

BREATH OF LIFE: ETHICAL WIND POWER AND WILDLIFE

*Reed Elizabeth Loder**

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“Behold,’ he said, ‘all the wings of the air shall come to you, and they and the winds and stars shall be like relatives. You shall go across the earth with my power.’”¹

INTRODUCTION

Few ideas arouse national consensus as much as the need to establish new sources of energy. This is a security as much as economic issue since dependence on foreign oil increases America’s vulnerability. Alternative

* J.D., Ph.D (in philosophy), Professor, Vermont Law School.

1. JOHN G. NEIHARDT, BLACK ELK SPEAKS: BEING THE LIFE STORY OF A HOLY MAN OF THE OGLALA SIOUX 23 (2000). This passage describes Black Elk’s vision of a Grandfather transformed into a spotted eagle flying on the wind. I recognize the all too common risk of misappropriating or misinterpreting Native American spirituality to serve environmentalism. I make no attempt to describe the meaning of this passage to the Lakota. I simply find it personally meaningful that Black Elk depicts wind and creatures in harmony and unity.

energy production is also an environmental issue because fossil fuels like oil and coal pollute, contribute to climate change, and deface the landscape through extraction. Wind power is undergoing earnest development because of its tantalizing potential to address these concerns on a renewable and clean basis.²

Yet this energy refreshment is not without costs. Some of these are straightforwardly subject to economic balancing. For instance, sporadic wind speed can be weighed against the costs of infrastructure and operation in site decisions. Harnessing wind power for public electricity involves efficiency assessments of proximity to existing power plants and roads. This article examines the toll on wildlife associated with inland wind power generation, an issue ethically less amenable to balancing costs and advantages. I shall identify factors that should be considered in policy decisions on research, placement, and operation of wind facilities, providing some theoretical justifications for this ethical framework. Although I leave technical and legal analyses of wind policy largely to others, those perspectives inevitably implicate ethics. I contend that making explicit the ethical underpinnings of law and policy discussions results in a more reflective, deliberative process and more justified decisions.

I concentrate on inland wind power, recognizing that offshore wind development raises some overlapping wildlife concerns, especially particular avian threats. Yet inland wind generation poses special direct and habitat risks to bears, bats, and other mammals, which are worthy of separate attention. Because the best disposition of each wind project is inevitably contextual, the analysis offered here springs from a concrete case in Vermont. One can extrapolate from this particular situation to understand better the nature and importance of ethical considerations applicable to wind projects generally.

2. Meredith Blaydes Lilley & Jeremy Firestone, *Wind Power, Wildlife, and the Migratory Bird Treaty Act: A Way Forward*, 38 ENVTL. L. 1167, 1169 (2008). See Ronald H. Rosenberg, *Making Renewable Energy a Reality—Finding Ways to Site Wind Power Facilities*, 32 WM. & MARY ENVTL. L. & POL'Y REV. 635, 655, 657 (2008) (showing that the United States' total wind generating capacity increased by forty-five percent in 2007, with the goal of achieving five percent of domestic electricity generation from wind by 2020).

I. WIND POWER IN VERMONT'S GREEN MOUNTAIN NATIONAL FOREST

If approved, the Green Mountains of Vermont would be the first national forest land to host a public wind power facility.³ The “Deerfield Wind” proposal illustrates broader concerns with the impacts of wind power on wildlife and provides a good framework for ethical analysis. Deerfield Wind LLC, a subsidiary of the Spanish corporation Iberola Renewables, proposes to construct a substantial wind farm on several federally managed ridgelines in the Green Mountains, expanding an existing wind operation.⁴ Green Mountain Power, which owns an existing electricity-generating power plant near the proposed site,⁵ is the company that would collaborate in the wind project to produce additional electricity for Vermonters and others.⁶ The proposed farm would contain 17 new wind turbines, each 400 to 410 feet in height on the eastern and western ridges in the southern Vermont towns of Searsburg and Readsboro, respectively.⁷ This plan roughly doubles the height of existing turbines, making each as tall as a forty-one-story building.⁸ Many locals welcome the facility for the jobs and revenues it promises,⁹ although some object to aesthetic impacts on the view and tranquility of the rural area from the tall and somewhat noisy structures.¹⁰

3. *First Wind Farm in National Forest Planned*, REDORBIT, July 29, 2005, <http://www.redorbit.com/news/display/?id=191434>.

4. Susan Smallheer, *State Warns Wind Project Will Impact Bear Habitat*, TIMES ARGUS, Nov. 7, 2008, available at <http://www.timesargus.com/apps/pbcs.dll/article?AID=/20081107/NEWS02/811070344/1003/NEWS02&template=printart>.

5. Green Mountain National Forest; Vermont; Deerfield Wind Project, 70 Fed. Reg. 40,975, 40,975 (July 15, 2005). Because turbines are immobile, it is important to locate them near electrical transmission equipment. John Arnold McKinsey, *Regulating Avian Impacts Under the Migratory Bird Treaty Act and Other Laws: The Wind Industry Collides with One of Its Own, The Environmental Protection Movement*, 28 ENERGY L.J. 71, 72 (2007).

6. Green Mountain National Forest; Vermont; Deerfield Wind Project, 72 Fed. Reg. 54,893, 54,893 (Sept. 27, 2007).

7. *Id.*

8. Press release, Save Vt.'s Ridgelines, Inc., Pub. Serv. Bd. Grants Citizens' Request to Postpone Hearings on the Deerfield Wind Project Due to Gross Abuse of Process By Project Owner (Sept. 23, 2008), http://www.clearskyvt.org/press_releases.html [hereinafter Citizens' Request].

9. *First Wind Farm in National Forest Planned*, *supra* note 3 (noting that residents approve); Smallheer, *supra* note 4 (describing the process of towns voting for the project).

10. *Bear Habitat Cited As Key Issue in Searsburg Wind Turbine Project*, NATIONAL WIND WATCH, Sept. 12, 2008, <http://www.wind-watch.org/news/2008/09/12/bear-habitat-cited-as-key-issue-in-searsburg-wind-turbine-project>; Jennifer Weeks, *Tilting Toward Windmills*, FOREST MAGAZINE, 2009, <http://www.fseee.org/forestmag/1101week.shtml>.

The thorniest obstacles so far, however, are the black bears that inhabit the western ridge area. Indeed, the State has so far withheld permits and the Vermont Agency of Natural Resources objects to the project on the ground that it will significantly harm bear habitat.¹¹ The wind farm would utilize approximately eighty acres of land in the heart of a regional bear population.¹² In particular, construction would involve removing many beech trees, a documented Fall source of food for bears.¹³ Clearing would also interrupt travel corridors of bears that enable them to feed and breed in different seasons.¹⁴ Although black bears are not endangered or threatened in Vermont or elsewhere,¹⁵ and the State issues seasonal bear-hunting permits,¹⁶ Vermont has so far not deemed bear peril a justified tradeoff for expanded electricity from wind.¹⁷

11. *Bear Habitat Cited As Key Issue in Searsburg Wind Turbine Project*, *supra* note 10. Because the wind farm will occupy national forest land, Deerfield Wind must obtain a Forest Service Special Use Permit. Because it will host a public utility, the Vermont Public Service Board also must approve the project. *Id.* See also Letter from Agency of Natural Resources, to Bob Bayer, Project Coordinator, USDA Forest Service, regarding Deerfield Wind DEIS Comments (Nov. 25, 2008) [hereinafter DEIS Comments].

12. See JEFFREY A. WALLIN, A MOVEMENT STUDY OF BLACK BEARS IN THE VICINITY OF A WIND TURBINE PROJECT, SEARSBURG, VERMONT 3 (1998), available at http://publicservice.vermont.gov/energy-efficiency/ee_files/wind/wind_bearsohmy.pdf (conceding that the project location is in critical black bear habitat); Smallheer, *supra* note 4 (reporting on a state biologist's concern about the regional bear population on the western ridge but pointing out biologists disagree on impacts); Weeks, *supra* note 10 (stating that 80 of 400,000 Green Mountain total acres would be used).

13. See VT. FISH & WILDLIFE DEP'T, FW-0100-10/01, VERMONT WILDLIFE FACT SHEET: BLACK BEAR 2 (2001), available at http://www.vtfishandwildlife.com/library/Factsheets/Hunting_and_tracking/Big_Game/black_bear_fact_sheet.pdf (noting beech food supply is vital in fall before bears make winter dens); Smallheer, *supra* note 4 (discussing scarred beech trees that prove bears clawing for food); Weeks, *supra* note 10 (noting heavy bear beech tree feeding in the fall).

14. VT. FISH & WILDLIFE DEP'T, *supra* note 13, at 4 (asserting forest fragmentation is the greatest threat to bears); WALLIN, *supra* note 12 (recognizing the interruption of bear corridors at the time of the Searsburg project).

15. See VT. FISH & WILDLIFE DEP'T, *supra* note 13, at 4 (noting Vermont bear numbers highest in 200 years); David Dickson, 'Fuzzy Wuzzy Was a Bear'—Will American Black Bears Go the Way of Their Asian Cousins?, 9 COLO. J. INT'L ENVTL. L. & POL'Y 167, 167, 169 (1998) (stating that the national black bear population is not threatened generally but is at risk from trafficking of bear body parts).

16. VT. FISH & WILDLIFE DEP'T, *supra* note 13, at 3–4 (discussing the regulation of hunting permits).

17. In precedent, the Vermont Supreme Court affirmed an Environmental Board decision refusing to permit a ski resort's construction of a pond that would interfere with bear food and travel space. While a ski resort and a power facility have different public policy status, the precedent shows that all levels of Vermont government take the protection of wildlife habitat seriously in development decisions. *In re Killington, Ltd.*, 159 Vt. 206, 208, 616 A.2d 241, 242 (1992). See, e.g., WALLIN, *supra* note 12, at 3–4 (reporting on the bear population with regard to a developing wind project).

Deerfield Wind could counter accurately that state energy policy encourages increasing renewable sources of electricity over time.¹⁸ National energy policy also supports the development of wind power as part of a comprehensive push toward diverse renewable energy.¹⁹ Given these commitments, a critic might cry NIVBY—“not in Vermont’s backyard”—the state version of NIMBY. Indeed, inhabitants of Maine, Vermont’s environmentally similar sister-state, tout their demonstrated progress in constructing wind facilities: “In Maine, we’re not just talking about the need for clean energy, we’re doing it.”²⁰ In fact, the Vermont Supreme Court has just upheld one wind project in the state’s Northeast Kingdom, perhaps breaking the legal and political logjams.²¹ While critics still may chide the state as a latecomer, those prone to accuse Vermont of evading its fair share should recognize some valid reasons for a cautious posture. States are sovereign “owners” of natural resources, including wildlife, under old common law.²² State governments have trustee duties to manage natural resources for the benefit of residents, including the obligation to preserve a trust “corpus” for future generations.²³ Legally and ethically, state governments have heavy responsibilities to protect both natural bounty and facilitate energy production.

18. VT. ENERGY P’SHIP, WIND POWER IN VERMONT: A TWO YEAR EVALUATION, available at <http://www.vtep.org/documents/WindPower.pdf> (describing Vermont Department of Public Service’s 2005 estimate of 7,000 MW wind power potential, but that other experts believed wind could only meet ten percent of the state’s electric need); Fairwind Vermont, Why Windpower?, <http://www.fairwindvermont.org/WhyWindpower.html> (last visited Apr. 11, 2009) (stating wind advocacy group’s reference to governmental and group recommendations to add wind to state power mix).

19. See Roy Fuller, *Wind Energy Development on BLM Lands*, 24 J. LAND RESOURCES & ENVTL. L. 613, 613 (2004) (describing the Bush administration’s National Energy Policy to encourage diverse energy supply including wind); Ronald H. Rosenberg, *Diversifying America’s Energy Future: The Future of Renewable Wind Power*, 26 VA. ENVTL. L.J. 505, 532 (2008) (describing federal initiatives to increase state wind production); Ernest Smith, *Wind Energy: Siting Controversies and Rights in Wind*, 1 ENVTL. & ENERGY L. & POL’Y J. 281, 284 (2007) (describing government struggle between encouraging wind power development and protecting local resources).

20. *Wind Farm Dedicated in Maine*, VALLEY NEWS, Jan. 23, 2009, at A3 (quoting Pete Didisheim of the environmental group, Natural Resources Council of Maine).

21. *Vt. Supreme Court Rules Sheffield Wind Project Can Go Ahead*, TIMES ARGUS, Feb. 7, 2009, <http://www.timesargus.com/article/20090207/NEWS02/902070327/1003/NEWS02>.

22. Deborah G. Musiker et al., *The Public Trust and Parens Patriae Doctrines: Protecting Wildlife in Uncertain Political Times*, 16 PUB. LAND L. REV. 87, 89 (1995). See also *Geer v. Connecticut*, 161 U.S. 519, 528–29 (1896) (upholding a Connecticut statute prohibiting local game from being transported out-of-state on the grounds that states possess sovereign authority over wildlife within their borders).

23. Musiker et al., *supra* note 22, at 88, 96.

II. FEDERAL PUBLIC LANDS: WHAT PUBLIC, WHAT USES?

Most existing wind facilities in America find a home on non-federal land.²⁴ Private development limits wind power to the size, scope, and availability of private land. The potential to harness the wind for grid electricity depends upon utilizing larger regions and taller turbines to secure reliable and fast wind sources.²⁵ Some public lands are attractive for offering large contiguous acreage in undeveloped areas where wind is most plentiful.²⁶ This potential accounts for the national policy decision to situate more wind facilities on suitable federal lands.²⁷ National forest lands, administered by the Department of Agriculture under the Department of the Interior, are under consideration for inland wind development and include the Green Mountain portions of the Deerfield site.²⁸ The commitment to utilize national forests comports with the legal standard of “multiple use,” which includes economic uses.²⁹ At first glance, federal forest land also seems ethically suitable because the land belongs to the public and everyone stands to benefit from independent, non-polluting, and renewable sources of power.

In ethical terms, the policy commitment to renewable energy is unabashedly “teleological,” and specifically utilitarian, a dominant character of many policy and governmental decisions.³⁰ Teleologists measure the morality of judgments and actions by results.³¹ They differ on the particular consequences or combinations that count as goods (for example, health, pleasure, environmental purity) and on whose good they seek.³² Many utilitarian versions of teleology define the good as the balance of pleasure over pain,³³ which modern economists measure by

24. Rosenberg, *supra* note 19, at 536; Weeks, *supra* note 10.

25. See Rosenberg, *supra* note 2, at 651 n.74, 666 (stating that efficient production depends on large land areas).

26. *Id.* at 666.

27. VT. ENERGY P’SHIP, *supra* note 18.

28. Green Mountain National Forest; Vermont; Deerfield Wind Project, 70 Fed. Reg. 40,975, 40,975 (July 15, 2005).

29. See Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. §§ 528–531 (2000) (stating that national forests should be utilized to best meet the various needs of the American people).

30. See Thomas Nagel, *Ruthlessness in Public Life*, in *ETHICAL ISSUES IN PROFESSIONAL LIFE* 76, 79, 82–83 (Joan C. Callahan ed., 1988) (discussing appropriateness of ends-means reasoning of public officials).

31. William K. Frankena, *Ethics*, in *THE LEGAL PROFESSION: RESPONSIBILITY AND REGULATION* 112–13 (Geoffrey C. Hazard & Deborah L. Rhode eds., 1994).

32. *Id.* at 113–14 (describing how egoist teleologists consider good of the self whereas utilitarian teleologists consider general good).

33. *Id.* at 114.

consumer preferences.³⁴ The target audience is the greatest number of individuals taken in the aggregate.³⁵ The argument that Americans benefit overall from clean and renewable energy production through wind is broadly utilitarian because it balances total benefit over harm. This reasoning can consider disutilities like wildlife impacts or regional controversy as justified prices of national progress, although that conclusion is far from guaranteed. A general, sometimes simplistic, critique is that utilitarianism sacrifices minority interests for the aggregate good.³⁶ Yet a sophisticated utilitarian can take minority interests into account for the sake of overall benefit. Utilitarian reasoning can also incorporate mitigation measures that enhance total benefit and commend only those alternatives comparatively least harmful. Nonetheless, this ethical framework can justify sacrifices for the greater welfare if mitigation and alternatives are infeasible or extremely costly.

It is by no means clear that utilitarian ethics favor the Deerfield Wind project as proposed. At least project proponents would need to research alternatives to gauge relative merits and harms and explore various mitigation measures to address harms that persist.³⁷ Yet proximity to existing electricity infrastructure and efficiency concerns might overpower wildlife impacts on final utilitarian analysis. The policy favoring public land sites for renewable energy facilities may justify incurring some regional impediments for the sake of national interests. For example, the

34. See Eric T. Freyfogle, *The Ethical Strands of Environmental Law*, 1994 U. ILL. L. REV. 819, 829 (discussing an economic version of contemporary utilitarianism).

35. See Martha C. Nussbaum, *Animal Rights: The Need for a Theoretical Basis*, 114 HARV. L. REV. 1506, 1529 (2001) (reviewing STEVEN M. WISE, *RATTLING THE CAGE: TOWARD LEGAL RIGHTS FOR ANIMALS* (2000)) (describing utilitarian aggregation as individual goods added together).

36. See BERNARD WILLIAMS, *MORAL LUCK* 43 (1981) (denying that a person should kill one person to save others). For a simplistic, contrary example, see Tom Regan, *The Radical Egalitarian Case for Animal Rights*, in *ENVIRONMENTAL ETHICS: READINGS IN THEORY AND APPLICATION* 82 (Louis P. Pojman & Paul Pojman eds., 5th ed. 2008). Regan asserts that a beneficiary under a will of his elderly Aunt Bea should kill Bea and donate the bequest to a worthy hospital, according to utilitarian reasoning. *Id.* at 87.

37. Here, ethical and legal requirements both suggest that an alternative site may be required if mitigation would not protect habitat. The National Environmental Policy Act of 1969 (NEPA) requires all federal agencies to consider environmental consequences of their actions and identify alternatives. 42 U.S.C. § 4332(C) (2000). Vermont's Land Use and Development Law, Act 250, prohibits a permit for developments that:

will destroy or significantly imperil necessary wildlife habitat . . . and . . . all feasible and reasonable means of preventing or lessening the destruction, diminution, or imperilment of the habitat or species have not been or will not continue to be applied; or a reasonably acceptable alternative site is owned or controlled by the applicant which would allow the development . . . to fulfill its intended purpose.

VT. STAT. ANN. tit. 10, § 6086(a)(8)(A)(ii)–(iii) (2006).

aesthetic detriments of more numerous and taller ridgeline turbines may be an acceptable local cost of the large-scale farms that harness reliable and sufficient wind.³⁸ Whether detriment to the local population of bears is a justifiable “downside” is a serious ethical issue in the Deerfield plan. Bears may perish or suffer from seasonal losses of beechnuts and movement corridors that facilitate feeding and breeding.³⁹ On balance, however, the conclusion might be that only the proposed location can efficiently utilize existing Green Mountain Power infrastructure, making the Readsboro ridgeline uniquely suitable in Vermont.⁴⁰

This reasoning demonstrates several problems plaguing utilitarian analyses generally. First, the ethic bypasses intentionality. To most people, the motives and intentions of actors matter to the morality of action. We care ethically whether a rescuer saves a drowning person for money or out of concern for the victim’s welfare.⁴¹ A utilitarian analyst cares about motives only to the extent that they contribute to greater happiness overall.⁴² This view deflects attention from the corporate and state actors involved in wind farm development. One danger with a utilitarian view is that complete result-orientation releases corporations and governments from personal responsibility. Moral distancing already plagues complex organizations because tasks are compartmentalized and no one is singly responsible for overall conduct.⁴³ People feel responsible for results they intend but tend to overlook their accountability for other foreseeable results of their actions.⁴⁴ In the Vermont context, no member of Deerfield Wind intends to harm bears. The corporate actors may not recognize their responsibility for unintended byproducts of the project unless an evaluation of corporate plans emphasizes that point. Because exclusively utilitarian thinking considers results without motives, it perpetuates ethical distancing.

38. See, e.g., Fuller, *supra* note 19, at 619–21 (describing aesthetic and noise impacts of tall turbines covering large rural areas).

39. Smallheer, *supra* note 4; WALLIN, *supra* note 12, at 3.

40. See Weeks, *supra* note 10 (discussing the importance of access to transmission equipment).

41. This is an example from John Stuart Mill, a classical utilitarian philosopher who asserted that motives are not relevant to judging the morality of rescuing a drowning person. JOHN STUART MILL, *Utilitarianism*, in *ESSENTIAL WORKS OF JOHN STUART MILL* 183, 205 (Max Lerner ed., Bantam Books, Inc. 1961) (1863).

42. *Id.* at 191, 194.

43. See John P. Sabini & Maury Silver, *Destroying the Innocent with a Clear Conscience: A Sociopsychology of the Holocaust*, in *SURVIVORS, VICTIMS AND PERPETRATORS: ESSAYS ON THE NAZI HOLOCAUST* 335–36 (Joel E. Dimsdale, M.D. ed., 1980) (explaining moral distancing using the example of a subordinate within an organization); ELIZABETH WOLGAST, *ETHICS OF AN ARTIFICIAL PERSON: LOST RESPONSIBILITY IN PROFESSIONS AND ORGANIZATIONS* 66–67, 73, 143 (1992) (stating that responsibility is diffused when sense of agency is lost).

44. Sabini & Silver, *supra* note 43, at 339.

Another complication of entirely utilitarian reasoning is inevitable disagreement about relative goods. Utilitarian judgments are both normative and empirical. It is easy to acknowledge the values of both clean energy and thriving wildlife but much harder to resolve concrete conflicts between the two. Besides settling the comparative importance of values in context, analysts must identify and evaluate the particular choices that will best implement those ends. It is difficult to assess the current condition of bears in the state and locality as well as the merits of a scaled-back project or alternative sites. Deciding this in the Deerfield context requires causal assumptions on matters including, but far from limited to: the degree of dependency of bears on a particular stand of trees,⁴⁵ the possible creation of alternative food sources as a byproduct of road and other infrastructure construction,⁴⁶ the future effects of mitigation measures such as restorative tree planting,⁴⁷ and the impacts of varying the scale or other features of the proposed project.⁴⁸ These empirical assessments and predictions make the ethical calculation far less certain or feasible than utilitarian analysis initially appears to promise. Uncertainty is endemic to such projects. It is important to acknowledge this outright instead of succumbing to illusions of definitive calculation. The Deerfield proposal has already generated significant expert disputes over wildlife impacts.⁴⁹ Forrest M. Hammond, a wildlife biologist for the state, predicts devastating effects on the regional bear population.⁵⁰ John Sease, consulting biologist for Green Mountain National Forest, on the other hand, claims that bears will not lose critical habitat.⁵¹ While some positional bias may infect both scientific analyses, it is likely that bear responses and possible adaptations cannot be predicted definitively in advance.

Bat and avian impacts are even more uncertain in the Deerfield project. It is well known that bird mortality is a side effect of wind turbine technology,⁵² although some technological progress has proven successful

45. See, e.g., VT. FISH & WILDLIFE DEP'T, *supra* note 13, at 2 (noting beech bark scarring as evidence of bear feeding).

46. Weeks, *supra* note 10.

47. Alternative food supplies would be necessary in the interim.

48. See Smallheer, *supra* note 4 (noting that the Agency of Natural Resources opposes expansion on the western ridge).

49. *Bear Habitat Cited as Key Issue in Searsburg Wind Turbine Project*, *supra* note 10.

50. See *id.* (recognizing that trees are "decisive to the survival" of the bears).

51. Smallheer, *supra* note 4.

52. See Fuller, *supra* note 19, at 622 (describing the notorious example of raptor collisions with turbines at Altamont Pass, California); Citizens for Responsible Wind Power, Inc., Center for Biological Diversity Altamont Pass Wind Resource Area Lawsuit, <http://www.responsiblewind.org/reality.php> (last visited Apr. 11, 2009) (noting a lawsuit against power companies for continuing Altamont bird deaths); FloridaHabitat.org, Whooping Cranes Endangered by

in reducing this.⁵³ Project directors and state officials need to address avian issues preventively through ongoing study and modifications.⁵⁴ Avian research and protective technology should continue to evolve. A potentially more serious concern is the growing threat to bats from large wind farms.⁵⁵ This is a greater problem in Mid-Atlantic regions,⁵⁶ although little is known about the potential for bat mortality in Vermont.⁵⁷ Current research suggests that the lungs of these small mammals may explode from turbine wind pressure.⁵⁸ So far, the affected bats have not included endangered species,⁵⁹ and bats generally receive little federal protection.⁶⁰ Bats also face grave threats from sources extraneous to turbines, especially a fungus that has resulted in the death of large colonies in cold, northern states, including Vermont.⁶¹ The uncertain and potentially acute impacts of wind turbines on bats demand further research and conscientious attention to mitigation measures. Plans for careful post-construction monitoring are also ethically required for initial project approval. The Deerfield proposal barely addresses these issues and therefore lacks ethical readiness.

Wind Turbines, <http://www.floridahabitat.org/creature-of-habitat/archive2008/07/24whooping-cranes-endangered-by-wind-turbines> (last visited Apr. 11, 2009) (describing turbine threats to Florida cranes migrating and landing at night).

53. Citizens for Responsible Wind Power, Inc., *supra* note 52.

54. See *Bear Habitat Cited as Key Issue in Searsburg Wind Turbine Project*, *supra* note 10 (mentioning opposition advocacy group's projection of 131 annual bird deaths from the Deerfield Wind project).

55. Federal officials recognize this risk. The Bush administration Secretary of the Department of the Interior recently named a Wind Turbine Guidelines Advisory Committee, one member of which is an expert from Bat Conservation International. Press Release, U.S. Dep't of the Interior, Sec'y Kempthorne Names Four Members to Wind Turbine Guidelines Advisory Comm. (April 17, 2008), available at http://www.doi.gov/news/08_News_Releases/080417a.html.

56. Justin Blum, *Researchers Alarmed by Bat Deaths from Wind Turbines*, WASH. POST, Jan. 1, 2005, at AO1; *Morning Edition, Wind Farms Draw Mixed Response in Appalachia* (NPR radio broadcast Mar. 27, 2006), available at <http://www.npr.org/templates/story/story.php?storyId=5300507>.

57. See Letter from Mary C. Krueger & Mollie Matteson, Wilderness Soc'y & Cent. Bio. Diversity, to Bob Bayer, Project Coordinator, USDA Forest Service, regarding comments on the Deerfield Wind Project DEIS 23–27 (2008), available at <http://www.wind-watch.org/documents/wp-content/uploads/wilderness-society-center-biological-diversity-deis-deerfield-wind-comments.pdf> (stating opposition advocacy groups' view that bat mortality predictions are unpredictable from pre-construction data).

58. Jessica Marshall, *Wind Turbines Kill Bats Without Impact*, DISCOVERY NEWS, Aug. 25, 2008, <http://dsc.discovery.com/news/2008/08/25/wind-turbine-bats.html>.

59. See Lilley & Firestone, *supra* note 2, at 1175–76 (stating that the species of bats killed in West Virginia has not been protected by federal law).

60. *Id.* at 1176.

61. *Mysterious Bat Disease Decimates Colonies: Newly Identified Fungus Implicated in White-Nose Syndrome*, SCIENCE DAILY, Oct. 31, 2008, <http://www.sciencedaily.com/releases/2008/10/081030144613.htm>. See *Bat Disease Spreads in Vermont* (VPR radio broadcast Feb. 20, 2008), available at http://www.vpr.net/news_detail/79409/?print (reporting thousands of bat deaths in caves in Vermont, New York, and Massachusetts).

III. BENEFITS, COSTS, AND PRECAUTIONS

Whether a wind project should proceed depends on how much uncertainty is justifiable at the proposal stage. This is, in part, an ethical determination. American environmental law and policy generally reflect a liberal standard of proof for development. It is often enough to justify a project where strong social benefits outweigh costs, as long as similar or less costly alternatives are not evident and mitigation measures can address some detrimental impacts.⁶² Other legal regimes are less permissive, stalling or stopping projects until proponents prove that harms are either not serious or remediable.⁶³ Both the so-called “cost-benefit” and the more demanding “precautionary” approaches have ethical implications for wind power. Extreme intolerance of scientific uncertainty and risk can impede implementation of important policy goals, such as establishing cleaner and renewable sources of energy within a modest time frame. Waiting too long has ethical costs, such as rapid climate change inflicting harm to the wildlife populations of concern in wind proposals. On the other hand, hasty action risks serious, enduring, and unanticipated damage to wildlife populations, which is harder to remediate than prevent. Also, large corporate investment in infrastructure and governmental involvement in project development practically ensure a juggernaut favoring project continuance, notwithstanding possible negative discoveries from post-development monitoring.

It is not ethically sound to frame the debate as an either-or choice between the so-called cost-benefit and precautionary principles either before a proposal receives approval or in monitoring after the fact. The two can function together to identify a workable, although imperfect, point where the best available information and reasonable precautions justify moving forward with careful safeguards. The goal of foolproof prediction is as unrealistic as casual confidence in the merits of wind projects. Infusing projects with precautions better ensures that applicants will take seriously legal and ethical obligations to examine alternatives and mitigate,

62. See Freyfogle, *supra* note 34, at 829 (referring to states’ pollution control standards that consider only costs and benefits affecting living people, not long-range ecosystem impacts); Laurence H. Tribe, *Ways Not to Think About Plastic Trees: New Foundations for Environmental Law*, 83 YALE L.J. 1315, 1322–23 (acknowledging challenges in comparing conflicting interests in environmental matters but not rejecting usefulness of such comparisons).

63. See, e.g., Kara-Anne Yaren, *Trade and Genetically Modified Foods*, 1 ASPER REV. INT’L BUS. & TRADE 149, 149 (2001) (describing and decrying European application of precautionary principle to biotechnology and genetically modified organisms).

instead of glibly invoking the expense or infeasibility of project revisions.⁶⁴ So far, Deerfield Wind has not demonstrated earnest commitment to explore alternatives or on-site mitigation. Instead, its recent last minute attempt to “dump” documents on participants in a pre-scheduled public hearing suggests a bad faith intention to obfuscate.⁶⁵ Corporate intentions are ethically relevant to project approval, and the public and regulators should be skeptical about future operations of such actors.⁶⁶

IV. IMPLEMENTING PRECAUTIONS: ALTERNATIVES, ON-SITE MITIGATION, AND OFF-SITE MITIGATION

A. Alternatives

An ethical dilemma is a situation of conflicting values, in which at least one value must yield to others, thus sacrificing something of importance.⁶⁷ Although ethics discussions too often suggest otherwise, many ethical resolutions are not so stark. Accommodating here the important values of renewable energy development and wildlife protection may commend cautious compromises instead of dichotomous choices. Such accommodation deserves careful initial consideration. Yet the possibility lingers that conflict cannot be resolved without unjustifiable losses, making

64. In precedent, the Vermont Supreme Court has insisted that developers pursue all available administrative measures before it would consider legal remedies for state denial of permits that would jeopardize habitat of twenty to thirty black bears. Again, this legal result is also ethical in forcing a developer to investigate less harmful alternatives and mitigation. *Killington, Ltd. v. State*, 154 Vt. 253, 255–57 (1995) (referring to ski resort’s “our-way-or-no-way” approach).

65. Citizens’ Request, *supra* note 8.

66. This assertion calls up extensive debate on the meaning of corporate intentionality, a complex subject beyond the scope of this article. Briefly, I side with those who attribute intentions to organized groups because the degree and type of power corporations wield exceeds that of individuals acting in concert. *See, e.g.*, CHRISTOPHER STONE, *WHERE THE LAW ENDS: THE SOCIAL CONTROL OF CORPORATE BEHAVIOR* (1975) (asserting it is possible to change corporate culture and ethics); WOLGAST, *supra* note 43, at 66–67, 73, 143 (asserting that a personal sense of agency counteracts diffusion of responsibility); *see generally* Kenneth E. Goodpaster & John B. Matthews, *Can a Corporation Have a Conscience?*, 60 HARV. BUS. REV. 132, 132–41 (1982) (answering the title question in the affirmative). *But see* John C. Danley, *Corporate Moral Agency: The Case for Anthropological Bigotry*, in *ETHICAL ISSUES IN PROFESSIONAL LIFE*, *supra* note 30, at 269, 270, 272 (asserting there is no corporate consciousness or capacity for punishment); John Ladd, *Morality and the Ideal of Rationality in Formal Organizations*, 54 THE MONIST 488, 513 (1970) (discussing acts of individuals attributed metaphorically to corporations); Manuel G. Valesquez, *Why Corporations Are Not Morally Responsible for Anything They Do*, 2 BUS. & PROFESS. ETHICS 1, 9 (1983) (examining the nonsensical idea of “group mind” without body).

67. *See* THE CAMBRIDGE DICTIONARY OF PHILOSOPHY 508 (Robert Audi ed., 1995) (discussing philosophical meanings of “moral dilemma”).

this case a true dilemma that would ethically halt the Deerfield project in any feasible form.

Basic ethical principles relevant here are that only unavoidable or necessary harms are justified, and then only for the best of reasons. To meet these standards Deerfield Wind must pursue alternative proposals that curtail or greatly reduce wildlife damage.⁶⁸ The Vermont Department of Natural Resources favors expanding only the eastern ridge wind farm and eliminating the western expansion that threatens the heaviest bear population and beech tree stand.⁶⁹ This cautious possibility should itself be subject to cost-benefit assessment to ascertain whether the revision would still result in sufficient increases in power to justify its infrastructure and operating costs. If it turns out that a scaled down proposal is not cost-effective, Deerfield Wind should consider new alternatives of comparable scope or abandon plans for a large, industrial facility in the Green Mountains.

B. On-Site Mitigation

A second way to meet the ethical injunction to minimize harm is to employ mitigation measures at the originally proposed locations. Deerfield Wind and Green Mountain Power would have to employ multiple methods simultaneously to curtail most wildlife harms. Green Mountain Power has suggested that clearing necessary to construct and operate essential buildings, power equipment, and roads should be kept to an absolute minimum to limit beech tree destruction and the travel distance between areas bears use seasonally.⁷⁰ Following construction, cleared areas might be allowed to regenerate, thus minimizing the length of habitat interference.⁷¹ Another suggestion is to restrict visitor and unnecessary human presence during vulnerable times for bears.⁷² Other possibilities not suggested may be less feasible or effective, for example, providing at least

68. So far the Green Mountain Forest Service has issued a Draft Environmental Impact Statement espousing the energy benefits of the proposed project but deferring its decision on a special use permit pending completion of the Vermont Public Service Board evaluation. Weeks, *supra* note 10. Despite delay, this suspension is ethically sound given the uncertainties and need to consider alternatives.

69. Smallheer, *supra* note 4 (reporting Vermont Agency of Natural Resources' objection to any western ridge expansion).

70. On its blog, Green Mountain Power claims to conduct minimal clearing to preserve habitat. Green Mountain Power, *How Do Wind Turbines Affect the Birds and Bears?*, <http://blog.greenmountainpower.com/wind-turbines-birds-and-bears/> (last visited Apr. 9, 2009).

71. See Weeks, *supra* note 10 (discussing possible new food sources along cleared roadways).

72. Green Mountain Power claims to restrict site visitation in spring and fall during bear movement. Green Mountain Power, *supra* note 70.

temporary substitute food sources or attracting bears to new feeding sites. Such measures would require advance study and research on experiences in other regions, as well as ecosystem effects. Associated delays would be ethically justified despite the urgency of renewable energy development.⁷³ The greater danger here is that environmental protection will succumb to hunger for energy independence linked to high prices and evident climate changes. Feasible and effective steps might release an otherwise stalled project despite an ethically enhanced burden of proof. It is ethically important to build into project plans post-construction monitoring and the possibility of a future moratorium to address complications that unfold. The Vermont Agency of Natural Resources questions the efficacy of mitigating steps to replace vital bear habitat.⁷⁴ If further scrutiny reveals that on-site mitigation will not forestall serious habitat damage, the project should not proceed.

C. Off-Site Mitigation

A third option is to permit the company to suggest tradeoffs involving bear enhancements in other regional locations. For example, the company might offer to devote a portion of other land owned in the state to bear protection. This attempt to avoid unnecessary harm is more ethically controversial, although not a novel way of addressing environmental issues without suspending a project. Such compensatory measures already allow developers to clear wetlands otherwise off limits, for example, in exchange for protecting wetlands in another location.⁷⁵ Somewhat analogously, carbon emissions are now legally traded in some markets, allowing corporations to pay for selective pollution.⁷⁶

Proponents justify such substitutions through utilitarian calculations of preserved wetlands and clean air overall. Such assessments assume that regions sharing similar features are fungible. Applying this framework to wildlife, the overall health of animal populations would be the goal.⁷⁷ For

73. Deerfield Wind lacks ethical standing to complain about delay, given its own effort to deluge hearing participants with a flurry of documents at the eleventh hour. See Citizens' Request, *supra* note 8.

74. DEIS Comments, *supra* note 11.

75. See Lisa A. Wainger et al., *Wetland Value Indicators for Scoring Mitigation Trades*, 20 STAN. ENVTL L.J. 413, 414 (2001) (describing wetland banking as a market solution).

76. See Randall Lutter & Dallas Burtraw, *Clean Air for Less: Exploiting Tradeoffs Between Different Air Pollutants*, 13 FORDHAM ENVTL. L.J. 555, 556 (2002) (discussing purchases of emissions up to a cap and recommending new tradeoffs between different pollutants).

77. The health of regional populations is protected under Vermont's Land Use and Development Law, Act 250. See *In re Killington, Ltd.*, 159 Vt. 206, 209–10 (1992) (noting and upholding an Environmental Board interpretation that "necessary wildlife habitat" under section 8(A)

Green Mountain National Forest bears, the target would be to maintain the regional population at a level approximating pre-development numbers and condition.

Tradeoff arrangements arouse legitimate ethical discomfort. One weak complaint is that tampering with existing conditions is artificial or “unnatural.”⁷⁸ This standard of “nature” conceptually removes human activity from the stream of natural processes and assumes superiority of an untouched environment. While preserving some untainted places is a vital American wilderness ideal, such purity is neither feasible nor justifiable as a general norm.⁷⁹ Human traces infuse even the wildest places. Humans are part of nature and severing them may invite alienation and environmental exploitation.⁸⁰

A second kind of squeamishness with tradeoff environmental arrangements, such as off-site mitigation, holds up better to scrutiny. Environmental respect is not an abstraction, so the objection would go, and the loss of particular places and things matters even if the overall balance remains stable. In the wildlife context, we do value species holistically for various reasons, including overall biodiversity and ecosystem health. The so-called “existence value” of a species motivates concern for creatures in far corners of the earth simply because they are there.⁸¹ Indeed, the wildness of something is an important feature of its character precisely because it is largely beyond human contact and control.⁸² Yet, there is something left over from species valuation, something beyond southern Vermont bears as a whole or even as a regional population protected under Vermont law. The particular bears that may starve or suffer from fragmented habitat also matter. The principle of avoiding unnecessary harm also applies to individual animals because they have value and

covers a “particular wildlife population dependent”); see also Jon Reidel, *The Bear Facts*, THE VIEW, Sept. 9, 2003, <http://www.uvm.edu/theview/article.php?id=907> (describing distinct genetic differences among regional bear populations in Vermont).

78. See Robert Elliot, *Faking Nature*, in ENVIRONMENTAL ETHICS: READINGS IN THEORY AND APPLICATION, *supra* note 36, at 290, 292–93 (accepting that “natural” can mean “unmodified,” but focusing on the origin of something as part of its value).

79. See William Cronon, *The Trouble with Wilderness: Or, Getting Back to the Wrong Nature*, in UNCOMMON GROUND: TOWARD REINVENTING NATURE 69, 81–82, 87 (William Cronon ed., 1996) (describing nature as cultural invention separating humans).

80. *Id.*

81. See, e.g., David A. Dana, *Existence Value and Federal Preservation Regulation*, 28 HARV. ENVTL. L. REV. 343, 345 (2004) (stating that existence values account for why the federal government protects natural spaces that few out-of-state residents may ever experience or utilize).

82. Holly Doremus, *Restoring Endangered Species: The Importance of Being Wild*, 23 HARV. ENVTL. L. REV. 1, 13 (1999).

deserve consideration and respect.⁸³ This does not mean that individual bears can never perish by human hand because sometimes interest conflicts can only be resolved with such residual costs.⁸⁴ It does mean, however, that the particular bears residing in the Green Mountain National Forest are neither dispensable nor interchangeable with other bears. Earnest efforts should be made not to displace them.

V. BEARS THEMSELVES

Environmental ethicists could criticize the entire discussion so far for being anthropocentric. Renewable energy directly benefits the humans whose health and flourishing depend on lowering pollution and impacts on climate. The same considerations affect wildlife degraded by acid rain and climate alterations.⁸⁵ Thus wildlife can benefit derivatively from improved energy policy. A biocentric critic would claim, however, that parallel benefits are contingent on human interests and thus vulnerable to varying human circumstances.⁸⁶ Direct consideration of wildlife in its own right, apart from human concerns, is the ethical recommendation of biocentrists.⁸⁷

So-called “anthropocentric” environmental ethics has undergone steady attack for upwards of twenty-five years.⁸⁸ Some critics do not count an ethic placing humans first as an environmental “ethic” at all.⁸⁹ Recently,

83. See Lilly-Marlene Russow, *Why Do Species Matter?*, in ENVIRONMENTAL ETHICS: READINGS IN THEORY AND APPLICATION, *supra* note 36, at 269, 270 (discussing value of species and concluding that protecting species should be recast and thought of as possible duties to individual members); Nussbaum, *supra* note 35 at 1544 (arguing against ethical concern for the preservation of species as such). I am not inclined to reject the ethical status of species themselves, although I recognize some difficulties with positing the ethical interests of collectives such as species. For purposes of Deerfield Wind, however, some interests of bear populations are already recognized, while the interests of individuals are not at all under consideration. That ethical omission is unjustifiable, in my view. Indeed, I believe this is an unfortunate bias in wildlife law, generally. For example, wolf reintroduction went forward on a species basis, never sufficiently considering the social and biological impact on wolf packs and individuals that were removed by air from Canada and placed in Yellowstone.

84. See, e.g., Paul Taylor, *Biocentric Egalitarianism*, in ENVIRONMENTAL ETHICS: READINGS IN THEORY AND APPLICATION, *supra* note 36, at 139, 140–42, 153 (stating that individual living things are deserving of at least presumptive consideration despite the need to resolve competing interests).

85. See Lilley & Firestone, *supra* note 2, at 1174–75 (discussing detrimental ecological and wildlife impacts of climate change).

86. See, e.g., Regan, *supra* note 36, at 89 (showing stringent results of animal value independent of usefulness); Taylor, *supra* note 83, at 139–140 (defending independent obligations to living beings).

87. See, e.g., Taylor, *supra* note 84, at 139–40.

88. Earth Day is a familiar demarcation point.

89. See Bryan Norton, *Which Morals Matter? Freeing Moral Reasoning from Ideology*, 37 U.C. DAVIS L. REV. 81, 88, 89 (2003) (discussing views of Tom Regan and Baird Callicott that human-centered philosophy is not a genuine environmental ethic).

commentators have countered this critique, arguing that the controversy between anthropocentric and non-anthropocentric ethics is the wrong debate and has distracted environmentalists from pressing practical problems of social policy.⁹⁰ An alternative, “pragmatic” approach should focus on worthy environmental goals, not the motives of environmentalists, according to critics of the non-anthropocentric movement.⁹¹ This alternative approach might accommodate substantial bear protection through mitigation, or even off-site tradeoffs, without foregoing a valuable wind project, a pragmatist could argue.

Despite the merits of accommodation argued throughout this article, it is hasty to dismiss non-anthropocentric ethical approaches to policy discussions of wind farms. This move would lopsidedly favor humans because energy is an exclusively human need. It would render tangential the relative welfare of a localized bear population, and no compelling concerns with species rarity or endangerment could counter-balance the urgency and excitement of changing energy policy. The legal requirements to consider environmental impacts and alternatives would become facile formalities of process rather than a binding source of corporate incentives.⁹²

Ethical analysis that takes bears as deserving consideration, apart from their usefulness or appeal to humans, checks utilitarianism run amok. As ethical theory, the direct consideration view is typically deontological, measuring moral good partly on its own terms apart from consequences.⁹³ A deontologist sometimes justifies an action by its moral quality despite admittedly deleterious results. For example, an environmentalist lawyer might decline a much needed job offer because the position would compromise fundamental environmental values.⁹⁴ A deontologist of a non-anthropocentric stripe might deny the Deerfield project on the grounds that bears will perish, despite acknowledging the benefits of enhancing wind power.

Often deontologists use the language of rights and duties.⁹⁵ Individual rights sometimes supersede goods of groups or society overall. Within this rights tradition, some but not all non-anthropocentric environmental ethicists attribute rights to living non-humans.⁹⁶ On this view, individual

90. *Id.* at 93–94 (urging acceptance of pluralistic approaches).

91. *Id.* at 93.

92. This is a danger of NEPA, which sets forth mostly informational procedures.

93. Frankena, *supra* note 31, at 114–15. This does not mean that deontologists reject any injection of teleology. They may find utilitarianism relevant but not sufficient.

94. My law students entering the job market frequently express this concern.

95. The idea is that rights can override balancing of costs and benefits.

96. *See* Regan, *supra* note 36, at 3 (identifying himself as a proponent of animal rights). Note that some utilitarian thinkers also refer to animal rights. *See* Peter Singer, *A Utilitarian Defense of*

bears would possess rights that must be considered, and could possibly overpower the Deerfield project. Yet rights may conflict or be overridden by other concerns, so having rights does not guarantee priority.

Like utilitarian theory, deontological ethics prompts objections. One is epistemological in questioning how one knows the moral nature of something. This concern is too complex to address fully here, but suffice it to say that utilitarianism and deontology share uncertainties, although one for the vagaries of goods and comparisons, and the other for its own moral assumptions. The uncertainty lament should not carry the day, since every contextual moral decision is fraught with incomplete information and assumptions. This is not to say that all decisions are morally equivalent, however, because they may be evaluated as better or worse based on formal criteria like comprehensiveness, consistency, and factual accuracy, as well as normative justification. The ethical analyses of wind power cases involve complex judgments and assessments that will never produce bell-ringing certainty but can be more or less justified.

Applying deontology to wildlife ethics presents another problem, at least its rights-based versions. The brevity of this forum only permits cursory discussion of the shortcomings of rights. Some say that having rights implies membership in a moral community, which in turn assumes the capacity to reason in moral terms and reciprocal duties.⁹⁷ This picture leaves out non-humans. A response is that people have direct obligations to humans with scant moral reasoning capacities.⁹⁸ A rights proponent would claim that non-human beings fit into that category.

Other deontologists would bypass rights altogether and appeal, instead, to the unique interests of living beings.⁹⁹ A thing with interests can be harmed or benefited and thus deserves moral consideration in its own right.¹⁰⁰ The important point here is that exclusively utilitarian analysis does not address some important intuitions about non-fungible value beyond human preferences. Such additional considerations help to explain

Animal Liberation, in ENVIRONMENTAL ETHICS: READINGS IN THEORY AND APPLICATION, *supra* note 36, at 73, 77 (asserting that consideration is due to all sentient beings capable of suffering).

97. See Martin Golding, *Obligations to Future Generations*, in RESPONSIBILITIES TO FUTURE GENERATIONS 61, 65 (Ernest Partridge ed., 1981) (arguing that future people lack ability to reciprocate within a moral community and thus lack rights); see also Richard A. Watson, *The Identity Crisis in Environmental Philosophy*, in ENVIRONMENTAL PHILOSOPHY AND ENVIRONMENTAL ACTIVISM 203, 205 (Don E. Marietta & Lester Embree eds., 1995) (questioning attribution of rights to beings incapable of duties).

98. See Regan, *supra* note 36, at 85 (asserting that an intuitive sense of duty to children and mentally retarded people extends to animals).

99. Taylor, *supra* note 84, at 140–42.

100. *Id.*

why protecting wildlife in the western ridgelines matters ethically despite the absence of species-wide endangerment or threat.

VI. RELATIONSHIPS, WILDLIFE, AND COMMUNITY

Another mode of ethical thinking is relevant to wind power and wildlife. Although ecofeminists disagree on other key points, they concur that subsuming environmental matters into human interests is a form of oppression.¹⁰¹ According to ecofeminists, all forms of oppression share the conceptual flaw of posing false dichotomies and favoring one side over the other.¹⁰² Thus hierarchical distinctions between reason and emotion, nature and human, or male and female are oppressive and unethical.¹⁰³ Feminists also emphasize the social nature of morality and relationships over atomistic individuality.¹⁰⁴ Ecofeminists extend this relational primacy to non-human nature, and presumably would recognize interrelationships among non-humans themselves as well as human connections to non-human counterparts. Yet connections must respect differences instead of projecting human attributes on non-humans.¹⁰⁵ For feminists, the best ethical solutions are inevitably contextual and consider the total complex of factors in each particular situation.¹⁰⁶ Such resolutions are also dynamic and flexible enough to incorporate needed changes over time.¹⁰⁷

Ecofeminists evaluating the Deerfield project would not disregard bears or other wildlife simply because they are different from humans and thus inferior. Ecofeminists would not view bears or humans in isolation and would treat the entire network of relationships as ethically important. Thus, the fate of bears would be considered ecologically in relation to the complex environmental and human impacts that various adjustments would create. For example, other creatures, plant life, water levels and quality may depend on bear habitat, and project specifications should account for such ripple effects.¹⁰⁸ An ecofeminist solution would certainly require

101. Karen J. Warren, *The Power and Promise of Ecological Feminism*, in ENVIRONMENTAL ETHICS: READINGS IN THEORY AND APPLICATION, *supra* note 36, at 33–35, 37.

102. *Id.* at 34 (noting “value dualisms” in the oppressive conceptual model).

103. *Id.* at 34–35.

104. *Id.* at 39.

105. Warren, *supra* note 101, at 38–40 (discussing a rock climbing narrative about understanding and respecting differences).

106. *Id.* at 42 (discussing feminist and eco-feminist “contextualist” ethics).

107. *Id.* at 42 (discussing ethics as a perpetual process).

108. To its credit, The Vermont Agency of Natural Resources recognizes these ecosystem impacts. See DEIS Comments, *supra* not 11.

ongoing ecosystem monitoring and adaptations in any proposal that received initial approval.

Aldo Leopold's community of life shares some ecofeminist ideals that helpfully apply to the Deerfield project, even though Leopold preceded and did not identify with modern feminism.¹⁰⁹ Leopold relegated the ethical role of human "from conqueror to plain member and citizen" within the interdependent natural community.¹¹⁰ Leopold joined economic and human considerations with affection and ethical responsibility for the natural world,¹¹¹ another relational view of environmental ethics consistent with ecofeminism. His views support the multi-faceted ethical approach recommended here. Comprehensive ethical analysis of the complex wind issue benefits from multiple perspectives, including relational.

VII. DISTRIBUTIVE JUSTICE ISSUES

Another important ethical consideration is how to allocate burdens and benefits in a wind project. Wind farms can produce human winners and losers, or at least that perception. Many environmental policy decisions result in destructive divisions. One familiar example is gray wolf restoration in Yellowstone National Park. National sentiment favored reintroduction of this apex predator that had been eradicated by human hands.¹¹² Local ranchers vehemently objected at the time and continue to express their feeling that the Government thrust policy forcibly and unfairly on those who stood to lose livestock and, potentially, their livelihood and way of life.¹¹³ That such apprehensions were addressed quite effectively through livestock depredation funds did not eradicate the attitude that local interests succumbed to big government and elitist environmentalists.¹¹⁴ An analogous example involved a government decision to reduce long-standing Klamath River irrigation-water allocations to protect salmon populations

109. ALDO LEOPOLD, *A SAND COUNTY ALMANAC* 219–20 (Oxford Univ. Press 1966) (1949).

110. *Id.*

111. *Id.* at 225.

112. *See* Doremus, *supra* note 82, at 8 (describing popular pressure to restore wolves and grizzlies).

113. *See, e.g.,* Craig E. Enochs, *Gone Today, Here Tomorrow*, 4 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 91, 93 (1997) (discussing rancher apprehensions and litigation).

114. *See* Doremus, *supra* note 82, at 69 (noting Defenders of Wildlife fund for ranchers who lost livestock).

during a drought period, jeopardizing the livelihood of angry local farmers.¹¹⁵

A similar, although probably less dramatic, future may haunt the Deerfield and other wind power projects without careful attention to equities.¹¹⁶ Vermonters whose ridgeline views will change because of tall turbines will assume aesthetic burdens to their sense of place.¹¹⁷ Nearby residents will face fairly low-level but constant turbine noise, thus disrupting tranquility.¹¹⁸ Hunters who customarily rely on bears for food will face a reduced population and responsive state restrictions limiting permitted bear takes.¹¹⁹ Such claims should be heard and addressed transparently. Public acceptance is a necessary ingredient of wind power success.¹²⁰

On the benefit side, many local residents of Searsburg and Readsboro welcome the promise of new jobs and tax revenue.¹²¹ Although a Spanish-owned company will reap the profits of the project, bypassing national concerns with foreign ownership of energy resources, the company must answer to local concerns and laws. Green Mountain Power, a Vermont company, will attain new sources of electricity while efficiently utilizing existing infrastructure. Some of the power generated will serve Vermonters, although some will contribute to regional supplies.¹²² Vermont

115. See, e.g., Christine Swift, *Crisis in the Klamath: New Considerations for Managing Water Under the Endangered Species Act*, 22 TEMP. ENVTL. L. & TECH. J. 65, 66 (2003) (discussing that the Endangered Species Act prioritizes the interests of endangered species over human activity).

116. The ocean-based "Cape Wind" proposal for a wind farm off Nantucket Sound is an illustration. After years of legal and political wrangling, widespread opposition still plagues the project. See Smith, *supra* note 19, at 289–90 (describing ongoing opposition and litigation over Cape Wind).

117. See Fuller, *supra* note 19, at 619 (discussing aesthetic impacts of wind energy development on federal lands).

118. *Id.* at 620.

119. Vermont regulates bear hunting and defends the practice as vital to its heritage and as a source of food. See Vermont Fish & Wildlife Department, Hunting & Trapping, Black Bear, http://www.vtfishandwildlife.com/wildlife_biggame.Cfm#bb (last visited Apr. 11, 2009) (noting that officials adjust regulations as necessary to maintain healthy bear population). The ethics of hunting is beyond the scope of this topic. Suffice it to say that the state might be hypocritical in allowing hunting while opposing wind farm risks to bears. The state would most likely respond that its current objection to Deerfield Wind is based on population threats, not the mortality or suffering of individual animals.

120. For example, European research reveals that public impressions that turbines harm birds can affect wind farm acceptance and permits. Victoria Sutton & Nicole Tomich, *Harnessing Wind is Not (by Nature) Environmentally Friendly*, 22 PACE ENVTL. L. REV. 91, 95 (2005).

121. *Bear Habitat Cited as Key Issue in Searsburg Wind Turbine Project*, *supra* note 10 (projecting 240 new jobs and \$200,000 and \$140,000 in increased tax revenue to Searsburg and Readsboro, respectively).

122. Green Mountain Power of Vermont will purchase up to fifty percent of Deerfield Wind power, according to testimony by James W. Brown, Manager of Resource Planning at Green Mountain Power. Pre-filed Direct Testimony of James W. Brown on Behalf of Deerfield Wind, L.L.C., at 16–19, Petition of Deerfield Wind, L.L.C. for a Certificate of Public Good pursuant to 30 V.S.A. § 248 (filed

currently depends on Hydro-Quebec, a Canadian company, for thirty-five percent of its electricity,¹²³ and this contract is due to expire around 2012.¹²⁴ Vermont also receives thirty-six percent of its power from Vermont Yankee, a nuclear power facility,¹²⁵ in an arrangement that may not only end, but also presents a threat of long-range nuclear hazards. For these reasons, Vermonters stand to gain in electricity supply and possibly affordability from increased wind power generation.¹²⁶

On the duty side, the national expectation is that each state should do its part, although only one wind farm has recently survived Vermont's regulatory process.¹²⁷ A cry of hypocrisy infuses the discussion since the state holds itself out as a leader in environmental matters while deriving its energy from questionable sources. Vermont has dishonored its own policy to develop clean and renewable power in state, so a critic might declare.¹²⁸ No wind project can be cost-free, and it is time for Vermont to compromise some environmental purity, that objector might conclude.

In response, the state can invoke its role as trustee of its natural resources on behalf of the public now and in the future.¹²⁹ Black bears are specifically important to Vermont's wild and human heritage as well as its cultural identity.¹³⁰ Although bears are not legally threatened, their needs are complex and fairly well understood by state wildlife experts. This specialized knowledge places a high ethical burden on the state to prevent serious harms. It also enables experts to devise effective mitigation.

How much disruption a state and its residents should tolerate to contribute to national energy resources is a justice question that affects every decision related to facility sites. The policy of utilizing some public lands for this purpose exacerbates the question of how to distribute benefits

Jan. 8, 2007), available at www.state.vt.us/psb/document/7250Deerfield/Petition+SupportDocs/Brown/Brown_Direct_Testimony.pdf.

123. Fairwind Vermont, *Why Windpower?*, <http://www.fairwindvermont.org/WhyWindpower.html> (last visited Apr. 11, 2009).

124. *Id.*

125. *See id.* (stating that Vermont is dependent on expensive non-state power and risky nuclear power).

126. *See* VT. ENERGY P'SHIP, *supra* note 18 (stating that price vulnerability is potentially assuaged by energy independence).

127. *Id.*; *See also* *Vt. Supreme Court Rules Sheffield Wind Project Can Go Ahead*, *supra* note 21 (discussing the approval of the Sheffield wind farm).

128. The Vermont Supreme Court's February 7, 2009 decision to uphold a ridgeline wind project in Sheffield may have dampened some of this pressure. *See Vt. Supreme Court Rules Sheffield Wind Project Can Go Ahead*, *supra* note 21 (discussing the approval of the wind-development project as signaling the viability of wind energy projects in Vermont).

129. *See* *Geer v. Connecticut*, 161 U.S. 519, 529 (1896) (recognizing a state's ability to exercise sovereign control over game for the public's benefit); Musiker et al., *supra* note 22, at 88.

130. Vermont Fish & Wildlife Department, *supra* note 119.

and burdens justly. The “public” that owns national forests is so far from monolithic to be almost a fiction. Taking into account the National Forest Service’s policy of multiple use, including economic uses,¹³¹ makes Department of Agriculture decisions inherently controversial, as familiar debates over logging and mining illustrate.¹³²

The nation’s ability to thrive depends on new energy. This urgency extends to Vermonters. The migration of young people out of state will only stop with viable economic opportunities,¹³³ including affordable and clean energy. Yet loss of wild heritage will alter the meaning of being a Vermonter, which involves respect and responsibility for place. Thus, wind project proposals should be sensitive to all of these justice concerns.

VIII. VIRTUE AND BEARS

To disregard bear, bird, bat, or other living heritage to satisfy the pressing need for energy would mar human character. This final concern emerges from the tradition of virtue ethics. This strand of philosophy examines the traits contributing to ethical character, with confidence that a good person will tend to act well.¹³⁴

Environmental virtues are those human traits that make people sensitive to environmental wellness and conscientious about environmental protection.¹³⁵ Such characteristics include, among others, humility about

131. Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. §§ 528–529, 531 (2000).

132. See Fuller, *supra* note 19, at 638 (“[F]ederal lands have a long history of land use focused on extraction.”).

133. See Kelly Sullivan, *Central Vermont Faces Looming Housing Crisis*, TIMES ARGUS, Jan. 26, 2006, <http://www.housingawareness.org/press/clips/2006-1-26-ta.htm> (discussing the Secretary of the Vermont Agency of Commerce and Community Development’s view that Vermont is losing its young people because of economic pressures).

134. Virtue ethics shifts away from a long tradition in western moral philosophy that emphasizes principles of judgment and action. It revives classical Greek and medieval philosophy of virtue. For notable work in this area, see PHILLIPPA FOOT, VIRTUES AND VICES AND OTHER ESSAYS IN MORAL PHILOSOPHY (1978); ALASDAIR C. MACINTYRE, AFTER VIRTUE: A STUDY IN MORAL THEORY (3d ed. 2007); MARTHA C. NUSSBAUM, THE FRAGILITY OF GOODNESS; LUCK AND ETHICS IN GREEK TRAGEDY AND PHILOSOPHY (updated ed. 2001); GABRIELLE TAYLOR, PRIDE, SHAME, AND GUILT: EMOTIONS OF SELF-ASSESSMENT (1985); BERNARD WILLIAMS, MORAL LUCK: PHILOSOPHICAL PAPERS, 1973–1980 (1981).

135. Recently, several environmental ethicists have expanded the field into virtue ethics. See RONALD SANDLER, CHARACTER AND ENVIRONMENT: A VIRTUE-ORIENTED APPROACH TO ENVIRONMENTAL ETHICS (2007); ENVIRONMENTAL VIRTUE ETHICS (Ronald Sandler & Philip Cafaro eds., 2005); LOUKE VAN WENSVEEN, DIRTY VIRTUES: THE EMERGENCE OF ECOLOGICAL VIRTUE ETHICS (2000).

the human place in the planetary scheme,¹³⁶ generosity toward place and its components,¹³⁷ and courage to pursue environmental ideals even when inconvenient.¹³⁸ Environmental virtue relies on particular emotions, including, wonder,¹³⁹ gratitude,¹⁴⁰ and respect for non-human beings.¹⁴¹

Collectively, the environmental virtues of a society shape policy, legal priorities, and public restraint. Espousing the “greenness” of wind energy raises the standard for collective achievement, in my view. To rush into “green” energy projects with deleterious impacts is hypocritical and not worthy of environmental ideals. Some lament that critics scrutinize wind projects while letting other less justifiable modes of energy production off the hook.¹⁴² Yet it is appropriate to apply higher standards to renewable energy resources that promise more freedom from environmental and social ills, such as pollution, climate change, hazardous waste, and vulnerability to foreign interests. The promise of a better way should be true.

CONCLUSION

The time for efficient industrial wind farms is here. Our culture can adapt to restrained aesthetic changes of inland turbines dotting carefully-selected mountain ridgelines. Some public lands are suitable for this kind of shift in vital energy priorities. Every region has a collective ethical responsibility to evaluate its geographic resources and to consider accepting some impacts to contribute its fair share.

136. See, e.g., Thomas E. Hill, Jr., *Ideals of Human Excellence and Preserving Natural Environments*, 5 ENVTL. ETHICS 211, 216 (1983) (asserting that a proper appreciation of the human place in the natural order is a necessary first step in developing moral humility); Sallie McFague, *A Square in the Quilt: One Theologian's Contribution to the Planetary Agenda*, in SPIRIT AND NATURE: WHY THE ENVIRONMENT IS A RELIGIOUS ISSUE 39, 54 (Steven C. Rockefeller & John C. Elder eds., 1992) (discussing that one's place in the universe leads to a sense of humility and belonging to the Earth).

137. See Mark Sagoff, *Zuckerman's Dilemma: A Plea for Environmental Ethics*, 21 HASTINGS CENTER REP. 32, 37–40 (1991) (discussing affection for place leading to citizen environmental protection).

138. See Reed Elizabeth Loder, *Integrity and Epistemic Passion*, 77 NOTRE DAME L. REV. 841, 858 (2002) (discussing courage as a virtue complementary to humility and integrity).

139. McFague, *supra* note 136, at 54.

140. See Reed Elizabeth Loder, *Lawyers and Gratitude*, 20 NOTRE DAME J.L. ETHICS & PUB. POL'Y 175, 181, 190 (2006) (describing open-ended gratitude as a virtuous emotion related to humility, courage, and integrity).

141. See, e.g., Taylor, *supra* note 84, at 142 (urging an ethical attitude of respect).

142. See Lilley & Firestone, *supra* note 2, at 1214 (discussing that nonrenewable energy has greater impacts on wildlife and recommending the same level of scrutiny as given to wind power).

These priorities, however, do not justify loosening otherwise important environmental protections and streamlining processes that safeguard environmental values.¹⁴³ Deontological, feminist, and virtue ethics offer insights into the complex wind issue that supplement facile reliance on utilitarian ethics, despite the relevance of cost and benefit reasoning to governmental and public policy decisions like these.¹⁴⁴ The interests of wildlife should be considered seriously enough to stop unsuitable projects. Deerfield Wind, the Vermont Public Service Board, and the Department of Agriculture, which manages national forests, must insist on accommodating wildlife more effectively than the Deerfield proposal has thus far. So far, Vermont governmental officials have met high ethical standards in demanding stringent terms and withholding facile approval, applying state and federal law ethically. This would be the first wind farm on national forest land. It would occur in a state with a strong environmental identity. This frontier industrial development should shine as an ethical wind energy model for future wind projects everywhere.

143. *But see* Adam M. Dinnell & Adam J. Russ, *The Legal Hurdles to Developing Wind Power as an Alternative Energy Source in the United States: Creative and Comparative Solutions*, 27 NW. J. INT'L & BUS. 535, 535–36 (2007) (recommending a single review and a streamlined process).

144. *See generally* Nagel, *supra* note 30, at 82 (discussing the role of morality in constraining utilitarian public decisions).