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The Polar Bear Ethic: From the Reactionary Trend in Environmental Lawmaking to the Climate Change Imperative

INTRODUCTION

We know that Earth's climate is changing—or, in the United States, perhaps half of us do. According to Gallup's 2011 Environment Poll, which surveyed 1,021 American adults on eight

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environmental issues, forty-eight percent are not much or not at all concerned about the effects of climate change, while seventy-five percent or more worry about other environmental issues, such as soil and water contamination, drinking water pollution, and the protection of the nation's fresh water supply for household needs.[1] And while over sixty percent are concerned about the extinction of plant and animal species, surveyed Americans were more worried about the same eight environmental issues, including air pollution and the loss of rainforests, posed to them ten years ago than they are today.[2]

There is then a difficulty in reconciling this lack of concern with what researchers exploring the issue of climate change do know. In December 2012, the Environmental Protection Agency (EPA) released its second edition of *Climate Change Indicators in the United States*, which begins by stating outright that "[h]istorical measurements show that current levels of many greenhouse gases are higher than any levels recorded for hundreds of thousands of years,"[3] and that "[h]uman activities are responsible for the largest share of climate change since the mid-20th century."[4] The bulk of the 2012 report details why the effects of climate change on society will include an increase in heat-related illnesses and deaths; changes to water quality, water supply, agriculture, and energy production; river, lake, and reservoir pollution; severe storms and flooding; rising oceans and eroding beaches; changes to food sources and other ecosystem-related dependencies such as clean water for households; extinction of species; and a need for life, including humans, to adapt to these changes on larger and faster scales than has been successfully achieved in millennia. Indeed, all seven of the other environmental concerns polled by Gallup in its 2011 survey are at stake in the single issue of climate change. So why is there a lack of public concern for climate change?

Most certainly, the public's minimal concern for climate change has to do with the lack of attention to, and the distractions from, the urgency of this issue. As expressed in Lydia Saad's article for Gallup,

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1 Lydia Saad, *Water Issues Worry Americans Most, Global Warming Least*, GALLUP (Mar. 28, 2011), http://www.gallup.com/poll/146810/water-issues-worry-americans-global-warming-least.aspx.

2 *Id.*

3 EPA, CLIMATE CHANGE INDICATORS IN THE UNITED STATES 6 (2d ed. 2012) [hereinafter EPA I], *available at* http://www.epa.gov/climatechange/pdfs/climateindicators-full-2012.pdf.

4 *Id.* at 5.

the decline of environmental concerns "over the past decade spans a period when the public often expressed surging concern about terrorism, the Iraq war, gas prices, and the economy."[5] But along with international conflicts, financial and employment problems, and manipulated climate data propagated by interest groups, there is a veiled obstacle created by our privileged lifestyles that is preventing us from addressing the causes of climate change, and it is this obstacle—our limited engagement with environmental ethics—that this Article seeks to explain and attempts to resolve.

In considering the industrial values used to decelerate the advancement of our ethical duties, it is important to establish a gauge by which we may view the ethics at play with the particular issue of climate change. Thus the question: how will we react the day we learn that more of Earth's polar bears inhabit caged exhibits at zoos than they do the patchy icescapes they are currently roaming? Might it be with a shrug at unintentional byproducts of human necessity? Or might it be with the flood of alarm characteristic of triggering monumental legislation? Research centered around the western Hudson Bay polar bear population now projects that, in addition to the continued decline of sea ice generally, earlier-than-usual spring-ice breakups will result in severe reductions in females' reproductive capacities with as many as fifty-five to one hundred percent of the region's females producing no offspring if the breakups come two months earlier.[6] Without serious policy efforts to mitigate greenhouse gas (GHG) emissions, the remaining 900-or-so of Earth's southernmost polar bear population—already 300 less than just a decade ago—will cease to remain viable.[7] This effect, of course, is not limited to the western Hudson Bay population of the species, and many are predicting that the entire species in its natural habitat, numbering around 20,000 to 25,000 today, may be lost "within one (human) generation"—twenty-five years.[8]

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5 Saad, *supra* note 1.

6 *See* Péter K. Molnár et al., *Predicting Climate Change Impacts on Polar Bear Litter Size*, 2 NATURE COMM., Feb. 2011, at 1, *available at* http://www.nature.com/ncomms/journal/v2/n2/pdf/ncomms1183.pdf.

7 *See generally* Pete Spotts, *Polar Bear 'Doomed'? Only if Greenhouse-gas Emissions Aren't Cut*, CHRISTIAN SCI. MONITOR (May 9, 2011), http://www.csmonitor.com/Environment/2010/1215/Polar-bear-doomed-Only-if-greenhouse-gas-emissions-aren-t-cut.

8 *Polar Bears Could Be Extinct in 25 years*, HINDU (New Delhi), Dec. 9, 2012, http://www.thehindu.com/sci-tech/energy-and-environment/polar-bears-could-be-extinct-in-25-years/article4180922.ece.

While most eyes in the United States fix on budget cuts and short-term economic mending for the next decade, pleas for further financing to address issues of climate change will undoubtedly fall upon many deaf ears in Congress. In fact, the issue of climate change did not even arise in the 2012 presidential debates between President Barack Obama and Republican challenger Mitt Romney—the first time in over twenty-five years the issue was completely excluded from such contests.[9] The fact is a harbinger of the lack of federal priority that can be expected to continue for any substantial policy efforts over the next several years. There is little momentum for any substantive deal to ensure even a shadow of security for the Arctic survival of the great white bear. Even in our own Alaska, where sea ice has thinned by forty percent since the 1960s and retreated by fourteen percent since 1978, the effects of climate change will continue to diminish the essential habitat where polar bears conceive and access food—both for themselves and any cubs they might be able to produce.[10]

With this as background, the following parts of this article will explore the ethical stances and environmental legislation the people of the United States have taken in response to threatened megafauna in the past and why, with climate change, and with the polar bear in particular, they must be different. In Part I, I will address the risks that lie ahead for the polar bear as the effects of climate change continue to mount and examine society's current capacity to respond. In Part II, I will look at the reactionary trend in environmental lawmaking that we have used in the past and discuss why the species-specific approach to policymaking does not work with climate change. I will also examine the internationally popular "precautionary principle" and its value to domestic legislation. In Part III, I will explore the ethical bedrocks that helped to shape environmental laws and where those ethics must broaden for the fight against climate change to be effectual. The conclusion surveys the near future of climate change effects and the road ahead for climate change legislation, and it outlines the suggested "polar bear ethic" that this article asserts to be the most critical ethical imperative in the United States. Neither the

9 *See* Tom Zeller, Jr. & Joanna Zelman, *Climate Change Not Mentioned in Presidential Debates for First Time in a Generation*, HUFFINGTON POST, Oct. 23, 2012, http://www.huffingtonpost.com/2012/10/23/climate-change-presidential-debate_n_2004067.html.

10 *See Overview: Alaska*, U.S. GLOBAL CHANGE RES. PROGRAM, http://www.globalchange.gov/component/content/article/52-reports-and-assessments/476-overview-alaska (last visited Feb. 5, 2014).

article nor the proposed action pretends neutrality. The problems rooted in twentieth century capitalist practices and consumerist culture will be left for future generations, and so too will the dangerously spiraling effects. It is then a problem of ethical immediacy, lest the United States and the world face a problem compounded by time and at far worse costs.

I
THE POLAR BEAR PROBLEM: A SYMBOL OF CLIMATE CHANGE DANGERS

The reason to focus on the polar bear, of all the species which are currently—and will continue to be—critically affected or eliminated by climate change, is that it possesses the features of what is often called charismatic megafauna; that is, a flagship species with widespread popular appeal, often misperceived as soft and cuddly as cubs or adults, but with which people most sympathize nonetheless.[11] Many environmental organizations have utilized this feature of imbued sympathy of certain wild animals to represent their organizations and their causes, as the use of the giant panda by the World Wildlife Fund demonstrates. It is often not until problems such as endangered habitat, overhunting, or mass extinction extends to one of these charismatic species that the public overwhelmingly responds. As the social scientist Matthew Nisbet noted in his 2010 paper, "communication is not simply a translation of facts but more importantly a negotiation of meaning. In this light, science and its policy implications need to be communicated in ways that address an intended audience's values, interests, and worldviews."[12] Yet, without employing one of these megafauna as an umbrella figure in addressing the risks lying ahead, climate change and its causes may remain an uncertain topic requiring little change to the routines and concerns of many in the United States, as Gallup's 2011 Environment Poll suggests.

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11 For an examination of the origin, definition, and role of flagship species and an analysis of the strategic purpose in using large mammals in this way, see Nigel Leader-Williams & Holly T. Dublin, *Charismatic Megafauna as 'Flagship Species'*, *in* PRIORITIES FOR THE CONSERVATION OF MAMMALIAN DIVERSITY: HAS THE PANDA HAD ITS DAY? 53 (Abigail Entwistle & Nigel Dunstone eds., 2000).

12 Matthew C. Nisbet, *Framing Science: A New Paradigm in Public Engagement*, *in* COMMUNICATING SCIENCE: NEW AGENDAS IN COMMUNICATION 41 (LeeAnne Kahlor & Patricia Stout eds., Routledge 2010).

When the day arrives that the polar bear, which is to some extent already seen as the symbolic figure for climate change dangers,[13] faces the effect of postponed and hindered legislative action, the limits of America's environmental ethics will determine the way the nation deals with the most serious challenges ahead. In recognizing the limits on the reach of public ethics, it seems that at the current time, the most effective actions in response to climate change will only come with a grave cost to the polar bear. The privileges of American society embed the brakes used to keep people from extending equal value to all living things. Until those brakes are lifted—if only a bit—to allow for public recognition of climate change dangers and the value of all species in biodiversity, the impending extinction of the wild polar bear may be the only practical avenue to elicit a mainstream outcry for climate change action. And yet, by allowing that point to be reached, we risk the chance that we ourselves may be too engulfed in addressing the direct threats to humanity to respond to the injuries pressed on wild species.

A. Risks of Climate Change to the Polar Bear

Though perhaps unheard of or simply dismissed by a sizable portion of Americans, the risks inherent to climate change are no secret, and they are far more consequential than commonly perceived. As global temperatures continue to rise, the most immediate damage will be borne by the major feature of the Arctic: sea ice. Sea ice is an essential part of the marine ecosystem of the Arctic upon which many species rely.[14] Across the lower forty-eight states, temperatures have risen by an average of 0.13ºF each decade of the twentieth century, about 1.3ºF in total.[15] They have risen even more quickly since the 1970s—nearly twice the global rate,[16] with the 2000s being the

13 *See, e.g.*, *Nissan LEAF: Polar Bear* (Nissan 2010), *available at* http://www.future nissan.com/polar-bear.htm (depicting melting ice, collapsing glaciers, and a polar bear that travels from the Arctic to suburbia to hug a man who is driving Nissan's electric car); *see also* AN INCONVENIENT TRUTH (Paramount Classics 2006) (depicting, in computer-generated imagery, a polar bear swimming as it struggles to find sea ice sturdy enough to climb upon).

14 Andrew E. Derocher, *Polar Bears and Climate Change*, ACTION BIOSCIENCE (May 2008), http://www.actionbioscience.org/environment/derocher.html.

15 EPA I, *supra* note 3, at 25.

16 EPA, CLIMATE CHANGE INDICATORS IN THE UNITED STATES 21 (1st ed. 2010) [hereinafter EPA II], *available at* http://www.epa.gov/climatechange/pdfs/CI-full-2010 .pdf.

warmest decade worldwide on record.[17] The Arctic sea ice, which typically reaches its minimum levels in mid-September, is considered to be a sensitive indicator of climate change by the EPA, and it holds great value reaching far beyond its regional inhabitants.[18] More reflective than liquid water, sea ice has a vital role in the regulation and stabilization of the global climate. However, the Arctic, more than any other ocean, has seen the largest warming of its surface. This trend is also affecting other oceans, including the Indian, the western Pacific, and the majority of the Atlantic.[19] With 2012 being the hottest single year on record, "[t]he minimum extent of Arctic sea ice has decreased over time, and in September 2012 it was the smallest on record."[20]

As the science now projects, "[w]ithout drastic cuts in greenhouse gas emissions by mid-century, temperatures will rise by *at least* another 2° to 4.5° C by 2100."[21] Along with the rise in temperatures comes reduced ice cover, which is already ten percent less globally than it was in the late 1960s.[22] And while some scientists are predicting an ice-free summer in the Arctic for the first time in a millennium as soon as 2030,[23] others hold that if current trends continue, "such summers will happen within a decade."[24] Certain cases, such as Greenland's ice sheet, which is already melting at double the rate it was ten years ago,[25] and the west Antarctic ice sheet, which may be vulnerable to warm currents and thus sudden collapse,[26] are encouraging glaciologists and climatologists to examine more closely the possibilities of abrupt climate change effects and any resulting rapid climate change events.

A bulk of the debates and studies on the consequences of climate change tend to focus on the continuing upsurge of atmospheric GHGs

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17 *Id.*

18 *See* EPA, *supra* note 3, at 48.

19 James E. Hansen et al., *Global Surface Temperature Change*, 48 REVIEWS GEOPHYSICS, Dec. 2010, at 1, 12.

20 EPA I, *supra* note 3, at 8.

21 Durwood Zaelke et al., *After 'The Day After Tomorrow': What Will Society Learn from the Inevitability of Rapid Climate Change Events*, 15 NAT'L STRATEGY FORUM REV., Fall 2006, at 16, 16 (emphasis added).

22 *Id*.

23 *Id*.

24 Michael Le Page, *Global Warning*, NEW SCIENTIST, Nov. 2012, at 34, 35.

25 Zaelke et al., *supra* note 21, at 16–17.

26 Le Page, *supra* note 24, at 37.

and gradual rises in temperature. Yet, this "ignores recent and rapidly advancing evidence that Earth's climate repeatedly has shifted *abruptly* and *dramatically* in the past, and is capable of doing so in the future."[27] Sea ice is more than just a platform for polar bears; it is their natural habitat and serves as the habitat for many of the species they rely on as well, such as phytoplankton and fish.[28] Data on the western Hudson Bay polar bear population currently points to sea ice continuing to decline as well as earlier-than-usual spring-ice breakups, leading to a majority of the region's females not breeding if the breakups begin even two months earlier than average.[29] These sharp reductions in numbers for succeeding generations may start to be seen as soon as the next few summers.[30] The growing rate of sea-ice loss alone will bring the wild polar bear to global extinction as early as the end of the twenty-first century.[31] But additional losses in access to food sources—which have "resulted in polar bear cannibalism off the north coast of Alaska and Canada"—and in reproduction capacities leave new generations ever more susceptible to early death.[32] Loss of sea ice is "similar to deforestation of tropical rain forests: lose the habitat and, with few exceptions, you lose the species."[33] With the Arctic now warming "twice as fast as any other region on the planet,"[34] a global population crash in polar bears is foreseeable as drowning, intra-species consumption, and starvation become more frequent, damaging each generation more deeply than the last until extinction.

B. Society's Capacity to Respond

As a whole, society's ability to sufficiently respond to a particular danger is dependent upon the actions of the cooperative, and particularly those performed legislatively through its governing

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27 ROBERT B. GAGOSIAN, ABRUPT CLIMATE CHANGE: SHOULD WE BE WORRIED? 2 (2003), *available at* http://www.whoi.edu/cms/files/dfino/2006/1/Abruptclimatechange_7229.pdf.

28 Derocher, *supra* note 14.

29 Molnár et al., *supra* note 6.

30 *See id.* at 4.

31 NAT. RESOURCE DEF. COUNCIL, POLAR BEARS ON THIN ICE (2007), *available at* http://www.nrdc.org/globalwarming/thinice.pdf.

32 *Id.*

33 Derocher, *supra* note 14.

34 Le Page, *supra* note 24, at 35.

body.[35] Individuals may certainly guard themselves from other individuals by personal means. But American society relies on government for general protection from forces beyond its control, and so too does the environment. When enough of the public is concerned about or threatened by a particular danger, elected officials will often drop their politicking to address the issues presented by either passing laws or by implementing executive decisions to alleviate public concerns. Similarly, when enough of the population demands a remedy to an environmental harm, the people call upon the government to take the necessary measures in mitigating such harms. This is our reactionary trend, and it has often been the methodology of environmental change over the past forty years, seen most recently (though with surprising obstruction) in the wake of Hurricane Sandy.

The long-lasting harm facing the polar bear, however, is poignant and unusual. Unlike many of the anthropogenic dangers that have threatened species in the past, climate change's threat to the polar bear is not the result of a single, identifiable industry, such as whalers or lumberyards.[36] Instead, the threat stems from a broad spectrum of major economic industries and profit-yielding standards, which many in the United States fundamentally embrace. And while some in the public sector petition for an overhaul in the way our nation produces, manufactures, functions, and develops resources, others view such claims as unfounded, or worse, un-American.[37] Businesses with deep economic interests in keeping the production and consumption status

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35 For an insightful analysis of societal influence on governmental performance among the American states, see Stephen Knack, *Social Capital and the Quality of Government: Evidence from the States*, 46 AM. J. POL. SCI. 772 (2002).

36 Of course, hunters and international inaction, like the recent rejection of the U.S.-proposed ban on the international trade of polar bear parts, do not help in sustaining polar bear populations. Canada, Norway, Greenland, and others at the March 2013 Convention on International Trade in Endangered Species of Wild Fauna and Flora meeting in Bangkok, Thailand, joined in blocking the American delegation's proposed embargo. "About 800 polar bears are killed by subsistence hunters each year . . . . [And] [h]ides can sell for $2,000 to as much as $12,000 . . . ." Brad Lendon, *World Rejects New Protections for Polar Bears*, CNN (Mar. 8, 2013 10:09 AM), http://www.cnn.com/2013/03/07/world/polar-bear-protections.

37 For example, in 2011, at a time when congressional Democrats were seeking to discontinue several tax breaks for oil companies, a ConocoPhillips spokesman—just prior to a scheduled appearance before the Senate Finance Committee—"call[ed] the tax proposal 'un-American' and [said] it would discourage exploration and cost jobs." Steve Benen, *Putting Big Oil on the Hot Seat*, WASH. MONTHLY (May 12, 2011, 8:30 AM), http://www.washingtonmonthly.com/political-animal/2011_05/putting_big_oil_on_the_hot_sea029514.php.

quo, and which have the financial resources to ensure as much, only serve to raise the level of public support necessary to motivate legislative or executive changes.

In addition to exploiting opposing views and proposing cherry-picked statistics to confuse the facts about climate change, many who profit in maintaining the status quo, including politicians and trusted correspondents in the opinionated news business, use recent and ongoing weather to reject the issue entirely and do so to devastating success. Cool weather during the summer of 2009 and snowstorms over the last few winters, for example, are now contributing to "increased public skepticism about the concept of 'global warming,' especially in the United States."[38] The fallacy here is that *climate* is interchangeable with *weather*—which, much to the dismay of climatologists, many people continue to believe. The EPA expresses the difference quite simply: "Weather is the state of the atmosphere at any given time and place . . . . Climate is the average weather in a given place, usually over a period of more than 30 years. While the weather can change in just a few hours, climate changes occur over longer timeframes." [39] Aspects of weather include temperature, precipitation, clouds, wind, and severe conditions such as blizzards, hurricanes, and tornadoes whereas aspects of climate include the "type, frequency, and intensity of weather events such as heat waves, cold waves, storms, floods, and droughts" in addition to average temperature and precipitation.[40]

Although obscuring these definitions only serves to confuse the public's sense of the reality of climate change, and thus the urgency of its implication, it seems to be the politicization of the issue that most impedes the communication of scientific data to the public. This leads many to consider whether former Vice President Al Gore should have followed the likes of Anne Brontë and Samuel Clemens in using a *nom de plume* for his signature book *An Inconvenient Truth*—and, if he had, whether federal legislation to reduce GHG emissions would already be in place.[41] This question hardly touches on the very real discrepancy between Republicans and Democrats in recognizing, or at least admitting to, climate change threats. And while this article does

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38 Hansen et al., *supra* note 19, at 17.

39 EPA II, *supra* note 16.

40 *Id*.

41 *See* Matthew E. Kahn, *Political Polarization of Climate Change Is on the Rise*, CHRISTIAN SCI. MONITOR (May 9, 2011), http://www.csmonitor.com/Business/Green-Economics/2011/0509/Political-polarization-of-climate-change-is-on-the-rise.

not delve deeper into the matter, it is worth noting, as many journalists have detected, that the denial of anthropogenic global warming has become a litmus test for a candidate's true conservativeness, as was seen at the 2012 Republican presidential debate in South Carolina.[42]

The chief result of the politicization of the issue is that laypeople are inclined to focus on the regularity and degree of warm and cold variances—the weather. In response, many climatologists maintain that the strongest answer is in the fact that both frequency and magnitude "change noticeably on decadal time scales as global warming increases."[43] They propose that repetition of "clear description[s] of the science and passage of sufficient time to confirm validity of the description" will gradually convince the public.[44] Yet, as an article published by the Sierra Club stated, "America's climate blindness hasn't been helped by scientists who've been reluctant to emerge from their ivory towers to defend their methods and conclusions in public."[45] That article also asserts that, if given the hard facts and level of certainty behind climate predictions, "pragmatic Americans surely would take the dangers of climate chaos to heart and act before 'worst case' became reality."[46] With all the evidence illustrating a dismal future for the polar bear, and potentially for itself, why has the public not already spoken overwhelmingly on the matter? The answer may be a lack of leadership; after all, "[h]ow society responds to climate change is a question of governance."[47] Or it may be more than that.

In his chapter on framing scientific facts, Matthew Nisbet suggests "science organizations should work with communication researchers to commission surveys, focus groups, and other analyses that can identify effective messages and media platforms."[48] He argues that the assumption that "simply 'informing the public' of the facts of science will meaningfully alter the perceptions of either policymakers or citizens" is false and must be replaced with an "audience-based"

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42 *See id*.

43 Hansen et al., *supra* note 19, at 22.

44 *Id.* at 23.

45 Gordy Slack, *Scientists Fight Back*, SIERRA, Mar. 2011, at 16, 16, *available at* http://www.sierraclub.org/sierra/201103/grapple.aspx#stormy.

46 *Id.*

47 Zaelke et al., *supra* note 21, at 18.

48 Nisbet, *supra* note 12, at 60.

approach, [49] one privy of artful persuasion, particularly in understanding its own *pathos*. Yet, while Nisbet thinks it only a risk, the inkling of political purposes underlying such a framework is certain to generate uproar from those who doubt the existence of climate change and its effects. Nevertheless, it seems apparent that, with both the factual and the value-driven appeals in hand, accomplishment may come.

At present, the U.S. Congress has neither the focus to bring beneficial climate change legislation to the floors of the House and the Senate nor the number of votes in both houses to pass it. In the wake of near-economic depression and with elections becoming two- and even three-year ordeals, many politicians will continue to play policy games, advocating for whichever regulations or deregulations are in their immediate political interests. Discrediting environmental threats as luxury concerns for an aristocratic class has long been used in propagandizing the fight between the business community and environmentalists. Using compelling rhetoric to paralyze electorates with fear of federal debt, however, is the newest companion in the climate change deniers' argument, as they suggest that no concern has greater implications for the next generation of Americans than the national debt. But without some colossal steps toward mitigating GHG emissions in the present, climate change will expose future Americans to dangers reaching far beyond their wallets—dangers to their homes and to their lives. So as the polar bear crisis plays out, and as the species' global population dwindles into the twilight of its wild existence, perhaps it is true that pragmatic Americans will respond. As the next Part will examine, while the nation tends to employ an after-the-fact tactic when it comes to legislating against environmental dangers, the past several decades have also demonstrated a capacity of both the people and the government to prospectively and effectively respond. For climate change and for the polar bear, the question is whether or not there will be an intervening response before or after permanent devastation.

II
THE REACTIONARY TREND IN ENVIRONMENTAL POLICYMAKING

Reaction upon incident, especially one considered to be environmentally catastrophic, has been the chief method by which the

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[49] *Id.* at 41.

United States and much of the world takes up environmental policymaking. This is due to a tension of interests between economic efficiency and environmental risk.[50] During the course of the twentieth century, many of the dangers that industrialization posed to the environment were realized, and with the reactionary method that continues to be employed today, it was only the resulting harm upon society that could muster enough public demand for reform. In 1948, the smog over Donora, Pennsylvania, left twenty-two people dead and nearly 6,000 sick.[51] The American Steel and Wiring Company, which operated the mills and smelters in the city, paid $235,000 to settle the lawsuits it faced.[52] The so-called Great Smog of London, a consequence of substantial pollution, left about 4,000 people dead by 1952 according to a Ministry of Health report.[53] As the harms upon human populations became more counted, and researchers like Rachel Carson publicized the detrimental effects of certain pollutants and future dangers in the misuse of technology, legislative agendas shifted toward passing more precautionary laws. The Clean Air Act[54] and the Clean Water Act,[55] for example, were passed within a decade of one another.

A. Catastrophe and Response in the Late Twentieth Century

In a century where the United States participated in two World Wars, several military conflicts and operations, and a domestic fight for civil rights, the effects of the nation's disregard for the environment seemed to accumulate without much thought of future consequences of inaction. One personal example is from older relatives who have remarked on the way drivers and passengers once threw cups and bags from their vehicles along the turnpikes and parkways of the Northeast simply because that was what everybody did—it was an accepted element of urban life. The canals of plastic,

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50 *See* Joshua Chad Gellers, *'Cowboy Economics' Versus 'Spaceship Ecology': Constructing a Sustainable Environmental Ethic*, SOC. SCI. RES. NETWORK (Oct. 22, 2010), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1695814.

51 *Steel Company Pays $235,000 to Settle $4,643,000 in Donora Smog Death Suits*, N.Y. TIMES, Apr. 18, 1951, at 33.

52 *Id*.

53 Chirag Trivedi, *The Great Smog of London*, BBC NEWS, Dec. 5, 2002, http://news.bbc.co.uk/2/hi/uk_news/england/2545759.stm.

54 42 U.S.C. §§ 7401–7626 (2012).

55 33 U.S.C. §§ 1251–1387 (2012).

glass, and aluminum that edged the roads through the 1960s and 70s, and the overall aesthetic decay of the Northeast's sprawling suburbs, certainly led to the public's development of societal disapproval and mores against littering and also to many of the littering laws now vigorously enforced. Carol Browner, who served as Administrator of the EPA throughout the Clinton administration and as Director of the short-lived White House Office of Energy and Climate Change Policy, said of this period that cities and states had "essentially failed in their efforts to protect their air and their water, the land, [and] the health of their citizens. By 1970, our city skylines were so polluted that in many places it was all but impossible to see from one city skyscraper to another."[56] Rivers and streams were "fouled with raw sewage and toxic chemicals," [57] and yet, with the exception of Carson's *Silent Spring* and a few other scientific writings, the detriment to nonhuman species remained outside of public concern.

It was not until the tail end of the twentieth century that threats facing other animals, particularly certain megafauna, began to spur major objection from the American public. Further changes in the United States' course of resource use and development would be needed if our nation and the nations of the world were going to act to responsibly preserve the existence of wild animals and landscapes for the enjoyment of current and future generations. Some credit for the initiation of modifying public values, and the twentieth century's environmental movement, is at least in some small part due to a photograph taken at the end of the turbulent 1960s by Apollo 8 astronaut William Anders—commonly titled "Earthrise."[58] Especially for many younger Americans, seeing this first photograph of Earth as a whole planet, uninterrupted by the stiff cables of state and national borderlines, was not anything less than momentous. The late adventure photographer Galen Rowell even dubbed it "the most influential environmental photograph ever taken." [59] Yet, this new impression of Earth as a lone, delicate beauty drifting through the precarious abyss was not, by itself, enough to forge a new priority in the public's attitude toward environmental principles and concerns.

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56 Carol M. Browner, *Environmental Protection: Meeting the Challenges of the Twenty-First Century*, 25 HARV. ENVTL. L. REV. 329, 330 (2001).

57 *Id*. at 331.

58 *Earthrise – Apollo 8*, GREAT IMAGES IN NASA, *available at* http://grin.hq.nasa.gov/ABSTRACTS/GPN-2001-000009.html.

59 *Exploring the Moon, Discovering Earth*, NASA SCIENCE (July 17, 2009), http://science.nasa.gov/science-news/science-at-nasa/2009/17jul_discoveringearth/.

Just over one month after the "Earthrise" image was transmitted from Apollo 8, the largest oil spill in the world up to that date consumed the Santa Barbara Channel in southwestern California, and the reactionary method of environmental policymaking again found employment.

The blowout of Union Oil's Platform A released between 80,000 and 100,000 barrels of crude oil into the channel waters, affecting over forty miles of coastline.[60] Following the blowout, President Richard Nixon, who had been in office for a little more than a week, ordered an investigation, and after he visited one oil-infested beach, he remarked, "The Santa Barbara incident has frankly touched the conscience of the American people."[61] With Santa Barbara being the latest place in what must have seemed to be a string of environmental disasters at that time, President Nixon labeled the 1970s the "Decade of the Environment" and, with the momentum of media and government now behind the environmental movement, a series of conservational and protective laws aimed at environmental security were passed. Within a year after the Santa Barbara oil spill, the EPA—which was proposed and created by President Nixon—began operation and the National Environmental Policy Act (NEPA)[62] was signed into law, establishing the Council on Environmental Quality to ensure that federal agencies were meeting the obligations the act imposed upon them. Environmental catastrophes suddenly became the apparent consequences of unregulated industries left to their own devices.

In 1968, the oil-slicked Cuyahoga River in Cleveland, Ohio, gained international infamy as it "burst into flames and burned with such intensity that two railroad bridges spanning it were nearly destroyed."[63] The river was described as among the worst in the nation—"[c]hocolate-brown, oily, bubbling with subsurface gases, it ooze[d] rather than flow[ed]."[64] The Federal Water Pollution Control

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60 *Brief Oil and Gas History of Santa Barbara County*, COUNTY OF SANTA BARBARA PLAN. & DEV., http://www.sbcountyplanning.org/energy/information/history.asp (last visited Feb. 5, 2014).

61 Jim Byron, *RN's Response to the Santa Barbara Oil Spill*, RICHARD NIXON FOUND. (July 1, 2010), http://blog.nixonfoundation.org/2010/07/rns-response-to-the-santa-barbara-oil-spill/.

62 42 U.S.C. §§ 4321–4347 (2012).

63 *America's Sewage System and the Price of Optimism*, TIME, Aug. 1, 1969, http://www.time.com/time/magazine/article/0,9171,901182,00.html.

64 *Id*.

Administration even noted at the time that "[t]he lower Cuyahoga has no visible life, not even low forms such as leeches and sludge worms that usually thrive on wastes."[65] The rivers of America's great cities were, and some still are,[66] treated as convenient and free sewage systems. The Cuyahoga served as a case-in-point. And "as drought-related famines in Africa and Asia drew attention to the vulnerability of world [water and] food supplies,"[67] 1972 saw the passing of a long overdue Clean Water Act.[68] That same year saw the passage of the Marine Mammal Protection Act[69] and the establishment of National Marine Sanctuaries through the Marine Protection, Research, and Sanctuaries Act.[70]

B. The Need for Climate Change Precaution

With atmospheric GHG concentrations stemming from a confluence of human activities such as fossil fuel burning and deforestation, climate change is the result of the convergence of a multiplicity of polluting activities. The extent to which this convergence accelerates the need for immediate, rather than delayed, action brings with it an imperative for a new approach to taking up environmental legislation—a precautionary approach. In a 2001 article, Carol Browner made the point that any action on climate change cannot undo decades of inaction:

> One of the great things about working at the [EPA] was the people I got to work with, and I got to work with some of the best environmental engineers in the world . . . . But do you know what? There is not one among them who can reverse the effects of sea-

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65 *Id*.

66 Attention was drawn to Brooklyn's Gowanus Canal in the wake of a stranded dolphin dying in January 2013: "The canal is laced with heavy metals, coal tar wastes and other pollutants from the factories and tanneries that have lined its banks . . . ." Jonathan Allen, *Dead Dolphin Removed from Toxic New York City Canal*, REUTERS, Jan. 26, 2013, http://www.reuters.com/article/2013/01/26/us-usa-dolphin-newyork-idUSBRE90O16X20130126.

67 NAOMI ORESKES & ERIK M. CONWAY, MERCHANTS OF DOUBT: HOW A HANDFUL OF SCIENTISTS OBSCURED THE TRUTH ON ISSUES FROM TOBACCO SMOKE TO GLOBAL WARMING 171 (2010) (not mentioning water supply vulnerability explicitly but discussing food supply vulnerability due to temperature and precipitation change).

68 33 U.S.C. §§ 1251–1387 (2012).

69 16 U.S.C. §§ 1361–1423h (2012).

70 16 U.S.C. §§ 1431–1447 (2012); 33 U.S.C. §§ 1401–1445, 2801–2805 (2012).

> level rise. As the icebergs melt and the sea level rises, there is not an engineer out there who will be able to solve that problem.[71]

As to sea level rise, "[m]ost glaciologists now think that [it] will rise by at least a metre by 2100, and possibly as much as 2 metres."[72] The latent implications of climate change not only extend to every life on Earth; they are, as Browner mentioned, largely irreversible. For this reason alone, it is clear that the reactionary trend in environmental policymaking will not be adequate in the creation of new, climate change-targeting laws. Precaution is the only method that may avert further irreparable damage to ecosystems, species, and to human society.

As an approach to environmental law, the precautionary principle is a hot topic concept, especially at the international level, and it is evolving into a central feature of discussions around global environmental issues.[73] At the 1972 United Nations Conference on the Human Environment in Stockholm, the United Nations declared that "[a] point has been reached in history when we must shape our actions throughout the world with a more prudent care for their environmental consequences," stressing that ignorance and indifference could have severe and irreversible effects on "the earthly environment on which our life and well being depend."[74] Twenty-two years later, at the U.N. Conference on Environment and Development in Rio de Janeiro, the United Nations Environment Programme (UNEP) built on the Stockholm Declaration. In Rio, UNEP adopted the description for this better-safe-than-sorry standard, which remains the principle's most commonly accepted wording: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall

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71 Browner, *supra* note 56, at 332–33.

72 Le Page, *supra* note 24, at 37.

73 *See, e.g.*, James Cameron & Juli Abouchar, *The Precautionary Principle: A Fundamental Principle of Law and Policy for the Protection of the Global Environment*, 14 B.C. INT'L & COMP. L. REV. 1, 27 (1991) ("If present trends continue, the precautionary principle could become *the* fundamental principle of environmental protection policy and law at the international, regional, and local levels.").

74 United Nations Conference on the Human Environment, Stockholm, Swed., June 5–16, 1972, *Declaration of the United Nations Conference on the Human Environment*, ¶ 6, U.N. Doc. A/CONF.48/14/Rev.1 (1972).

not be used as a reason for postponing cost-effective measures to prevent environmental degradation."[75]

Putting aside the discussion of precatory versus affirmative language, the principle stands for preventing environmentally adverse effects brought on by activities or substances even where scientific proof that such activities or substances resulting in environmental degradation is not conclusive. As Prime Minister Jan Peder Syse of Norway articulated in 1990, "We have sufficient scientific evidence to state that action is required. And where uncertainty still exists we must give the environment the benefit of the doubt."[76] The approach enunciated in this principle provides an outline for nations to legislate preventative policies even when incomplete science or a lack of consensus surrounds an individual threat. In addition to generating debates about the forms of acceptable human-induced harm to the environment, another appeal of the principle is that "[t]he legal process attached to the application of the principle institutionalizes caution: when there is sufficient evidence that an activity is likely to cause unacceptable harm to the environment, the precautionary principle requires that responsible public and private powerholders prevent or terminate the activity."[77] Internationally, advocacy for this approach has continued through the 1997 Kyoto Protocol.[78] But despite the "positive international treatment, it is [the principle's] domestic application that is the key to achieving real, long-term change . . . ."[79]

In the United States, the debate around climate change over the past decade has demonstrated that the public prefers direct evidence that is instructive on the precise degree of harm it faces—a firm rejection of the precautionary approach.[80] As carbon dioxide

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75 United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3–14, 1992, *Rio Declaration on Environment and Development*, ¶ 15, U.N. Doc. A/CONF.151/26/Rev.1 (1992).

76 Cameron & Abouchar, *supra* note 73, at 1 (quoting Jan Peder Syse, Prime Minister of Norway, Opening Address, Opening Session, Conference on "Action for a Common Future," in Bergen, Norway (May 8, 1990)).

77 *Id.* at 3.

78 *See* Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, U.N. Doc. FCCC/CP/1997/7/Add.1 (1998).

79 Stathis N. Palassis, *Beyond the Global Summits: Reflecting on the Environmental Principles of Sustainable Development*, 22 COLO. J. INT'L ENVTL. L. & POL'Y 41, 65 (2011).

80 For example, in his analysis of public risk perceptions posed by climate change, Anthony Leiserowtiz, Director of the Yale Project on Climate Change Communication, finds that climate change "is not yet perceived as a significant local concern among

sequestration weakens with the loss of carbon sinks throughout the world, especially at the rate occurring in tropical forests, and GHG emissions increase, the realization of climate change projections will continue, leaving no shoreline unscathed. It seems that moving the public away from such prerequisite demands to legislation is the only way the precautionary principle will find employment in climate change response.

Similar to the approach taken by conservationists in the 1970s and 80s, this move may be achieved by appealing to public sympathy through the use of mass media and broadening the scope of our environmental ethic. The use of a poster-child helps procure public support more quickly, and as commercial advertisements exploit the polar bear to show their companies are "going green," as Nissan did with its 2010 LEAF television ad,[81] both the connection between the polar bear and the message of climate change and the need for immediate preventative action will be reinforced. That the polar bear alone can catapult the American public into a new era of precautionary environmental legislation may at first appear to be more like quixotic desperation than operational plans, but such imagery will help. Ultimately, however, the perception of what level of care people owe to their own environment, and the depth of their commitment to those responsibilities, must change. As icebergs melt and sea levels rise,[82] finding that ethical backbone and using it to enact legal solutions cannot come quickly enough.

III
LAW AND ETHICS, AND CLIMATE CHANGE

In a 1962 address to a theological seminary in New York City, Chief Justice Earl Warren said that, "In civilized life, law floats in a sea of ethics."[83] Accordingly, as society carries out the rule of law, it

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Americans . . . . [and] is unlikely to become a high-priority national issue until Americans consider themselves personally at risk." Anthony A. Leiserowtiz, *American Risk Perceptions: Is Climate Change Dangerous?*, 25 RISK ANALYSIS 1433, 1438 (2005).

81 *See Nissan LEAF: Polar Bear*, *supra* note 13.

82 Another cost of melting permafrost is the release of methane gas—"the second largest contributor to human-caused global warming after carbon dioxide." Robert Howarth et al., *Methane Emissions from Natural Gas Systems*, CORNELL U. (Feb. 25, 2012), http://www.eeb.cornell.edu/howarth/publications/Howarth_et_al_2012_National_Climate_Assessment.pdf.

83 Fred J. Cook, *The Corrupt Society: A Journalist's Guide to the Profit Ethic*, 196 THE NATION 453, 454 (1963).

also carries out ethical obligations. The duty to act ethically, however, is "not a result of this supposed obligation to obey alone, but a result of the binding ethical values that have informed the content of the law."[84] Thus, while an informed ethic enlightens the law, a law may also be used to enlighten an ethic. Evidence supporting either direction of influence seems overwhelming at times, but it appears that each one has the capacity to inform the other. Some segments of the public will undoubtedly never agree to law preceding public ethics, but the United States' recent history with civil rights shows otherwise—both in the 1960s and in today's equal marriage movement.

One example of the former is evidenced by the change in public opinion in the decades following the U.S. Supreme Court's ruling in *Loving v. Virginia*.[85] There, the Court held that anti-miscegenation statutes are unconstitutional. Yet, a 1968 Gallup poll "showed that only 20 percent of Americans supported marriage between whites and black[s]; 73 percent opposed."[86] By 1991, twenty-five years after the decision, a majority of Americans finally supported interracial marriage.[87]

The latter example, of laws informing public ethics, can be seen in the wake of the November 2003 ruling by the Massachusetts Supreme Judicial Court, in *Goodridge v. Department of Public Health*.[88] The court held that Massachusetts may not "deny the protections, benefits, and obligations conferred by civil marriage to two individuals of the same sex who wish to marry."[89] Nearly ten years later, a Public Policy Polling survey showed that sixty-two percent of Bay Staters want same-sex marriage to be legal.[90]

Regardless of which class of standards informs the other, the appeal of laws based on moral principles reaches both sides of the political spectrum—religious conservatives "because they believe the

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84 Anita L. Allen, *Moralizing in Public*, 34 HOFSTRA L. REV. 1325, 1325 (2006).

85 Loving v. Virginia, 388 U.S. 1 (1967).

86 Zack Ford, *Public Support for Same-Sex Marriage Surpasses Support for Interracial Marriage in 1991*, THINKPROGRESS (May 20, 2011, 5:00 PM), http://thinkprogress.org/lgbt/2011/05/20/177434/same-sex-interracial-marriage/.

87 *Id*.

88 Goodridge v. Dep't of Pub. Health, 798 N.E.2d 941 (Mass. 2003).

89 *Id.* at 948.

90 *MA Okay with Gay Marriage, Sox Fans with Bobby V*, PUB. POL'Y POLLING (June 29, 2012), http://www.publicpolicypolling.com/main/2012/06/ma-okay-with-gay-marriage-sox-fans-with-bobby-v.html.

law should be a tool for moral alignment . . . [and secular progressives] because they believe the law should further extend freedom, equality and tolerance."[91] It is for this reason that an ethical underpinning of environmental protection will serve as the greatest persuader in achieving both legislative climate change solutions and public acceptance. The broadening reach of what American society conceives to be its duties to the environment, and the legal forces imposed by those duties, were strengthened more in the late-twentieth century than at any other time in the nation's history.

While some criticism to such expansion of environmental protections is to be expected, the propensity of that criticism toward portraying modern science as mere fiction is delaying the public majority from accepting the ultimate and necessary keystone for future environmental law: the land ethic. In ecological terms, an ethic is "a limitation on freedom of action in the struggle for existence. An ethic, philosophically, is a differentiation of social from anti-social conduct."[92] Land is property, which was true when Aldo Leopold wrote his seminal collection of essays in the land around Sauk County, Wisconsin, and which remains true today: "The land-relation is still strictly economic, entailing privileges but not obligations."[93] With utilitarianism ruling the nation's environmental regulatory structure, any shift from the current anthropocentric system of values would not be achievable if attempted in a Superman-like single bound.[94] Even laying the steppingstones now—if they are not already set in the ethical space—may not leave enough time for public values and legislative action to follow and prove a successful result.

A. Ethical Underpinnings of U.S. Laws

By all accounts, with the creation of dozens of environmental laws, the 1970s grew to be—as President Nixon declared—the decade of the environment. Congress embarked on the beginning of the twentieth century's environmental legislative movement with an attempt "to reverse what seem[ed] to be a clear and intensifying trend toward environmental degradation."[95] In 1969, NEPA was enacted

91 Allen, *supra* note 84, at 1325–26.

92 ALDO LEOPOLD, A SAND COUNTY ALMANAC 202 (1987).

93 *Id*. at 203.

94 Daryl Fisher-Ogden & Shelley Ross Saxer, *World Religions and Clean Water Laws*, 17 DUKE ENVTL. L. & POL'Y F. 63, 103 (2006).

95 H.R. REP. No. 91-378, at 3 (1969), *reprinted in* 1969 U.S.C.C.A.N. at 2751, 2753.

into law and, as one observer noted, "incorporate[d] the basic principle of the Leopoldian ethic."[96] The Act set up as its main concern environmental matters over common preferences and interests.[97] It did this for "paternalistic reasons, for reasons of national pride and character, and because of love, affection, and reverence for nature which ha[d] long been strong in American life."[98] As Judge Harold Leventhal of the U.S. Court of Appeals for the D.C. Circuit wrote, it is plausible to assume that environmental matters are "of secondary concern to agencies whose primary missions are nonenvironmental . . . . [However,] NEPA looks toward having environmental factors play a central role in the decisions of such agencies."[99]

The Clean Water Act of 1972 along with the major amendments enacted in the Clean Water Act of 1977 and the Water Quality Act of 1987 have been largely successful in reducing industrial pollutant levels, increasing water supply, and preventing widespread wetland devastation. However, disagreement continues over "whether our laws should emphasize water quality levels, the nature of the receiving waters, or the amount of effluent discharges allowed based on the technology available for controlling them."[100] The ethical foundation of setting and maintaining water quality standards in the United States stems from "individual common law nuisance actions to control pollution harmful to neighbors."[101] Before state and federal regulations were enacted, earlier laws stressed pollutant and discharge control from point sources into navigable waters.[102]

In 1973, following the enactment of these laws, Congress passed what is arguably the most comprehensive and effective environmental legislation to date. The Endangered Species Act (ESA) was designed to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to

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96 Rebecca Tsosie, *Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics, and Traditional Ecological Knowledge*, 21 VT. L. REV. 225, 265 (1996) (quoting George S. Sessions, *Anthropocentrism and the Environmental Crisis*, 2 HUMBOLDT J. SOC. REL. 71, 80 (1974)).

97 Mark Sagoff, *The Moral Approach to NEPA: Man's Responsibility for Nature*, *in* 2 LAW OF ENVIRONMENTAL PROTECTION § 10:58 (Envtl. Law Inst. 2013).

98 *Id*.

99 Harold Leventhal, *Environmental Decisionmaking and the Role of the Courts*, 122 U. PA. L. REV. 509, 515 (1974).

100 Fisher-Ogden & Saxer, *supra* note 94, at 102.

101 *Id*.

102 *Id*.

provide a program for the conservation of such endangered species and threatened species . . . ."[103] In recent years, environmental organizations and lawyers have placed much emphasis on the first clause in the above quote, focusing on the communities and ecosystems that species are a part of and stressing that recovery efforts must be aimed at the habitat and not merely limited to a single endangered or threatened species. While explicitly clear in the purpose of the ESA, the ethical basis on which the public has expressed concern for the environment has developed at a species-specific pace, favoring some over others, and most often the present human population over all. Despite the dozens of environmental laws and regulations passed during the 1970s that advanced a more prudent attitude toward the environment, it has been the lack of an accepted, broad-but-leveled ethic between society and the environment that has led to the continued degradation of natural ecosystems, with costs and latent consequences that are now becoming readily apparent. This is not to diminish the impact that both the ESA and the public's slow-paced environmentalism have had on keeping certain species from extinction. And while both are essential to the continued development of an environmentally responsible social-value system, we must not become complacent and have to find the energy to continue to evolve from here. It is in spite of legislative efforts to protect the environment that society is currently facing a necessary expansion of environmental ethics, not because of them.

Together with the Clean Water Act, the ESA has been one of the greatest legislative strides in the advancement of environmental policy and ethics of the twentieth century. And yet, the ESA is said to give "little guidance on which justifications [aesthetic, ecological, educational, historical, recreational, and scientific] are of the greatest importance" for preserving species and is noticeably silent on any ethical obligation to do so.[104] Still, the House Report

> implied, if not outright stated, that endangered species had interests of their own which ought to be protected by humankind . . . [and] many of the legislators who supported the ESA did so not only out of instrumentalist concerns about the effects of extinctions on humanity, but also out of a sense of moral obligation.[105]

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103 16 U.S.C. § 1531 (2012).

104 Andrew E. Wetzler, Note, *The Ethical Underpinnings of the Endangered Species Act*, 13 VA. ENVTL. L.J. 145, 167 (1993).

105 *Id*. at 172.

The Act affords the same protection to species, regardless of distinctions in charismatic features or ecological importance. This equal treatment points to an unspoken admission of intrinsic value in each and every species' existence implicit in the statutory framework of the ESA.[106] As a result of this inaudible admission, it has been proposed that the Act "can only be fully understood within the context of a recognition that humanity has a moral duty to consider the interests of nonhuman species when making decisions which affect their welfare."[107] Although the ESA has proven to be an incredibly controversial piece of legislation, its ethical subtext and religious implications are not lost on many of our elected officials from both sides of the Congressional aisle. Indeed, "[the Judeo-Christian] God's commandment to Noah to save two of each animal from the great flood has provided a motivating narrative to convince [members of] the United States Congress to retain the essential conservation aspects of the [ESA]."[108]

B. The Species-Specific Approach for Charismatic Fauna

Since the enactment of the ESA, a species-specific approach to combating environmental threats has developed quite a history, fitting comfortably with the reactionary method used in the United States' ethical and legislative systems. Several examples of this limited reactionary tactic have played out on both national and international stages. One, however, stands out more than any other. In 1782, the bald eagle was made the centerpiece of the Great Seal of the United States.[109] As many Americans see it, the bald eagle has come to symbolize the United States' democracy, strength, and freedom since its incorporation into the Great Seal by the Second Continental Congress.[110] Yet, while the species was once abundant throughout North America, with nearly 100,000 nesting pairs at the nation's founding, "poaching, habitat destruction, pesticides, and food source contamination took their toll, reducing the population . . . to just over 400 nesting pairs in the early 1960's," leaving the bald eagle on the

106 *Id*. at 174.

107 *Id*.

108 Fisher-Ogden & Saxer, *supra* note 94, at 101.

109 U.S. DEP'T OF STATE BUREAU OF PUB. AFFAIRS, THE GREAT SEAL OF THE UNITED STATES 3–4 (July 2003), *available at* http://www.state.gov/documents/organization/27807.pdf.

110 *Id*.

brink of extirpation in the contiguous forty-eight states.[111] Like so many endangered species, the bald eagle's path to recovery took the efforts of many, including citizens, private organizations, and the federal government.[112] Although it was listed as "endangered" under the 1966 Endangered Species Preservation Act, the ESA's predecessor, the protection afforded the bald eagle under the 1973 rewritten version along with the assistance of captive breeding, nest-watch programs, and the ban of certain pesticides in 1972 truly made the difference.[113]

As of 2007, with a population nearing 10,000 nesting pairs throughout the continental United States, the bald eagle's 1995 listing as "threatened" has been removed at last, and the species has successfully remained off the Endangered Species List. However, the importance of including the bald eagle here is not to note its successful recovery, though that is certainly a welcomed result. Instead, its inclusion emphasizes the fact that even an animal that stands as a symbol of immense national value and pride is capable of being reduced so measurably. Its recovery was not necessarily for its own sake, of course, since the notion of free and wild members of its kind continuing to populate the United States perhaps outweighed the ethical stances behind its preservation. Knowing that, the extinction of other bird species like the passenger pigeon and the Carolina parakeet in the early twentieth century does not seem so incredible—for if the population of a species as nationally significant as bald eagles was diminished to such a great extent before strong recovery efforts began, surely a pigeon and a parrot, albeit the only parrot native to North America, had little chance of riding a groundswell of public protest to population resurgences.

Another example of the species-specific approach may be seen in the undertaking to protect the magnificent leviathan of the sea, the blue whale. After thirty years of "ever-present fear that global nuclear

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111 *The 2008 Bald Eagle Commemorative Coin Program*, U.S. MINT, http://www.usmint.gov/mint_programs/commemoratives/index.cfm?action=BaldEagle (last visited Feb. 5, 2014).

112 *See* 1 BIRD CONSERVATION 49–50 (Stanley A. Temple ed., 1983) ("As habitat loss and declines in reproduction became known, interest in eagles increased dramatically among federal and state agencies, universities and private organizations . . . Organizations such as the National Wildlife Federation, The Nature Conservancy, and Eagle Valley Environmentalists have been effective in acquiring and protecting some essential habitats, especially wintering areas.").

113 *See id*.

holocaust would wipe out humanity and much of the living world," newly-formed conservationist organizations such as Greenpeace led, as many activist-participants declared, "a new war . . . to save the [E]arth."[114] In 1975, Greenpeace took on the whaling industry in an attempt to prevent extinction, and through the power of mass media and by shaping public opinion with news coverage, they were able to "steadily influenc[e] government policies and forc[e] industries to clean up their acts."[115] An estimated 250,000 blue whales traveled the Atlantic Ocean before commercial whaling began, and roughly 5,000 remain.[116] The blue whale continues to face biological extinction for its meat, oil, and bone; however, whale populations would be in far worse condition if not for the efforts of many of the organizations that argued for and interfered with vessels on behalf of their protection.[117] As a result of the pressures from activists and conservationists, followed by pressures from the U.S. government and the governments of other non-whaling nations, "the International Whaling Commission imposed a moratorium on commercial whaling in 1986. It worked."[118] Estimates on the annual catch for the whaling industry dropped from over 42,000 in 1970 to 1,300 in 2007.[119]

These are just two illustrations of how the species-targeted efforts of environmental groups have guided public discourse, ethics, and law toward accepting broader protectionist duties. It is noticeable, however, that when it comes to appealing to human sympathy, it is far easier to generate public support around fauna linked with producing emotional moments characterized as breathtaking, awe-inspiring, or heartwarming: a powerful exhibition of whale breaches on the deep sea or the fixed gaze of a downy, doe-eyed seal pup. An image of an ascending feathered scavenger has come to give a less remarkable impression, perhaps due to the communication of death inherent in hunting by birds of prey, generally. Rallying support for insects like the Florida Panhandle's yellow-sided clubtail, the Delhi Sands flower-loving fly, or California's delta green ground beetle presents

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114 Patrick Moore, *Confessions of a Greenpeace Founder*, GLOBAL WARMING POL'Y FOUND. (Sept. 1, 2011), http://www.thegwpf.org/patrick-moore-confessions-of-a-greenpeace-founder/.

115 *Id.*

116 G. TYLER MILLER & SCOTT E. SPOOLMAN, LIVING IN THE ENVIRONMENT: PRINCIPLES, CONNECTIONS, AND SOLUTIONS 258 (2007).

117 *Id.*

118 *Id.*

119 *Id.*

even greater difficulties, since humanity's biased view of insects as pests—and not as workhorses of ecosystem maintenance—holds a nearly universal grip on human society. Almost all life on this planet serves several purposes in supporting and sustaining its natural ecosystem, but the ability of human beings to empathize has very real limits. Fortunately for those deemed to be charismatic species, human compassion can be extended beyond our own kind. By the early 1980s, "a majority of the public, at least in the Western democracies, agreed with [conservationists] that the environment be taken into account in all our activities," and soon projects were "confronting the annual slaughter of baby seals, opposing driftnet fisheries, protesting toxic-waste dumping, blocking supertankers and parachuting into nuclear reactor construction sites," and energizing the public.[120] The responses to dangers concerning charismatic species and the environment altogether were becoming increasingly driven by ethical positions.

C. Disruption of the Environmental Movement

Around the mid-1980s, the movement that helped push a string of legislation through Congress and brought public attention to the plight of megafauna like blue whales changed its tone, and the rapid overhaul of environmental ethics lost pace, even backsliding. As one of the founders of the Greenpeace organization recalled:

> The movement abandoned science and logic . . . just as society was adopting the more reasonable items on our environmental agenda . . . . [It] was hijacked by political and social activists who learned to use green language to cloak agendas that had more to do with anti-capitalism and anti-globalization than with science or ecology.[121]

But along with the environmental movement's adoption of more extreme positions came a reinvented agenda by an institute established to defend President Ronald Reagan's Strategic Defense Initiative. With the Soviet Union crumbling and the Cold War's end in sight, the George C. Marshall Institute chose a new enemy: environmental "alarmists" and specifically the emerging dialogue surrounding the effects of carbon dioxide emissions.[122] The Marshall

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120 Moore, *supra* note 114.

121 *Id.*

122 ORESKES & CONWAY, *supra* note 67, at 186.

Institute began its attack on climate science in 1989, and after a White House briefing on its own unpublished paper with singled-out data blaming any and all global warming solely on the sun, "the positive momentum that had been building in the [George H. W.] Bush administration" was effectively halted.[123]

While societal interests such as employment in the lumber and fishing industries, land development, and product affordability have all created a need to balance public concerns in addressing environmental threats, it seems that misinformation has been the most successful technique in slowing the public's progression toward a broader environmental ethic. Purposely confusing weather with climate change is only one technique in this assault. The misinformation campaign and minimalizing of environmental sciences continues to cultivate disbelief in the United States. Although most limits on the public's ability to extend value to other species—to empathize, really—are set by the norms and mores of the privileged societies and cultures it enjoys, the range of individual ethics and capacities to empathize can be broadened at any breathtaking, awe-inspiring, or heartwarming spectacle that may be witnessed.

The growth in objections to whaling, seal hunting, and human encroachment upon species like the endangered Florida panther over the last decades are prime examples of how human ethics are driven to a broader inclusiveness as public perceptions of a species change, crafting deeper respect for the animal in its habitat. When people learn about the negative impact a particular force has upon a charismatic species, be it from whalers, sealers, or land developers, there is an importance instinctively assigned to the afflicted species, often initially based on its perceived anthropocentric worth: is its fur valuable? Is its meat or oil needed? Is its habitat desirable? Yet, it is the actual percentage of the public that learns of the potential consequences to the demise of the afflicted species—information that espouses ecological value for a particular life—that may truly engender an ethical expansion. This has happened over the last several decades and continues through initiatives, such as recycling and moratoriums like the one on taking and importing marine mammals and marine mammal products, including those from the annual Canadian seal hunt.[124]

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123 *Id.*

124 *See* 16 U.S.C. § 1371 (2012).

It is an admirable position to value life for its own sake and to adopt such a conviction into individual lifestyle. But in modern society such an attitude is adjunctive to the ethical breadth that comes from knowing the intricacies and delicacy of ecosystem sustainability. This latter knowledge, of a species' ecological significance and each ecosystem's significance to humans, is essential to recognizing what is at stake in climate change. And as was the real challenge for grassroots environmental organizations in the 1970s, solving the problem of how to take the values obtained through environmental education and "weave them into the social and economic fabric of our culture . . . in ways that [do not] undermine the economy and [are] socially acceptable" must again be the goal.[125] As of November 2013, there are 468 animals in the United States listed as endangered, and 176 listed as threatened.[126] Additionally, there are over 700 plants listed as endangered, and 152 others listed as threatened.[127] But while both governmental and nongovernmental organizations are tasked with reaching population sizes that will continue the existence of these individual species, the ultimate goal cannot be to merely see their survival for a decade or half-century longer. A broader sense of the ethical duties owed to the environment generally must be the foundation to be built on as the world drifts farther into the climate change era.

D. Thinking Like a Planet: Ethical Laws and Humanistic Holism

The way human beings view nature and interpret the notion of wilderness has been evolving for millennia. The systemic perspective with which the present-day public comes to the climate change table would be hard-pressed to accept the transformations needed to change the course of societal activities. However, this perception is not based solely on political party, cultural background, or religious identity, though such qualities certainly inform it. It is instead a part of our American structure, as fixed as constitutional rights to peaceful assembly and to vote, a notion reinforced by the commodification and

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125 Moore, *supra* note 114.

126 *Summary of Listed Species Listed Populations and Recovery Plans*, U.S. FISH & WILDLIFE SERVICE, http://ecos.fws.gov/tess_public/pub/boxScore.jsp (last visited Feb. 5, 2014).

127 *Id*.

"generalized universal industrialization" of late capitalism.[128] The hierarchical system embedded in public thinking, which stems from such ancient-text concepts as the dichotomy of soul and body[129] and higher truth,[130] has afforded the current population little in the sense of holistic values. While the reflections of canonical thinkers were essential to the preservation and development of human society, we have "failed to avail ourselves of [other] valuable parts of our philosophical heritage."[131] The ethical schemes that standardize human relationships with environment are products of atomistic thinking; that is, they focus on the individual rather than on the wholes within which the individual has purpose and meaning. In turn, these ethical schemes "strengthened the differentiation and separation"[132] between society and environment. This has led to innumerable environmental dangers, but none more obvious than climate change; after all, each danger posed by climate change is itself a composite of repercussions for a segregated social mindset.

Doubting the importance of environmental defense seems staggering, yet it continues to be employed in the everyday speech of politicians and private citizens. The easily graspable reason for caring about the environment—"frequently a litany of different reasons for caring, including aesthetic, scientific, recreational, health, safety and the catchall 'human welfare' values"—is inadequate;[133] the drastic transformations required by climate change are too expansive. Endeavoring to enlarge the tent for morally vital considerations, many in the middle of the fray are saying "religious values should be discussed openly along with other environmental ethics to help us identify core environmental values and connect these principles to our societal goals."[134] Saint Francis of Assisi, for example, "the heavenly

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128 Frederic Jameson, *Periodizing the Sixties*, 9/10 SOC. TEXT 178, 207 (1984) (quoting ERNEST MANDEL, LATE CAPITALISM (1975)).

129 *See, e.g.*, *Ecclesiastes* 12:7 (King James) ("Then shall the dust return to the earth as it was: and the spirit shall return unto God who gave it.").

130 *See, e.g.*, *Psalms* 86:11 (King James) ("Teach me thy way, O LORD; I will walk in thy truth: unite my heart to fear thy name.").

131 DON E. MARIETTA, JR., FOR PEOPLE AND THE PLANET: HOLISM AND HUMANISM IN ENVIRONMENTAL ETHICS 21 (1995).

132 *Id.*

133 Alyson C. Flournoy, *In Search of an Environmental Ethic*, 28 COLUM. J. ENVTL. L. 63, 67 n.13 (2003).

134 Fisher-Ogden & Saxer, *supra* note 94, at 101.

Patron of those who promote ecology,"[135] is oddly left out of many answers to precaution-skeptical questions. Similarly, the founders of environmental ethics—Americans such as Henry David Thoreau, John Muir, Aldo Leopold, Rachel Carson, and more recently J. Baird Callicott—may be invoked to establish an emotionally charged, American enthusiasm. But the rhetorical value of such sensitivities is contingent on those moral values being stressed.

Humanistic holism, an ethical system espoused by the late Don Marietta, Jr., a former professor of philosophy at Florida Atlantic University, recognizes "a number of sources of moral insight and a broad range of moral concerns."[136] These concerns, including both anthropocentric and ecological, allow for "the reconciliation of concern for the natural environment, concern for animals, and concern for justice and human welfare."[137] It avoids those extreme, reductionist forms of environmental holism, e.g., deep ecology and biocentric ethics, which disallow "any source of value except contribution to stability of the ecosystem . . . [thus denying] humanistic and personalistic values by reducing human beings to their ecological role."[138] Avoiding alienating concepts that sacrifice the "social, cognitive, psychological, moral, and aesthetic aspects of [human] existence,"[139] like the unity of nature and moral parity between human beings and environment, while also stressing the moral importance of interrelationships of animal and plant species and their common dependence on environment, this philosophy offers the most practical and most inclusive logic for successfully taking on climate change issues.

Propelling attitudes in the United States beyond idle environmental values is no easy feat, nor should it be depicted as such. Humanistic holism is a "demanding approach to morality, but it can give us what we need in facing the coming years."[140] Of course, the evidence shows we are well past the possibility of stopping climate change, as

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135 *Message of His Holiness Pope John Paul II for the Celebration of the World Day of Peace*, VATICAN: THE HOLY SEE (Dec. 8, 1989), http://www.vatican.va/holy_father/john_paul_ii/messages/peace/documents/hf_jp-ii_mes_19891208_xxiii-world-day-for-peace_en.html (quoting John Paul II, *Apostolic Letter Inter Sanctos: AAS 71*, 1509f (1979)).

136 MARIETTA, *supra* note 131, at 6.

137 *Id*.

138 *Id*. at 60.

139 *Id*. at 63.

140 *Id*. at 210.

many of its effects will inexorably be felt in decades to come.[141] The aim then in exercising a humanistic holism should be to limit climate change effects as best we can, specifically through legislative initiative. And while such an aim continues to be seen by many as intolerably slow at the federal level, it has seen success at the state level.

In the face of the United States' rejection of the Kyoto Protocol, some individual states launched their own programs to cut greenhouse gas emissions. California, "the world's fifth-largest economy, imposed the first limits on emissions of carbon dioxide from mobile sources,"[142] and in 2006 the state legislated for restraints on GHG emissions. The mandated target for GHG emissions, set by Governor Arnold Schwarzenegger's executive order, remains at eighty percent below 1990 levels by 2050.[143] With perhaps a quiet optimism, such initiatives are helping many scientists envisage a future "in which lights, appliances, and other devices are pushed to unprecedented levels of energy efficiency . . . [where] [e]lectricity is generated without emitting carbon dioxide into the atmosphere . . . [and where] cars, heating systems, and most other equipment that now run on oil and natural gas will instead be powered by electricity."[144]

At present, however, we seem far from such a future, and we remain on the cusp of the climate change era without serious plans to renegotiate society's relationship with the environment. Even climate stabilization would necessitate the entire nation to cut its GHG emissions by similar amounts to those targeted by California—roughly "60 to 80 percent as of 2050, relative to 1990 levels."[145] It would effectively require GHG emissions to "peak around 2015 and be reduced 30 to 40 percent below 1990 levels."[146] Thus the question

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141 *See, e.g.*, EPA I, *supra* note 3, at 20 ("Because elevated concentrations of many of the [GHGs] emitted by human activities can remain in the atmosphere for decades, centuries, or longer, their associated warming effects persist over a long time.").

142 Tseming Yang & Robert V. Percival, *The Emergence of Global Environmental Law*, 36 ECOLOGY L.Q. 615, 631–32 (2009).

143 Cal. Exec. Order No. S-3-05 (2005), *available at* http://www.dot.ca.gov/hq/energy/ExecOrderS-3-05.htm.

144 David Krotz, *A How-To Guide to Slashing California's Greenhouse Gas Emissions by 2050*, LAWRENCE BERKELEY NAT'L LAB. (Nov. 24, 2011), http://newscenter.lbl.gov/news-releases/2011/11/24/ca-emissions-2050/.

145 REID EWING ET AL., GROWING COOLER: THE EVIDENCE ON URBAN DEVELOPMENT AND CLIMATE CHANGE 11 (2008), *available at* http://postcarboncities.net/files/SGA_GrowingCooler9-18-07small.pdf.

146 *Id.* at 50.

of how we boost values of humanistic holism to the national stage and employ them in meaningful ways arises. This question and the answer this article proposes lead back to its title: the polar bear ethic.

CONCLUSION: THE CLIMATE CHANGE IMPERATIVE

> *In reality, there is no such thing as not voting:*
> *you either vote by voting, or you vote by staying home*
> *and tacitly doubling the value of some Diehard's vote.*[147]

It is no secret that government efforts, such as endangered species listings, will do little to prevent the devastation awaiting both species and environment, as the latent effects of climate change are realized over the twenty-first century. None of the laws currently in place will single-handedly achieve the aim of climate change limitation, as many have not been permitted to do so. President George W. Bush stated in April 2008 that the ESA, the Clean Air Act, and NEPA were "never meant to regulate global climate change," and that there is "a right way and a wrong way to approach reducing [GHG] emissions."[148] A month later, the Bush administration added the polar bear to the threatened species list, which was the first time a species was listed "solely because of threats from global warming."[149] Interior Secretary Dirk Kempthorne again emphasized that the listing "should not open the door to use of the ESA to regulate [GHG] emissions from automobiles, power plants, and other sources . . . [as] that would be a wholly inappropriate use of the ESA law."[150] In 2010, the Obama administration assigned a critical habitat listing to over 187,000 square miles of Alaskan lands and seas, ninety-five percent of which is sea ice off of Alaska's northern coast, as crucial to the polar bear's survival.[151] However, the Obama administration has since reissued the

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147 DAVID FOSTER WALLACE, *Up, Simba!*, *in* CONSIDER THE LOBSTER 156, 207 (2006).

148 Fact Sheet: Taking Additional Action to Confront Climate Change, Office of the Press Secretary (Apr. 16, 2008), *available at* http://www.hsdl.org/?view&did=485790.

149 Kassie Siegel, *Not the Change Polar Bears Need: President Obama's Polar Bear Extinction Plan*, HUFFINGTON POST (May 7, 2012), http://www.huffingtonpost.com/kassie-siegel/polar-bear-endangered_b_1497191.html.

150 *Secretary Kempthorne Announces Decision to Protect Polar Bears Under Endangered Species Act*, U.S. DEPARTMENT OF INTERIOR (May 14, 2008), http://www.doi.gov/news/archive/08_News_Releases/080514a.html.

151 Matthey Daly, *Obama Administration Moves to Protect Polar Bear*, L.A. TIMES (Nov. 24, 2010), http://latimesblogs.latimes.com/greenspace/2010/11/polar-bear-critical-habitat-obama-.html.

Bush administration's limitation of ESA protection for the polar bear to exclude any regulation of GHGs.[152] While policy games such as these continue, the GHGs "already in the climate system will continue to warm the Earth and melt sea ice until 2050, even if cuts to emissions are made today."[153]

There are some inside environmentalist organizations who are confident that in President Obama's second term, the administration is making climate change regulation a priority.[154] At the 2013 State of the Union Address, the President spoke candidly, addressing the severity of the issue and those who remain climate change deniers:

> [F]or the sake of our children and our future, we must do more to combat climate change. Now, it's true that no single event makes a trend. But the fact is the 12 hottest years on record have all come in the last 15. Heat waves, droughts, wildfires, floods—all are now more frequent and more intense. We can choose to believe that Superstorm Sandy, and the most severe drought in decades, and the worst wildfires some states have ever seen were all just a freak coincidence. Or we can choose to believe in the overwhelming judgment of science—and act before it's too late.[155]

Yet, with a polarized Congress, even policy experts say the odds that "significant climate change action will actually happen . . . remain slim." [156] The possibility of President Obama acting unilaterally through executive order, which he touted in the annual address, may indeed come to fruition:

> I urge this Congress to get together, pursue a bipartisan, market-based solution to climate change, like the one John McCain and Joe Lieberman worked on together a few years ago. But if Congress won't act soon to protect future generations, I will. I will direct my

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152 *See* Siegel, *supra* note 149.

153 John Roach, *Most Polar Bears Gone by 2050, Studies Say*, NAT'L GEOGRAPHIC NEWS (Sept. 10, 2007), http://news.nationalgeographic.com/news/2007/09/070910-polar-bears_2.html.

154 For example, after President Obama's June 2013 announcement of a Climate Change Action Plan, the president of the Environmental Defense Fund noted, "Thanks to the President, the days of silence and inaction on climate are over. This plan could become an important part of his legacy." Fred Krupp, *The President Takes the Lead on Climate Change*, ENVTL. DEF. FUND (June 25, 2013), http://www.edf.org/blog/2013/06/25/president-takes-lead-climate-change.

155 Barack Obama, President, The White House, State of the Union Address ¶ 27 (Feb. 12, 2013), *available at* http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address [hereinafter State of the Union Address].

156 Stephanie Pappas, *Obama's Climate Change Promises Questioned as Second Term Arrives*, HUFFINGTON POST, Jan. 20, 2013, http://www.huffingtonpost.com/2013/01/20/obamas-climate-change-pro_n_2515851.html.

> Cabinet to come up with executive actions we can take, now and in the future, to reduce pollution, prepare our communities for the consequences of climate change, and speed the transition to more sustainable sources of energy.[157]

But with the global demand for coal continuing to escalate[158] and the growing development in the U.S. of natural gas resources,[159] any sector-specific strengthening of regulations, "such as fuel-efficient vehicles or clean energy,"[160] will hardly amount to legislating a federal tax on GHG emissions, derestricting the ESA, or using the Clean Air Act to prescribe emission standards—an authority upheld by the Supreme Court in *Massachusetts v. EPA*.[161] With such a gradual sector-specific approach likely to continue through the end of the 2010s, we should expect to see, even by generous estimations, polar bear populations decline by at least two-thirds by mid-century.[162]

With its continued employment as the flagship species of climate change, the polar bear is a symbol, but it is also a living creature with which people may sympathize and, more importantly, empathize. In seeking to encourage an educated public, a humanistic holism will lead to many environmentally conscious decisions being implemented by individuals, families, and communities. The United States has already begun moving toward humanistic holism, as is seen in the noticeable encouragement of everything from recycling to bicycling to energy-efficient appliances. In truth, however, these personalistic undertakings, like using less water or taking public transit to work, are largely futile in limiting climate change effects without the accompaniment of sharp reductions to "the growth of vehicular travel

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157 State of the Union Address, *supra* note 155, at ¶ 28.

158 INT'L ENERGY AGENCY, MEDIUM-TERM COAL MARKET REPORT 2012 (2012) ("[B]y 2017 coal will come close to surpassing oil as the world's top energy source. In that period, coal demand will increase in every region of the world except in the United States, where coal is being pushed out by natural gas.").

159 Andrew Zolli, *Five Climate Actions Obama Can Take Without Congress*, ANDREWZOLLI.COM (Feb. 15, 2013), http://andrewzolli.com/five-climate-actions-obama-can-take-without-congres/.

160 Pappas, *supra* note 156.

161 Massachusetts v. EPA, 549 U.S. 497, 532 ("Because [GHGs] fit well within the [Clean Air] Act's capacious definition of 'air pollutant,' EPA has statutory authority to regulate emission of such gases . . . .").

162 Roach, *supra* note 153.

across the nation's sprawling urban areas, reversing trends that go back decades."[163]

This is not to discourage the assumption of such responsibilities; personal lifestyle is the major feature and reflection of one's philosophy. But what is needed is far more than a private avowal to live "green." What is needed is the use of a sensible environmental ethic, at its core both humanistic and holistic, with a balanced system of values, set in binding legislation. What is needed is the replacement of legislative asceticism, which accommodates corporate power by avoiding any economic consequences,[164] with notions of intergenerational justice and environmental precaution. Motivating the public to make demands of their senators and representatives—demands to move beyond the current limits of our statutory arms and our traditional species-specific approaches—is required to sincerely confront the dangers posed by climate change.

Public enthusiasm is the immediate problem, and one that may not be stirred until Earth's losses begin to visually accrue, perhaps finding a tipping point sometime nearer the ruin of the symbolic giant bears' wild existence. By that time, however, serious climate change effects on human beings will already be materializing. These will include the escalation of heat-related illnesses and deaths; limited water supply; reduction in agriculture and energy production; increased repetition of severe storms and flooding; rising sea levels and eroding shorelines; extinction of additional species; and, of course, the obvious need for each of us to adapt to these changes quickly and enduringly. Still, as this Article has discussed, the people of the United States have helped push through protective laws in the past. Such feats are not insurmountable in the species-specific legislative history of environmental protection. But with views like those of many members of the current Congress, either deeming climate change to be a machination of misanthropic environmentalists, or at best an

163 EWING ET AL., *supra* note 145, at 23.

164 *See, e.g.*, David L. Levy & Daniel Egan, *A Neo-Gramscian Approach to Corporate Political Strategy: Conflict and Accommodation in the Climate Change Negotiations*, 40 J. MGMT. STUDIES 803, 825 (2003) ("It is somewhat ironic that the new Bush administration in the USA pulled out of the Kyoto Protocol in 2001, just as much of American industry appeared willing to acommodate [sic] mandatory international emission controls. . . . [A]t first glance, the new US position provides evidence of direct, instrumental corporate power . . . .").

untested idea,[165] the passage of comprehensive climate change laws appears to be years away.

A nation or locality may have little, moderate, or ample support for taking up the task of legislating significant climate change policies. At any of these degrees of environmental support, the effectiveness of the law is not to be measured by the compliance therewith, but by its success in curing pressing crises and preventing future harms: "Compliance by itself is a poor indicator of . . . value because it is neither a necessary nor a sufficient condition for behavioral problem-solving effectiveness."[166] Gauging the success of climate change response on the viability of the polar bear in the Arctic is an interdependency fraught with challenges. But if moderate climate change laws can be implemented, and "polar bears do persist through the end of the century in the . . . Arctic islands, those bears could seed a rebounding population."[167] Scientists who are now studying the polar bear intensely, including Steven Amstrup, a wildlife research biologist for the U.S. Geological Survey, believe that "[e]missions reductions now could assure polar bears will still be around to repopulate sea ice when it returns to other areas."[168] As the EPA notes, however, "[t]he more the climate changes, the greater the potential effects on society and ecosystems."[169]

So what then is the immediate ethical action? The ethic espoused here suggests only one: a beginning, serving to entice public participation in bringing attention to and focusing the legislative channels on prioritizing the limitation of climate change effects. In the final analysis, it is an issue that will either be addressed immediately or will be left to fester, based solely on the perception of the public's opinion and votes.

Abstinence from, and disinterest in, the political catacomb that ever increasingly casts specters on our televisions is understandable, but it comes with a cost. As the quote that begins this Part reads: "[Y]ou either vote by voting, or you vote by staying home . . . ." The price of

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165 *See, e.g.*, Pappas, *supra* note 156 (quoting Texas Representative Joe Barton who stated, "I'm not going to bet the U.S. economy or the Texas economy on a theory that is not proven.").

166 DANIEL BODANSKY, THE ART AND CRAFT OF INTERNATIONAL ENVIRONMENTAL LAW 254 (2010).

167 Roach, *supra* note 153.

168 *Id.*

169 EPA I, *supra* note 3, at 61.

our political disaffection is borne not only by our contemporaries and our environment but also by our posterity and theirs—here is the thinking of intergenerational justice. In contributing to our state and national political processes with regular voting, we may view our representatives as echoes of our own principles, infiltrating legislatures and inking our ethics into law. Voters possess the power to engender climate change legislation through the designation of representatives who embrace more holistic values. At the present pace of legislative attention, we are far from the realization of humanistic holism as a major factor in environmental lawmaking. But, by employing the polar bear as the symbol of climate change, even the species-specific approaches of the past would retain some climate change limitation—enough to at least curtail the potential for future societal injury and perhaps enough to afford the great Arctic bear some time. Standing at the fetid stream of campaign spending, dividing rhetoric, and carnival theatrics, we will have to search the electoral waters for reflections of our values. Yet, when we glimpse them and cast votes for these mirrored principles, we help hoist them into the collective consciousness. By the ballot, we may help to grow the public environmental ethic into one as big and recognizable as a polar bear.