁶

What it wrought was, importantly, a significant impact on the environment. Worster argues, “[T]he view that improving one’s physical condition—i.e., achieving more comfort, more bodily pleasure, and especially a higher level of affluence—is the greatest good, greater than securing the salvation of one’s soul, greater than learning reverence for nature or God”²⁷ has dramatically changed landscapes and ultimately led to our current ecological crisis. Indeed, Worster concludes, “The human economy requires for its longterm success that its architects acknowledge their dependence on the greater economy of nature, preserving its health, and respecting its benefits. By this standard, every modern economy . . . is an unmitigated disaster.”²⁸

The economist Herman Daly echoes Worster’s last point, but puts it in more stark terms: “Growth is widely thought to be the panacea for all major economic ills of the modern world. . . . [But w]hen the economy’s expansion encroaches too much on its surrounding ecosystem, we will begin to sacrifice natural capital.”²⁹ For Daly, the key is recognizing that there are limits to nature, limits to the biophysical world.³⁰ “The facts are plain and uncontestable: the biosphere is finite, nongrowing, closed (except for the constant input of solar energy), and constrained by the laws of thermody-

20. *Id.* at 168.

21. *Id.*

22. *Id.*

23. Worster, *supra* note 17, at 168–69.

24. *Id.* at 169.

25. *Id.*

26. *Id.* at 170.

27. *Id.* at 167.

28. *Id.* at 217.

29. Herman E. Daly, *Economics in a Full World*, *Sci. Am.*, Sept. 2005, at 100, 100.

30. *See id.* at 100–02.

namics.”³¹ When we do not take into account these limits and therefore build an economy that is ever-growing instead of one at the appropriate scale, we are bound for disaster.³²

There are those, to be sure, who criticize the notion that our current economic model must change. For example, Ted Nordhaus and Michael Shellenberger have insisted that we can have it all; we can meet our ecological goals and prosper. They argue that environmentalists “have tended to view economic growth as the *cause* but not the *solution* to ecological crisis. Environmentalists like to emphasize the ways in which the economy depends on ecology, but they often miss the ways in which thinking ecologically depends on prospering economically.”³³ We should, Nordhaus and Shellenberger urge, “swim with, not against, the currents of changing social values.”³⁴

But as Jackson Lears recently explained, these arguments “assum[e], quite falsely, that these developments[, brought about by our materialism and consumerism,] simply express consumer desire.”³⁵ That is, they ignore entirely the longer history at play, the slanted economics of perpetual growth that is simply unsustainable.

Moreover, the idea that we must consume more in order to be happy is simply untrue. As Daly explains, there is an income level of “sufficiency,” beyond which only relative position matters.³⁶ In other words, people need to have a certain minimum amount of wealth to be happy. Beyond that, only when you gain relative to others are you happier.³⁷ Growth, moreover, does not mean that everyone will increase their relative wealth; indeed, if everyone gains proportionally, no one’s relative wealth would increase and thus no one will be happier.³⁸

Daly estimates that wealthy countries like the United States have reached a level beyond sufficiency. He is also careful to note, however, that “[t]his does not mean that the consumer society has died—just that increasing consumption beyond the sufficiency threshold, whether fueled by aggressive advertising or innate acquisitiveness, is simply not making people happy, in their own estimation.”³⁹

31. *Id.* at 102.

32. *See id.* at 107; *see also* HERMAN E. DALY, *BEYOND GROWTH: THE ECONOMICS OF SUSTAINABLE DEVELOPMENT* 50–51 (1996) (explaining the earth’s natural limit as akin to a Plimsoll line: “Optimally loaded boats will still sink under too much weight—even though they may sink optimally.”).

33. TED NORDHAUS & MICHAEL SHELLENBERGER, *BREAK THROUGH: FROM THE DEATH OF ENVIRONMENTALISM TO THE POLITICS OF POSSIBILITY* 6 (2007).

34. *Id.*

35. Jackson Lears, *The Usefulness of Cranks*, *THE NEW REPUBLIC*, Sept. 30, 2009, at 2, <http://www.tnr.com/article/books-and-arts/the-usefulness-kranks-1?page=0,0>.

36. Daly, *supra* note 29, at 107.

37. *Id.*

38. *Id.*

39. *Id.*

When we think again about the *Exxon Valdez* disaster, it is helpful to consider how our economic system drove the decisions made by Exxon. Exxon's goal is to make money, and the company has made, and continues to make, a lot of it. For the last three months of 2009, Exxon announced earnings of \$6.05 billion, which admittedly was a decline of 23% from the year before.⁴⁰ To give these numbers more meaning, Respondents in the *Exxon Shipping* case calculated that, based on Exxon's internal rates of return, the company had earned a net of \$3.9 billion on the approximately \$500 million in punitive damages from the trial court's judgment in 1996 until July 2008.⁴¹ These are, quite simply, staggering sums of money.

Of course, a for-profit, publicly-traded corporation like Exxon has a duty under the law to make money for its shareholders.⁴² What this means is that short-term profits drive business, even for those businesses that want to give "equal, and in some cases paramount, consideration to social and environmental outcomes." Take the case of Ben and Jerry's: When Unilever offered in 2000 to buy Ben and Jerry's for more than what its stock was trading at, the Board of Directors was told that it would likely face shareholder lawsuits if it did not sell, despite concern that Unilever would not continue Ben and Jerry's more socially-responsible approach.⁴³ In other words, our economic system and the laws governing corporations urge growth and profitability above all else.

We have identified, then, the first root of environmental degradation—the cultural shift toward materialism, which embraced an economic system aimed at perpetual growth with no natural limit. This fundamental shift, which has happened over centuries, seems a good place to start in our search for causes of environmental degradation. There are, however, more to consider. I'll turn now to population.

40. Ben Rooney, *Exxon Profit Slides 23%*, CNNMONEY.COM, Feb. 1, 2010, http://money.cnn.com/2010/02/01/news/companies/Exxon_Mobil_earnings/index.htm.

41. Reply Concerning Respondents' Submission With Respect To Rule 42.1 at 11–12, App. C, *Exxon Shipping Co. v. Baker*, 128 S. Ct. 2605, 2613 (2008) (No. 07-219), available at http://www.scotusblog.com/wp-content/uploads/2008/07/07-219_reply421.pdf.

42. See Thomas Kelley, *Law and Choice of Social Entity on the Social Enterprise Frontier*, 84 TUL. L. REV. 337, 351 (2009) ("[P]roponents of corporate philanthropy and CSR generally accept that a corporation's core function is to produce profits to benefit its shareholders.").

43. See Timothy McQuiston, *Ben and Jerry's: Had Fun, Made Money*, VT. BUS. MAG., May 1, 2000, <http://www.vermontbiz.com/article/may/ben-jerrys-had-fun-made-money> ("Forced by laws governing publicly traded companies, and a shareholder suit to enforce those fiduciary responsibilities by the board of directors, Ben & Jerry's Homemade Inc, based in South Burlington, accepted a whopping \$43.60 per share offer from Unilever, the giant Dutch/British consumer products company.").

B. *Is Population Growth to Blame?*

Economies are not the only things that have been in perpetual growth. Population has also surged, particularly in the twentieth century.⁴⁴ As a result, several environmental thinkers have seen population as another root cause of our ecological crisis.

For example, both the great writer Edward Abbey and the activist Christopher Manes agree that there must be a fundamental change in our society in order to remedy the current environmental problems.⁴⁵ To them, part and parcel of such a change includes, among other things, a drastic reduction in human population in order to make room for all the species that inhabit the earth. According to this vision, humans will return to the wilderness and live on large tracts of land, separate from one another.

In particular, Abbey believes in an individual's right to live how he wants to live without interference from the government or other private individuals. This right includes the right to drink from every stream without fear of pollution.⁴⁶ Manes adds a twist to this vision by describing tribal communities living "the life of environmental modesty," and offering these communities as examples or "a sense of direction" as to what is possible.⁴⁷ Both Abbey and Manes are willing to require a drastic reduction in human population and impose severe limits on what one may do on the land.

The story of population as a principal source of environmental degradation, however, is not quite that simple. J.R. McNeill, an environmental historian like Worster, has documented the impacts of population growth over the last century.⁴⁸ He concludes that population growth has indeed contributed to air and water pollution, deforestation, and soil loss.⁴⁹ Far more troubling, however, is his observation that the degradation per person has increased and is increasing.⁵⁰

In addition to population growth, McNeill explains that migration "often mattered more than growth." Migration took two basic forms: (1) there was the migration of millions of peoples to ecologically unfamiliar

44. J.R. McNEILL, *SOMETHING NEW UNDER THE SUN: AN ENVIRONMENTAL HISTORY OF THE TWENTIETH CENTURY* 270 (2000).

45. *See generally* EDWARD ABBEY, *DESERT SOLITAIRE: A SEASON IN THE WILDERNESS* (1968); CHRISTOPHER MANES, *GREEN RAGE: RADICAL ENVIRONMENTALISM AND THE UNMAKING OF CIVILIZATION* 238, 240 (1990).

46. *See* ABBEY, *supra* note 45.

47. MANES, *supra* note 45.

48. McNEILL, *supra* note 44, at 276.

49. *See id.* at 272–73.

50. *See id.*; *cf.* JOHN RANDOLPH & GILBERT M. MASTERS, *ENERGY FOR SUSTAINABILITY: TECHNOLOGY, PLANNING, POLICY* 8–9 (2008) (noting the high rate of energy consumption in more developed countries).

areas,⁵¹ and (2) the migration of people to urban areas, “a crucial source of environmental change.”⁵²

In the end, then, there is no doubt that population growth contributes to degradation. Degradation per person, however, is much more important than the net population increase standing alone. Moreover, migration to unfamiliar areas as well as to cities has resulted in significant environmental degradation.

How is this reflected in the *Exxon Valdez* disaster? The migration of people to Prince William Sound does not appear to have caused significant environmental harm to the surroundings. The area was, and remains, sparsely populated, largely by Native Alaskans, commercial fishermen, and, once the pipeline was constructed, people working for the pipeline.

There can be no doubt, however, that the opening of the Trans-Alaska Pipeline changed the environment, particularly once the terminal in Valdez, Alaska opened.⁵³ In fact, before the pipeline was built, the environmental impacts of the pipeline were contested by environmentalists who brought, among other things, a challenge under the National Environmental Protection Act (NEPA)⁵⁴ for the failure to consider building a pipeline through Canada rather than shipping the oil in tankers.⁵⁵ The consequence of not considering such a route, at the very least, “made the accident more likely.”⁵⁶

In addition to the changes to the landscape brought on by a new pipeline and shipping center in “one of the last major unblemished wilderness areas in the world,”⁵⁷ the observation that our per capita consumption and thus our per capita degradation has increased also is exemplified by the *Exxon Valdez* spill. The Trans-Alaska Pipeline was built at a time when Americans’ per capita oil consumption was at an all-time high.⁵⁸ Indeed, when the D.C. Circuit heard the challenge to the Trans-Alaska Pipeline, it noted that what was at stake included “billions of gallons of oil at a time

51. McNEILL, *supra* note 44, at 281.

52. *Id.* at 282.

53. American Experience, *The Alaska Pipeline: The Environmental Movement and the Oil Industry* (Apr. 4, 2006), http://www.pbs.org/wgbh/amex/pipeline/peoplevents/e_environment.html (examining a variety of alleged environmental impacts of the pipeline).

54. 42 U.S.C. §§ 4321–4370f (2006).

55. *See Wilderness Soc’y v. Morton*, 479 F.2d 842, 846–48 (1973).

56. Victor M. Sher & Carol Sue Hunting, *Eroding the Landscape, Eroding the Laws: Congressional Exemptions From Judicial Review of Environmental Laws*, 15 HARV. ENVTL. L. REV. 435, 441 (1991).

57. *Wilderness Soc’y*, 479 F.2d at 891.

58. *See RANDOLPH & MASTERS, supra* note 50, at 16. The chart indicates that oil consumption reached a peak near 38 quadrillion BTUs around 1975; oil consumption in 2006 is at about 40 quadrillion BTUs. In 1975, the U.S. population was about 215 million people, *see* U.S. Census Bureau, *Intercensal Estimates 1970–1980*, <http://www.census.gov/popest/archives/1980s/st7080ts.txt>; by 2006, it was near 300 million, *see* U.S. Census Bureau, *Annual Population Estimates 2000 to 2006*, <http://www.census.gov/popest/states/NST-ann-est2006.html>. As such, per capita oil consumption was much higher in the mid-1970s than it has been at any other time.

when the nation faces an energy crisis of serious proportions.”⁵⁹ American consumption of oil per person today remains one of the highest of any developed country, largely because we rely on oil to power our cars and there have been very few changes to the fuel efficiency standards over time.⁶⁰

C. *Where Does Science Fit In?*

Conservation biologist David Ehrenfeld, like Leopold, also points the finger at people but even more directly. Ehrenfeld argues that the fundamental problem we face is what he calls the religion of humanism. At its core, this religion embraces a “supreme faith in human reason—its ability to confront and solve the many problems that humans face, and its ability to rearrange both the world of Nature and the affairs of men and women so that human life will prosper.”⁶¹ The result of this approach is that humans tend to believe that those parts of the natural world that are not known to be useful are worthless.⁶²

Worster, too, derides the advent of what he calls scientific materialism. Science and technology were supposed to improve the human economic state by “harnessing ideas to practical ends” and eventually “turning the rest of creation into power and wealth.”⁶³ As a result, we now have, as but one measure, “ten thousand new chemicals introduced each year.”⁶⁴

To combat this faith in human reason, Ehrenfeld advocates the adoption of the “Noah Principle,” which requires humility to preserve every species simply because it exists.⁶⁵ This approach, embraced by other conservation biologists, has similarities to the precautionary principal that is found in many other ecological writings.⁶⁶ It also echoes Leopold’s first rule that we are not to throw away parts of nature when we do not know what they mean to the whole: “If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.”⁶⁷

David Orr suggests that we simply need less science and technology: “Perhaps much of our technology is not taking us where we want to go

59. *Wilderness Soc’y*, 479 F.2d at 891.

60. U.S. Energy Information Administration, Demand, http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/oil_market_basics/demand_text.htm (last visited March 28, 2010).

61. DAVID EHRENFELD, *THE ARROGANCE OF HUMANISM* 5 (1981).

62. *Id.* at 177.

63. Worster, *supra* note 17, at 170.

64. David Orr, *The Problem of Sustainability*, in *ECOLOGICAL LITERACY: EDUCATION AND THE TRANSITION TO A POSTMODERN WORLD* 3, 13 (1992).

65. EHRENFELD, *supra* note 61, at 207–08.

66. *See, e.g.*, Knudsen, *supra* note 4, at XXX.

67. ALDO LEOPOLD, *ROUND RIVER: FROM THE JOURNALS OF ALDO LEOPOLD* 146–47 (Luna B. Leopold ed., 1993).

anyway.”⁶⁸ He then advises that “[m]aking life simpler, ecologically sustainable, more friendly, and more conducive to human growth only requires only a fraction of the technology now available.”⁶⁹

Science and technology, then—and particularly their rapid development over the last century with little regard for longer-term hazards—are surely strands of another root of degradation. This root is, like population growth and consumption related to population growth, closely tied to economic development. It is nevertheless appropriate to note that science and technology, and our failure to take a more cautionary approach, have wrought great environmental damage.

With respect to the *Exxon Valdez*, we know that science and technology were responsible for the advances that allowed a tanker to be filled with fifty-three million gallons of oil and sail across an ocean, a feat that remains mind-boggling. Even more stunning, however, was the faith that these human-engineered and human-operated ships would not fail, and the belief that there would be no spill the size of the *Exxon Valdez* spill. Yet it is clear now that because no one anticipated or prepared for a spill of that magnitude, the damage was much greater.⁷⁰

D. *What Role Does Individualism Play?*

Although it took some time to rise to predominance, by the time of the Declaration of Independence, individualism and individual rights were on the rise.⁷¹ This individualism, according to Eric Freyfogle, led people to “focus . . . on personalized rather than shared visions of the good.”⁷² Indeed, Freyfogle notes, personal liberty has been “exalted above all others.”⁷³

Once individualism took hold, “it pushed aside earlier social visions that subordinated the individual to the good of the community.”⁷⁴ The result was that individuals began to do what they pleased and take what they wanted without considering the good of the community. When individualism is combined with the economic notion that there is no natural limit, only perpetual growth, it constitutes another root cause of environmental degradation.

One response to this is to take the individual rights approach and simply give nature equivalent rights. In his book *The Rights of Nature*,

68. Orr, *supra* note 64, at 15.

69. *Id.*

70. SKINNER & REILLY, *supra* note 1, at ES-1.

71. See ERIC T. FREYFOGLE, *JUSTICE AND THE EARTH: IMAGES FOR OUR PLANETARY SURVIVAL* 117–18 (1993).

72. *Id.* at 118.

73. Eric T. Freyfogle, *Simplicity, Community, and Private Land*, in *VOLUNTARY SIMPLICITY* 245, 247 (Samuel Alexander ed., 2009).

74. FREYFOGLE, *supra* note 71, at 118.

Roderick Nash argues that extending rights to nature is the next step in our expanding concept of rights.⁷⁵ He compares the extension of rights to the non-human world to the liberation of slaves after the Civil War, and contends that to many, nature is “just the latest minority deserving a place in the sun of the American liberal tradition.”⁷⁶

Nash further recognizes that at the heart of the problem is the issue of ownership: “The full weight of private property supported the slaveholders’ cause, just as it does that of contemporary owners of nature.”⁷⁷ He therefore argues that private ownership, “what some even call the enslavement of nonhuman species and the environment,” must be abandoned in order to solve our environmental problems.⁷⁸

Although Nash is surely correct that affording individual rights has resulted in great social progress over time including, importantly, progress in the area of racial and gender discrimination, affording individual rights may be a bad fit for the problem of environmental degradation. Instead of giving nature individual rights, another approach is to think in more collective rights terms.⁷⁹ This is the perspective offered by farmer and writer Wendell Berry. Berry’s essay “It Wasn’t Me” elucidates his very different vision of how we might live on the land, which emphasizes community and stewardship.⁸⁰

In this short story, Berry describes a parcel of land that is to be auctioned after the death of its owner, Old Jack Beechum. Old Jack wanted a young couple, the Penns, to have this land because they had farmed it and taken care of it for the eight years before Old Jack’s death. Unfortunately, in his will, Old Jack had left the farm to his daughter Clara and left what he thought would be half the purchase price of the land to the Penns. Clara, who was no longer a member of the local community, decided to auction the land off to the highest bidder, despite the pleas of her father’s lawyer and contrary to a note Old Jack had written indicating that he wanted the Penns to have his farm. The highest bidder ended up being the Penns, but they paid a much higher price than they could afford, even with the money that Old Jack had left them.

In describing these events, Berry conveys the importance of community and the obligations to past and future generations. To him, just as to Leopold, the community includes the land and the land is intimately tied to everything, including human-to-human relationships. Another of Berry’s

75. RODERICK F. NASH, *THE RIGHTS OF NATURE: A HISTORY OF ENVIRONMENTAL ETHICS* (1989).

76. *Id.* at 212.

77. *Id.*

78. *Id.* at 213.

79. See Freyfogle, *supra* note 73, at 247.

80. WENDELL BERRY, *THE WILD BIRDS: SIX STORIES OF THE PORT WILLIAM MEMBERSHIP* 45–73 (1985).

characters tells Elton Penn that in addition to Old Jack, the farm chose him.⁸¹ That same character points out that “[t]he place [, the farm,] is crying out to us to do better, to be worthy of it.”⁸² The message of these images is clear: land stewards must be carefully chosen and part of that decision will be made by the land. Once chosen, the health of the whole will depend on the steward listening and responding to the land. Most significantly, this vision offers images of people living on the land, not as loners who own large lots, but rather as members of a community.

Another way of framing this problem is the classic Tragedy of the Commons:⁸³

When a resource is freely available to everyone in common, everyone has an incentive to take as much of that resource as they want, even though the collective result may be the destruction of the resource itself. Society as a whole would be better off restraining consumption and preserving the resource. But the rational action for each individual is to consume to her heart’s content.⁸⁴

Individuals caught up in these commons dilemmas often are not “selfish, shortsighted, anti-environmental, or overly focused on immediate material gain.”⁸⁵ Instead, there are certain structural barriers posed by the commons dilemma, ones that require us to rethink our approach to these problems altogether.

Professor Buzz Thompson has identified three such features that “make it difficult for people locked in tragic overuse to act ‘rationally’ in trying to come up with an acceptable solution.”⁸⁶ First, he notes that the framing of the problem as giving something up today even if it would result in a gain in the future makes it very hard to solve.⁸⁷ Second, because there is always uncertainty, it can be difficult to convince resource users that there is a problem at all and, even more difficult, that a collective solution will be fair to all.⁸⁸ Finally, Professor Thompson points out that sacrificing for future generations, which is what collective solutions to resources commons problems requires, is often difficult, particularly because people tend to be overly optimistic about the future.⁸⁹

81. *See id.* at 68.

82. *Id.* at 69.

83. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243 (1968).

84. Barton H. Thompson, Jr., *Tragically Difficult: The Obstacles to Governing the Commons*, 30 *ENVTL. L.* 241, 242 (2000).

85. *Id.* at 255.

86. *Id.* at 256.

87. *See id.* at 256–57.

88. *See id.* at 258–62.

89. *See id.* at 262–65.

Given these barriers, it is clear that we do not need to “simply chang[e] people’s environmental ethics.”⁹⁰ Instead, we need to begin the hard work, Professor Thompson argues, of framing a collective solution that addresses the three barriers he identified. That is, we need a solution that requires resource users to identify that there is a problem,⁹¹ and then develop solutions with those resource users “that maximize the freedom of resource users and . . . [often] involve local control of the resource,”⁹² as well as allocate the burden fairly.⁹³

When faced with thinking in collective terms like this, it might at first appear awkward because we are accustomed to thinking about individual liberties. Asked to imagine landscapes, though, it becomes clear that the actions of many individuals collectively contribute to the health of an Illinois stream or the air in the Salt Lake Valley.⁹⁴ Likewise, individual decisions to drive more miles and thus consume more oil surely contributed to the *Exxon Valdez* disaster that is likely to haunt the Sound for many generations to come.⁹⁵ Leaving decisions like these to individuals, or even going so far as to describe them as rights, rather than exploring solutions framed in community and collective terms, will only lead to further environmental degradation.⁹⁶

E. What About the Corporations?

This overview of the root causes of environmental degradation would be incomplete if I failed to take notice of the role of corporations in this arena. Unlike the root causes of environmental degradation that I identified above, modern corporations are relative newcomers compared to the centuries-old shifts that have been occurring. They are also, because of their later arrival as a product of the economic structure we have created, more fairly characterized as inhibiting our ability to halt degradation rather than an actual root cause. But make no mistake: corporations are able to limit progress to address degradation because they occupy a privileged spot in today’s society and wield enormous power.

Amy Sinden has already taken up the task of explaining why corporations are so powerful, particularly in the environmental arena. For one thing, “basic and well-accepted principles of interest-group theory predict that a group whose interests are diffuse and have less marginal impact on each individual member will have far more difficulty organizing into an

90. Thompson, *supra* note 84, at 267.

91. *See id.* at 270–75.

92. *Id.* at 276.

93. *See id.* at 277.

94. *Cf.* Freyfogle, *supra* note 73, at 247.

95. Luczycki, *supra* note 2, at 28.

96. *See generally* Eric T. Freyfogle, *Property and Liberty*, 34 HARV. ENVTL. L. REV. 75 (2010) (exploring the intersection of private property and individual liberty).

effective pressure group than a smaller group in which each member suffers substantial economic harm.”⁹⁷ Corporations thus have an advantage in organizing and getting a message out to the public.

Moreover, when it comes to particular messages, corporations significantly mold and limit individual market preferences.⁹⁸ In fact, corporations are so powerful when it comes to environmental outcomes that instead of trying to make changes legislatively or through agencies, many believe working directly with corporations is much more effective.⁹⁹

Finally, “corporations tend to have far more political clout than individuals, both because they tend to be wealthier and because of the privileged position they occupy in politics.”¹⁰⁰ After the Supreme Court’s recent ruling in *Citizens United v. Federal Election Commission*,¹⁰¹ which struck down certain prohibitions on corporate expenditures in political campaigns opening more doors for corporations in politics, the latter portion of Sinden’s second point is even more acute. As Justice Stevens noted in his dissent in *Citizens United*, “While American democracy is imperfect, few outside the majority of this Court would have thought its flaws included a dearth of corporate money in politics.”¹⁰²

With respect to the *Exxon Valdez* tragedy, the political power of the oil companies was on full display. First, shortly after the D.C. Circuit ruled in the environmentalists’ challenge to the Trans-Alaska Pipeline that the permits granted were illegal under the Mineral Leasing Act, and although it required Vice President Agnew to break a tie, “Congress exempted the project from the need to comply with NEPA and precluded further court action under other laws.”¹⁰³ Second, as I discuss further below,¹⁰⁴ when the *Exxon Valdez* ran aground in 1989, oil discharges had only a few years earlier been exempted from coverage under the Comprehensive Environmental Response, Compensation and Liability Act, a glaring hole that left those affected by the spill to rely largely on federal maritime common law, and that later prompted the passage of the OPA. Finally, even the Supreme Court noted Exxon’s funding of several academic studies related to the punitive

97. Amy Sinden, *In Defense of Absolutes: Combating the Politics of Power in Environmental Law*, 90 IOWA L. REV. 1405, 1438 (2005) [hereinafter Sinden, *In Defense of Absolutes*].

98. See Amy Sinden, *Climate Change and Human Rights*, 27 J. LAND RESOURCES & ENVTL. L. 255, 264, 269 (2007) [hereinafter Sinden, *Climate Change*].

99. For example, well-known alternative energy advocate Amory Lovins has been working with Wal-Mart since 1993. Matt Sullivan, *Green Guru: Wal-Mart, Pentagon, Detroit on Verge of Big Eco-Cash*, POPULAR MECHANICS, Oct. 10, 2007, <http://www.popularmechanics.com/technology/industry/4225916.html?series=37>.

100. Sinden, *In Defense of Absolutes*, *supra* note 97, at 1438.

101. 130 S. Ct. 876 (2010).

102. *Id.* at 979 (Stevens, J., dissenting in part and concurring in part).

103. Sher & Hunting, *supra* note 56, at 440.

104. See *infra* Part II, p. 146.

damages claims in the *Exxon Shipping v. Baker* case, a sure sign of Exxon's desire and power to influence legal results.¹⁰⁵

Just because corporations have this kind of power does not necessarily mean that they will degrade the environment. As discussed above, however, corporations do degrade the environment because, in our system of economics, degradation that lowers costs helps the bottom line.¹⁰⁶ Moreover, even those corporations that would prefer to be more ecologically-conscious have faced obstacles. Indeed, in the wake of Unilever's buyout of Ben and Jerry's, many, including Jones Day lawyer R. Todd Johnson, have called for new laws that would allow "for-benefit" corporations that would not be driven by the financial bottom line.¹⁰⁷ Instead, the boards of these corporations would "balance social and environmental policies with profit."¹⁰⁸

Although the fact that this option is being proposed is a sign of some progress in recognizing flaws in American corporate law, it nevertheless tacitly accepts that for-profit corporations are free to continue degrading the environment to benefit their short-term bottom line. Instead of offering companies the option of recognizing that "socially beneficial activity is ineluctably part of the bottom line,"¹⁰⁹ why not require it of all companies?

At bottom, although corporations cannot be blamed as a root cause of environmental degradation, they are in no small part responsible for perpetuating it. Accordingly, it is equally important to contemplate the ways in which the power of corporations might be curbed as it is to address the root causes of environmental degradation.

* * * *

At this point, I have explored various root causes of environmental degradation as well as one factor that strongly inhibits any change from our degraded state. We can put all of this together to tell a relatively straightforward story.¹¹⁰

Many earlier peoples respected nature and viewed themselves as part of it.¹¹¹ In a shift that took centuries to fully play out, a new worldview was created that was "secular, progressive, and rational."¹¹² This cultural shift embraced a new system of economics, one that seeks perpetual growth with

105. See *Exxon Shipping Co. v. Baker*, 128 S. Ct. 2608, 2626 n.17 (2008).

106. See Sinden, *In Defense of Absolutes*, *supra* note 97, at 1409; Sinden, *Climate Change*, *supra* note 98, at 264, 268.

107. See April Dembosky, *Protecting Companies That Mix Profitability, Values*, NPR MORNING EDITION, March 9, 2010, <http://www.npr.org/templates/story/story.php?storyId=124468487>.

108. *Id.*

109. Kelley, *supra* note 42, at 250.

110. Eric Freyfogle offers a longer and more complete version of the root causes story. See FREYFOGLE, *supra* note 71, at 113–19.

111. See Worster, *supra* note 17, at 165–66.

112. *Id.* at 170.

no recognition of a natural limit. This economic growth, in turn, led to population growth and large migrations to both cities and sensitive ecological areas. Both of these developments have increased overall environmental degradation, but more importantly, they increased degradation on a per person basis.

The dominant economic model has also spurred on science and technology, both of which have thrown caution to the wind with respect to the environment in the pursuit of improving the human economic condition. Even today we remain overly optimistic in our scientific abilities and technological wherewithal to solve any and all problems.

In addition, individual rights and liberties have been promoted while collective goals have been a clear second. Unlike other contexts like civil rights in which individual liberties have achieved significant improvements, unbridled individual rights in the environmental context has led to dirtier air, water, and land.

Finally, one of the later constructs created by the perpetual growth system is corporations, which are built to make short-term profits. These entities benefit from the current system, and thus stand as devout protectors of the new cultural worldview.

This is our predicament—both how we got here and why change is so very difficult. Is there a solution? Or are we just stuck? Before turning to those questions, I turn now to evaluate how the dominant worldview has impacted environmental law.

II. CURRENT ENVIRONMENTAL LAW

For almost forty years,¹¹³ federal environmental law—largely consisting of pollution control statutes aimed at particular environmental media (water, air, and land) and statutes aimed at protecting special places and things—has remained unchanged in its approach and reach. As a general matter, we can situate these federal environmental laws into four categories.¹¹⁴

A. *Categories of Federal Environmental Laws*

First, there are *pollution control by media or substance* laws. These include, among others, the Clean Water Act,¹¹⁵ the Clean Air Act,¹¹⁶ RCRA,¹¹⁷ CERCLA,¹¹⁸ and the OPA.¹¹⁹ One example of a media-specific statute is the Clean Water Act. That Act prohibits the discharge of pollu-

113. An “explosion” of environmental law occurred beginning in 1970. ROBERT L. GLICKSMAN ET AL., *ENVIRONMENTAL PROTECTION: LAW AND POLICY* 71 (5th ed. 2007).

114. Cf. Amy J. Wildermuth, *Is Environmental Law a Barrier to Emerging Alternative Energy Development?*, 46 *IDAHO L. REV.* 509, 522–23 (2010) (framing themes of environmental law).

115. Clean Water Act, 33 U.S.C. §§ 1251–1387 (2006).

116. Clean Air Act, 42 U.S.C. §§ 7401–7671q (2006).

117. Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901–6992k (2006).

tants from point sources into navigable waters unless it is permitted.¹²⁰ The OPA, on the other hand, is a substance-specific statute. It regulates discharges of a specific substance, oil, into navigable waters or adjoining shorelines or the exclusive economic zone.¹²¹

The second category of statutes are those that *protect discrete resources*. These include statutes like the Safe Drinking Water Act,¹²² the National Wild and Scenic Rivers Act,¹²³ and the Endangered Species Act.¹²⁴ The Endangered Species Act, for example, protects those species that are listed under the Act because they are “in danger of extinction throughout all or significant portions of their range.”¹²⁵ The protections afforded to listed species under the Act include preventing the federal government and private parties from harming the species in a variety of ways, including adversely modifying the species’ habitat.¹²⁶

Third, more specialized protection of discrete resources is provided by the *protection of federal lands* statutes. These include, among others, the Antiquities Act¹²⁷ (the mechanism for designating National Parks and Monuments), the National Wildlife Refuge System Administration Act,¹²⁸ and the Wilderness Act,¹²⁹ as well as both FLPMA¹³⁰ and NFMA.¹³¹ These statutes dictate what can be done on public lands, and range from allowing more limited land uses in places like National Refuges and National Parks, to permitting a wider range of use options for National Forests and federal lands managed by the Bureau of Land Management.¹³²

118. Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§ 9601–9675 (2006).

119. Oil Pollution Act, 33 U.S.C. §§ 2701–2763 (2006).

120. 33 U.S.C. § 301(a).

121. 33 U.S.C. § 2702(a).

122. Safe Drinking Water Act, 42 U.S.C. §§ 300f to 300j-26 (2006).

123. National Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271–1287 (2006).

124. Endangered Species Act, 16 U.S.C. §§ 1531–1544 (2006).

125. 16 U.S.C. § 1532(6).

126. See ERIC T. FREYFOGLE & DALE D. GOBLE, *WILDLIFE LAW: A PRIMER* 255–77 (2009).

127. Antiquities Act, 16 U.S.C. §§ 431–433 (2006).

128. National Wildlife Refuge System Administration Act, 16 U.S.C. §§ 668dd–668ee (2006).

129. Wilderness Act, 16 U.S.C. §§ 1131–1136 (2006).

130. Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701–1787 (2006).

131. The National Forest Management Act, 16 U.S.C. §§ 1600–1687 (2006).

132. See, e.g., A. Dan Tarlock, *Ecosystem Services in the Klamath Basin: Battlefield Casualties or the Future?*, 22 J. LAND USE & ENVTL. L. 207, 232 (2007) (“Wildlife refuges are a category of public land withdrawal which falls between the limited use mandates that characterize (or once did) the national park system and the expansive, open-ended multiple use management mandates of withdrawals such as forests and grazing lands.”); U.S.D.A. FOREST SERVICE/NAT’L PARK SERVICE, *THE GREATER YELLOWSTONE AREA INTERAGENCY FIRE MANAGEMENT PLANNING AND COORDINATION GUIDE 1* (2000), <http://www.nps.gov/yell/parkmgmt/upload/appendixc.pdf> (“National Forests and National Parks have been managed differently, as specified in their original Congressional mandates. National Parks were founded upon the principles of preservation, public enjoyment, and non-interference with natural processes. National Forests were established on conservation principles; the wise multiple-use of natural resources.”).

Finally, there are the *procedural and information* statutes, which include statutes like NEPA,¹³³ the Emergency Planning and Community Right-to-Know Act,¹³⁴ the Toxic Substances Control Act,¹³⁵ and FIFRA.¹³⁶ NEPA, for example, requires an analysis of the environmental impact of any federal action that will significantly affect the environment.¹³⁷ The statute does not, however, require an agency to pick the “best” option for the environment; it only requires that an agency evaluate its options in some detail.¹³⁸ In other words, “the Act is understood as controlling only *how* agencies go about their decisionmaking[,] not *what* they actually decide to do.”¹³⁹

B. Shortcomings of Current Federal Environmental Laws

After organizing the statutes in this way, four themes emerge that illustrate the shortcomings of these laws.

First, it is clear that we require information to be collected and reported on environmental harms but that information tends to be a measure of only the worst stuff, those things identified as toxics.¹⁴⁰ Information gathering is surely a good place to start when tackling a problem and, to be fair, most environmental statutes include information collecting and reporting provisions.¹⁴¹ These statutes have in some instances alerted us to the presence of pollutants in the environment, as well as shed some light on environmental decisions.¹⁴² There remain, however, wide gaps in our knowledge of many toxic chemicals used in high volumes.¹⁴³ Moreover, information statutes are largely toothless. As noted above, NEPA is simply a stop-and-think-about-it statute with no underlying substantive goals or measures for ecosystem health.¹⁴⁴

Second, we typically protect discrete resources and special places. We have preserved a few natural special places, like National Parks, but those are typically without human habitation.¹⁴⁵ We have also made an effort to

133. National Environmental Policy Act, 42 U.S.C. §§ 4321–4370h (2006).

134. Emergency Planning and Community Right-to-Know Act, 42 U.S.C. §§ 11001–11050 (2006).

135. Toxic Substances Control Act, 15 U.S.C. §§ 2601–2692 (2006).

136. Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 136–136y (2006).

137. ROBERT W. ADLER & DAVID M. DRIESEN, ENVIRONMENTAL LAW: A CONCEPTUAL AND PRAGMATIC APPROACH 330 (2007).

138. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (“[I]t is now well-settled that NEPA itself does not impose substantive duties mandating particular results, but simply prescribes the necessary process.”).

139. WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW § 9.1, at 810 (2d ed. 1994).

140. See ADLER & DRIESEN, *supra* note 137, at 373–76 (discussing TSCA).

141. See *id.* at 377.

142. See *id.* at 379.

143. *Id.* at 375–76.

144. See *supra* note 138.

145. See FREYFOGLE, *supra* note 71, at 101 (“One of the implications of the wilderness image is that the presence of humans in the landscape is a bad thing.”).

preserve species from extinction under the Endangered Species Act, but when making the decision to protect a species, we are not required to ask what species are more important to the health of the whole ecosystem, a critical question if we are concerned with all of the living creatures inhabiting a place, not just individual organisms.¹⁴⁶ Nor have we thought much about how we might preserve ordinary places, the places where humans live too.¹⁴⁷

Third, we largely separate the environment into bits and pieces rather than looking at the whole. Pollutants found in air emissions often become water problems or hazardous waste problems when filtered by air pollution control equipment.¹⁴⁸ If air emissions are instead left uncontrolled, these pollutants might also deposit in water or on land. Moreover, we tend to separate the work of the agencies charged with administering environmental statutes in the same ways that the law categorizes them. The fact that these things are interconnected is easy to miss if one simply reads the statutes.

Fourth, in addition to the separation of the pieces, these laws have a last-minute feeling to them. Pollution statutes, for example, do not intervene early in a commercial process or require us to consider natural limits before proceeding to take actions that will harm the environment. Instead, they focus largely on the end results of industrial processes, save for some weaker pollution prevention provisions.¹⁴⁹ In addition, consider the Endangered Species Act, the best example of this last-minute phenomenon: The law waits until literally the last minute, when a species is threatened with extinction, before requiring that steps be taken to protect the species.¹⁵⁰ If we were to draw an analogy to human health, these laws appear to be performing triage; they are the equivalent of an emergency response to environmental problems, an ER or Urgent Care.

We could, of course, think of much good that has been done by these statutes.¹⁵¹ On the other hand, we could find many law journal articles (not to mention other kinds of articles) criticizing the details of these statutes. Rather than focus on the details, my goal here is to think about the whole of federal environmental law and how it was shaped by and still reflects our current materialistic approach.

Returning to our root causes of environmental degradation, we can see many of them at play in environmental law generally. First, humans are viewed as separate from nature. The focus of many pollution-control stat-

146. *See id.*

147. *See id.* at 103 (“We need places on Earth to live and enjoy, which means that we need a workable, sustainable vision of using the land.”).

148. *See* ADLER & DRIESEN, *supra* note 140, at 388.

149. *See* GLICKSMAN ET AL., *supra* note 113, at 832–34.

150. *See* FREYFOGLE & GOBLE, *supra* note 126, at 241–42 (2009).

151. *See, e.g.*, ROBERT W. ADLER ET AL., *THE CLEAN WATER ACT 20 YEARS LATER* 85 (1993) (reporting that “significant progress has been made in some areas” as a result of the Clean Water Act).

utes is human health rather than broader ecological well-being. Even those statutes that do a better job of attempting to protect nature, rather than focusing on people, only do so in places where people do not live. Moreover, the faith in science is clear in end-of-the-pipe solutions, where we seem to assume that we should and will master nature.

Nowhere to be found is the impulse to think about an entire industrial process or, for that matter, consumption generally. There is, at bottom, no acknowledgment of any natural limits. To make this even more concrete, I return again to the *Exxon Valdez* disaster.

C. *The Shortcomings of Federal Environmental Law with Respect to the Exxon Valdez Spill*

In March 1989, when the *Exxon Valdez* ran aground, although it was nearly twenty years since what many regarded as the environmental law revolution, the environmental statutes provided only limited relief with respect to the spill.¹⁵² In fact, only one major environmental statute, the Clean Water Act, applied.¹⁵³

Under the Clean Water Act, the federal government was authorized but not required to clean up oil spills into waters of the United States.¹⁵⁴ If the government did clean up, it was entitled to recover either its costs (if the spill was the result of willful negligence or misconduct that the owner knew about)¹⁵⁵ or a statutory amount based on the type of vessel.¹⁵⁶

Private parties, however, could not recover under the Clean Water Act.¹⁵⁷ The oil spilled from the tanker also was not covered under CERCLA, the key hazardous waste cleanup statute.¹⁵⁸ What explains this curious exclusion? William Rodgers, Jr., notes in his leading treatise that the Act “slipped through Congress with a surprise exclusion of petroleum from the statutory definition of ‘hazardous substance.’”¹⁵⁹ But perhaps the better explanation comes from Cesar Periera:

The petroleum exclusion is the result of yet another example of oil companies successfully influencing the political process to limit their liability for the negative environmental and health im-

152. Browne Lewis, *It's Been 4380 Days and Counting Since EXXON VALDEZ: Is It Time To Change the Oil Pollution Act of 1990?*, 15 TUL. ENVTL. L.J. 97, 101 (2001).

153. See *Exxon Shipping Co. v. Baker*, 128 S. Ct. 2605, 2613 (2008) (describing other federal statutes under which the government criminally charged Exxon, which were the Refuse Act of 1899, 33 U.S.C. §§ 407, 411; the Migratory Bird Treaty Act, 16 U.S.C. §§ 703, 707(a); the Ports and Waterways Safety Act, 33 U.S.C. § 1232(b)(1); and the Dangerous Cargo Act, 46 U.S.C. § 3718(b)).

154. See 33 U.S.C. § 1321 (2006).

155. Lewis, *supra* note 152, at 102.

156. *Id.*

157. *Id.* at 103.

158. *Id.* at 104.

159. RODGERS, *supra* note 5.

pacts of their product. After the 1980 Presidential election, CERCLA supporters realized they would have little chance of passing the Act under a Republican administration and so if the Act was going to pass it would have to be done quickly, without much debate, before the newly elected President Reagan took office. Realizing that attempting to pass CERCLA without a petroleum exception would prevent its quick passage because of oil and gas industry opposition, authors of the bill agreed to include the exception. The compromise allowed the bill to pass with little debate and before the Regan [sic] administration took over the White House.¹⁶⁰

Prior to the *Exxon Valdez* spill, then, there was very little federal environmental law covering oil spills. The reason? Like the explanation for the exclusion of petroleum from CERCLA, President Carter observed in 1977 that “the influence of the oil companies . . . in the legislative process, in the Executive Branch of the government . . . , [and] in the economic structure of our country, is enormous.”¹⁶¹

In other words, the economics of materialism had led to a technologically-driven, fossil-fuel based energy system that operated under the assumption that there were no natural limits to what they were doing. This created a very powerful industry, which was able to lobby for very little regulation. As a result, although the *Exxon Valdez* spill caused massive environmental degradation—the spill “is widely considered the number one spill worldwide in terms of damage to the environment”¹⁶²—there was little that the law had to say about it.

In sum, the law fell well short of the mark in terms of creating legal regimes that might prevent a tragedy like the *Exxon Valdez* spill and providing relief to those affected by the spill.¹⁶³ One might be tempted to think that, when acting to correct that mistake, Congress would have done a better job in drafting the OPA.¹⁶⁴ The OPA, however, fares only marginally better.

160. Cesar Periera, *Protecting the “Underground Seas”: A Case for Protecting and Creating Claims Against Oil Companies for Methyl Tertiary Butyl Ether (MTBE) Groundwater Contamination*, 12 U. BALT. J. ENVTL. L. 1, 21 (2004) (footnotes omitted); see also Daniel L. McKay, *RCRA’s Oil Field Wastes Exemption and CERCLA’s Petroleum Exclusion: Are They Justified?*, 15 J. ENERGY NAT. RESOURCES & ENVTL. L. 41 (1995); Roger Armstrong, *CERCLA’s Petroleum Exclusion: Bad Policy in a Problematic Statute*, 27 LOY. L.A. L. REV. 1157 (1994); James Baller, *The Petroleum Exclusion—Stronger Than Ever After Wilshire* Westwood, 43 Sw. L.J. 915, 918–19 (1990).

161. Armstrong, *supra* note 160, at 1171 n.113 (citing *President: ‘Potential War Profiteering’ in Energy Crisis*, WASH. POST, Oct. 14, 1977, at A8).

162. *Exxon Valdez* Oil Spill Trustee Council, Questions and Answers, <http://www.evostc.state.ak.us/facts/qanda.cfm> (last visited March 14, 2010).

163. See *supra* note 4.

164. Robert V. Percival, *The Globalization of Environmental Law*, 26 PACE ENVTL. L. REV. 451, 463 (2009).

The OPA's aim is to provide a solution that prevented a particular crisis from ever happening again: massive oil spills. It erected a new liability scheme to deter risky behavior and established new requirements for crews and tankers aimed at preventing spills.¹⁶⁵ It even went so far as to include several measures directly aimed at Prince William Sound, measures designed to protect the degraded Sound as much as to avoid a similar tragedy.¹⁶⁶ Thus, the OPA, like other environmental statutes, is a narrow, end-of-the-process kind of solution. It is aimed at protecting a particular resource, the seas, from a particular substance, oil.

Even without engaging in extensive substantive criticisms of the OPA as other have,¹⁶⁷ it is clear that the OPA is only a limited remedy, one that suffers, just as other environmental laws do, from the failure to address the root causes of environmental degradation. For example, the OPA is focused on one thing in one place: oil in water. There is no consideration of the fact that oil causes great environmental harm, particularly in water, and we might be better off without it being shipped. There is, in other words, no recognition of the natural limit to our environmental resources; materialism is only interested in growth and insuring that any impediment to that growth is minimal.¹⁶⁸ Furthermore, the heightened standards for the construction of tankers, such as mandatory double hulls, reflect a sense that science and technology will again prevail, with no consideration of options short of shipping oil through sensitive aquatic ecosystems.

Did the spill at least lessen the power of oil companies? Oil remains excluded from CERCLA, and is only marginally covered under the Clean Water Act. As the one act that does cover them, one would expect that the OPA would at least require oil companies to cover the costs of an oil spill cleanup. Most agree, however, that the OPA's liability caps are set too low to cover most cleanups.¹⁶⁹ It is hard to imagine a better testament to the tremendous power of the industry.

III. CONCLUSION

In sum, there is much work left to do. We have yet to grapple with, in any meaningful way, why (1) a tanker holding (2) fifty-three million gallons of (3) oil was in (4) Prince William Sound. Engaging this inquiry will

165. See Russell V. Randle, *The Oil Pollution Act of 1990: Its Provisions, Intent, and Effects*, 21 ENVTL. L. REP. 10,119, 10,132 (1991) (arguing that new operational and technological controls were required that would "result in better trained, better tested, and unimpaired crews" as well as better constructed tankers).

166. See, e.g., 33 U.S.C. § 2737 (2006) ("[T]ank vessels that have spilled more than 1,000,000 gallons of oil into the marine environment after March 22, 1989, are prohibited from operating on the navigable waters of Prince William Sound, Alaska.").

167. See, e.g., Lewis, *supra* note 152, at 125-28 (arguing for discrete changes to OPA).

168. See Daly, *supra* note 29, at 100.

169. See Lewis, *supra* note 152, at 127.

require us to rethink, at a fundamental level, our materialistic worldview and the economic system it spawned.

We will need to begin by acknowledging the limits of nature's capital, and realize that we are likely beyond them. When it comes to population, we are consuming too much on a per person basis. To fix this, we may be required to live more simply, a change that many fear but that may well leave us as happy as we were before. We will need to begin to exercise more caution with respect to science and technology, realizing that we probably need far less of it than we have been led to believe. We will need to begin to think more collectively and less individualistically when it comes to property and the environment. And finally, we will need to design effective mechanisms that limit the power of companies to degrade the environment themselves as well as hinder the efforts of others to improve ecosystem health.

As we take up the exercise of addressing root causes, the law will need to change to encourage as well as limit behaviors. In general terms, we will need to think in longer horizons; to see the landscape as a whole and see natural limits; and to rethink our mechanisms for allocating decision making and power. Whether that discussion can capture Americans' attention without a crisis remains to be seen. Perhaps, though, the *Exxon Valdez* tragedy and the still-present oil in the Sound will continue to remind us that we are long overdue to begin this important work.