

Harmonizing Commercial Wind Power and the Endangered Species Act Through Administrative Reform

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INTRODUCTION

What could be greener than wind power? That's easy—saving endangered species!

The wind power industry has learned the hard way what timber companies, federal land management agencies, hydropower generators, state highway departments, real estate developers, small coastal villages, the Environmental Protection Agency, farmers, major metropolitan governments, and more like them around the nation know all too well—never, ever take your eyes off the Endangered Species Act (“ESA”).¹ It may be green and one of the darlings of our nation's renewable energy future,² but wind power has no “green pass” to get out of the ESA.

The reason wind power has cause for concern with the ESA is, in a nutshell, that wind power needs wind, and many bats and birds—including some protected under the ESA—like windy places.³ So, it is

1. Endangered Species Act of 1973, 16 U.S.C. §§ 1531–1544 (2006). This Article is not intended to provide a comprehensive overview of the ESA. For thorough treatments of the ESA, see generally MICHAEL J. BEAN & MELANIE J. ROWLAND, *THE EVOLUTION OF NATIONAL WILDLIFE LAW* (3d ed. 1997); ENDANGERED SPECIES ACT: LAW, POLICY, AND PERSPECTIVES (Donald C. Baur & Wm. Robert Irvin eds., 2d ed. 2010) [hereinafter *LAW, POLICY, AND PERSPECTIVES*]; LAWRENCE R. LIEBESMAN & RAFFAEL PETERSEN, *ENDANGERED SPECIES DESKBOOK* (2nd ed. 2010); STANFORD ENVTL. LAW SOC'Y, *THE ENDANGERED SPECIES ACT* (2001); TONY A. SULLINS, *ESA: ENDANGERED SPECIES ACT* (2001); 1 *THE ENDANGERED SPECIES ACT AT THIRTY: RENEWING THE CONSERVATION PROMISE* (Dale D. Goble et al. eds., 2006) [hereinafter *THE ENDANGERED SPECIES ACT AT THIRTY*].

2. Speaking at an event in April 2011, President Barack Obama described wind power as “the future of American energy.” *Obama Touts Clean Energy in Pennsylvania*, UNITED PRESS INT'L (Apr. 6, 2011), http://www.upi.com/Top_News/US/2011/04/06/Obama-touts-clean-energy-in-Pennsylvania/UPI-17811302078600/. The official federal policy is to source 20% of domestic electricity via wind power by 2030. See U.S. DEP'T OF ENERGY, *20% WIND ENERGY BY 2030: INCREASING WIND ENERGY'S CONTRIBUTION TO U.S. ELECTRICITY SUPPLY 1–21* (2008), available at <http://www.nrel.gov/docs/fy08osti/41869.pdf> (finding 20% wind contribution feasible). Many states also are promoting wind power. California aims to source 33% of its energy from renewable sources, including wind power, by 2020. *California Renewable Energy Overview and Programs*, CAL. ENERGY COMMISSION, <http://www.energy.ca.gov/renewables/> (last updated Apr. 21, 2011). Texas has committed to producing an additional 10,000 megawatts of wind power by 2025. See S.B. 20, 79th Leg., 1st Spec. Sess. (Tex. 2005) (amending the Texas Utilities Code to set new goals for renewable energy). Notwithstanding the possibly tenuous financial profile for commercial wind power, particularly the uncertain future of tax credits wind power production has enjoyed, I assume these policy commitments will continue in some significant degree and do not go further in this Article to describe, quantify, or evaluate them.

3. Wind power facilities present several risks to wildlife species, including “collisions with wind turbines and associated infrastructure; loss and degradation of habitat from turbines and infrastructure; fragmentation of large habitat blocks into smaller segments that may not support sensitive species; displacement and behavioral changes; and indirect effects such as increased predator populations or introduction of invasive plants.” U.S. FISH & WILDLIFE SERV., *LAND-BASED WIND ENERGY GUIDELINES*, at vi (2012) [hereinafter *LAND-BASED GUIDELINES*], available

no wonder that wind power developers frequently find their choice facility locations in the path of protected species.⁴ This potential for bats, birds, and other species to collide with or otherwise feel harmful effects from wind power turbines necessarily implicates the ESA, as well as several other federal wildlife protection statutes.⁵ Only in the past few years, however, has wind power capacity across the landscape reached levels making the intersection of wind power and the ESA of critical importance to the nation's renewable energy policy.⁶

Yet, while federal and state politicians and agencies have fueled the rush to put massive wind turbine arrays on the ground and get the green electrons flowing, the industry was launched without a blueprint for ESA compliance. The agency at the center of ESA policy for land-based wind power, the U.S. Fish and Wildlife Service

at http://www.fws.gov/windenergy/docs/WEG_final.pdf. See generally NAT'L RESEARCH COUNCIL, ENVIRONMENTAL IMPACTS OF WIND-ENERGY PROJECTS (2007), available at https://download.nap.edu/catalog.php?record_id=11935 (studying the positive and negative impacts of wind energy projects on a variety of factors, including habitat and wildlife); U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-05-906, WIND POWER: IMPACTS ON WILDLIFE AND GOVERNMENT RESPONSIBILITIES FOR REGULATING DEVELOPMENT AND PROTECTING WILDLIFE (2005), available at <http://www.gao.gov/new.items/d05906.pdf> (studying varying impact of wind energy projects on wildlife across the country). Although there is considerable controversy over the extent of these sources of harm in different regions and their impacts on species viability, see *id.* at 2-3 (documenting the controversy), I assume these effects to be present and potentially significant and do not go further in this Article to describe, quantify, or evaluate them.

4. A comparison of three maps not easily reproduced in law journal format drives this point home. The first depicts migratory bird flyway patterns in the United States. *North American Migration Flyways*, NUTTY BIRDWATCHER, <http://www.birdnature.com/allflyways.html> (last visited Sept. 21, 2012). The second identifies wind intensity in the United States. *Wind Maps*, NAT'L RENEWABLE ENERGY LABORATORY, <http://www.nrel.gov/gis/wind.html> (last updated Aug. 31, 2012). The third shows where wind power capacity has been installed as of 2011. *Installed Wind Capacity*, WIND POWERING AM., http://www.windpoweringamerica.gov/wind_installed_capacity.asp (last updated Sept. 12, 2012). The overlap between birds, good wind, and installed wind power capacity is unmistakable; all are concentrated down the center spine of the nation.

5. In addition to the ESA, the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act have also been influential in shaping wildlife policies for wind power facilities. See LAND-BASED GUIDELINES, *supra* note 3, at 2 (identifying these three statutes as the sources of authority for federal guidelines for siting of wind power facilities to address wildlife protection). This Article focuses exclusively on the ESA.

6. The American Wind Energy Association reports:

The U.S. wind industry now totals 49,802 MW of cumulative wind capacity through the end of the first half of 2012. There are over 10,300 MW currently under construction spanning 30 states plus Puerto Rico. The U.S. wind industry has added over 35% of all new generating capacity over the past 5 years, second only to natural gas, and more than nuclear and coal combined. Today, U.S. wind power capacity represents more than 20% of the world's installed wind power.

Industry Statistics, AM. WIND ENERGY ASS'N, http://www.awea.org/learnabout/industry_stats/index.cfm (last updated Aug. 6, 2012).

(“FWS”), has begun forging concrete policies to integrate wind power into the ESA’s fold.⁷ The Agency is still playing catch-up, however, working with industry and environmental interest groups⁸ to design and implement wind power policies and permitting mechanisms. Not all interest groups support the effort, though, as ESA litigation to stop specific wind power projects begins to mount.⁹

Several legal practitioners and scholars have identified the ESA as a potentially significant constraint on the siting and operation of wind power facilities.¹⁰ The ESA has also been identified as a potential barrier to renewable energy power in general, as solar power, biomass, and ocean tide and wave facilities could have their

7. For example, after almost 10 years in development, the Agency issued its first comprehensive set of guidelines for siting of commercial wind power facilities in late March 2012. See LAND-BASED GUIDELINES, *supra* note 3, at vi (explaining that the 2012 guidelines replace interim voluntary guidelines issued in 2003).

8. Several nongovernmental organizations are playing a prominent role in this arena. The American Wind Energy Association (“AWEA”) is the wind energy industry trade association. About AWEA, AM. WIND ENERGY ASS’N, <http://www.awea.org/learnabout/aboutawea/index.cfm> (last visited Sept. 21, 2012). The American Wind Wildlife Institute (“AWWI”) was founded by environmental groups, state wildlife agencies, and wind industry companies with the mission of facilitating means of developing wind power while protecting wildlife and habitat. AWWI’s *Mission and Methods*, AM. WIND WILDLIFE INST., <http://www.awwi.org/> (last visited Sept. 21, 2012). The Bats and Wind Energy Cooperative (“BWEC”) includes the FWS, AWEA, the National Renewable Energy Laboratory of the U.S. Department of Energy, and Bat Conservation International. See *Overview: Intro*, BATS & WIND ENERGY COOP., http://www.batsandwind.org/index.php?option=com_content&view=article&id=49&Itemid=65 (last visited Sept. 21, 2012). The American Bird Conservancy (“ABC”) has advocated for mandatory wind energy development regulations governing siting, construction, and operation of facilities. See *Birds and Wind Development*, AM. BIRD CONSERVANCY, http://www.abcbirds.org/abcprograms/policy/collisions/wind_developments.html (last visited Sept. 21, 2012) (explaining their initiative).

9. See, e.g., Jeremy Firestone & Jeffrey P. Kehne, *Wind*, in THE LAW OF CLEAN ENERGY: EFFICIENCY AND RENEWABLES 361, 366–73 (Michael B. Gerrard, ed., 2011) (summarizing sources of opposition including concern over species impacts); Veery Maxwell, *Wind Energy Development: Can Wind Power Overcome Substantial Hurdles to Reach the Grid?*, 18 HASTINGS W.-NW. J. ENVTL. L. & POL’Y 323, 328–39 (2012) (same); see generally *infra* Part I (reviewing the history of regulation, permitting, and litigation of commercial wind power under the ESA).

10. See, e.g., Alexa Burt Engelman, *Against the Wind: Conflict Over Wind Energy Siting*, 41 ENVTL. L. REP. NEWS & ANALYSIS 10549, 10555 (2011) (discussing the ESA as a powerful tool to restrain potentially harmful wind farms); Blake M. Mensing, *Putting Aeolus to Work Without the Death Toll: Federal Wind Farm Siting Guidelines Can Mitigate Avian and Chiropteran Mortality*, 27 J. ENVTL. L. & LITIG. 41, 59–63 (2012) (discussing ESA’s impact with respect to wind energy projects); Katherine A. Roek, *Offshore Wind Energy in the United States: A Legal and Policy Patchwork*, 25 NAT. RESOURCES & ENV’T 24, 26 (2011) (stating offshore wind projects may trigger review under the ESA); Victoria Sutton & Nicole Tomich, *Harnessing Wind Is Not (by Nature) Environmentally Friendly*, 22 PACE ENVTL. L. REV. 91, 112–15 (2005) (suggesting ESA will be a source of significant constraint on wind energy development); Amy J. Wildermuth, *Is Environmental Law a Barrier to Emerging Alternative Energy Sources?*, 46 IDAHO L. REV. 509, 534 (2010) (discussing the ESA as a potential barrier to wind energy projects).

own sets of impacts triggering ESA regulation.¹¹ But the legal commentary has not touched on two deeper and more fundamental questions, both of which lie at the root of the potential for tension between our nation's renewable energy and endangered species policies: (1) to what extent can and should the ESA put a thumb on the scale for wind power and other "green" renewable energy facilities, treating them more favorably than "brown" land uses, and (2) if no such "green pass" is available, is the ESA equipped to handle the massive and rapid injection of infrastructure that the nation's renewable energy policy demands for success? Neither of these questions has been asked of the ESA in a concrete policy setting because the ESA has never had to respond to a massive national-scale influx of infrastructure—much less one designed to support an overwhelmingly green policy goal.

Using commercial utility-scale land-based wind power generation as the case study,¹² this Article is the first to examine these two issues lying at the intersection of renewable energy and ESA policies. The first question taps into the inevitable conundrum posed when aiming the ESA at renewable energy—why is the ESA looking askance at something as environmentally positive as wind power? This "green versus green" irony is new for the ESA, and it exposes the core and consequences of the statute's tenacious terms and precautionary purposes. When a land use has posed risks to an imperiled species, it has not mattered to the ESA how beneficial the use is in any other social or economic dimension. But climate change mitigation advocates tell us renewable energy will help arrest global

11. See, e.g., Alex Klass, *Energy and Animals: A History of Conflict*, 3 SAN DIEGO J. CLIMATE & ENERGY L. 159, 199 (2012) (discussing wind and solar); Sarah Pizzo, *When Saving the Environment Hurts the Environment: Balancing Solar Energy Development with Land and Wildlife Conservation in a Warming Climate*, 22 COLO. J. INT'L. ENVTL. L. & POL'Y 123, 150–53 (2011) (discussing solar); Hadassah M. Reimer & Sandra A. Snodgrass, *Tortoises, Bats, and Birds, Oh My: Protected-Species Implications for Renewable Energy Projects*, 46 IDAHO L. REV. 545, 545 (discussing solar, wind and geothermal power) (2010); Laura Householder, Note, *Have We All Gone Batty? The Need for a Better Balance Between the Conservation of Protected Species and the Development of Clean Renewable Energy*, 36 WM. & MARY ENVTL. L. & POL'Y REV. 807, 821–31 (2012) (discussing direction of renewable energy generally under ESA).

12. Based on generating capacity and power delivery infrastructure, the wind power industry generally consists of large utility-scale projects, also known (and referred to herein) as commercial wind power, smaller community-scale projects, and yet smaller distributed-scale projects. See LAND-BASED GUIDELINES, *supra* note 3, at 6 (distinguishing between the three types). Most of the focus of the ESA with respect to wind power has been on utility-scale projects. See, e.g., *id.* (explaining that the guidelines are designed for utility-scale land-based projects). This Article focuses exclusively on application of the ESA to commercial utility-scale land-based wind power generation facilities; in future work I will examine the application of the ESA to community and distributed wind power projects.

climate change, reduce other pollution associated with fossil fuels facilities, and promote national energy independence.¹³ Three cheers for wind power! But the question is whether the FWS legally may, and as a matter of policy should, go lighter in some meaningful way when the land use in question is, on balance, such a clear and overwhelming *environmental* positive. Although many representatives of the wind power industry, environmental groups, and wildlife agencies have eschewed the idea of such a “green pass” and joined in efforts to promote ESA compliance,¹⁴ the FWS has received pressure from some interest groups to ease off.¹⁵ This and similar proposals thus merit attention, particularly as the demand for renewable energy is likely only to increase.

The second question also is one never before asked of the ESA. The era of massive national-scale infrastructure building was over before the ESA was enacted in 1973. The interstate highway system, the Intracoastal Waterway, the oil and gas pipeline system, the electric power grid, the airport and air traffic network, and the major river navigation and flood control systems, to name a few national infrastructure projects, were all for the most part built and operating before 1973.¹⁶ To be sure, work on and expansion of these sprawling

13. See *Energy, Climate Change, and Our Environment*, WHITE HOUSE, <http://www.whitehouse.gov/energy> (last visited Sept. 21, 2012) (describing many benefits of renewable energy).

14. They have done so principally through the AWWI. See *AWWI's Mission and Methods*, *supra* note 8 (explaining AWWI's goals). The American Wind Energy Association's position is that “The industry is not interested in, and has never asked for, a free pass when it comes to wildlife.” AM. WIND ENERGY ASSOC., COMMENTS OF THE AMERICAN WIND ENERGY ASSOCIATION ON THE DRAFT LAND-BASED WIND GUIDELINES 1 (2011), [hereinafter AWEA COMMENTS] (on file with author).

15. *Wind, Bats, and Birds: Region-Wide HCP for Wind Projects*, U.S. FISH & WILDLIFE SERVICE, <http://www.fws.gov/midwest/endangered/esday/wind2010.html> (last updated Aug. 28, 2012) (“Since the need to reduce greenhouse gas emissions seemingly overrides all other environmental concerns; politicians, industry advocates, and environmentalists have questioned our need to review and address impacts from wind energy development.”).

16. Railroad tracks were laid throughout the nineteenth century, and national railroad mileage peaked in 1916 at 254,000 miles of track. *Timeline: Streamliners of America*, PBS, <http://www.pbs.org/wgbh/americanexperience/features/timeline/streamliners/> (last visited Sept. 21, 2012). President Eisenhower signed the Federal-Aid Highway Act in 1956, and the first decade of highway construction sought to minimize economic disruption without reference to environmental impact. The Act originally contemplated that all construction would be completed by 1972. Richard F. Weingroff, *The Battle of Its Life*, PUBLIC ROADS, May/June 2006, at 26, 30, available at <http://www.fhwa.dot.gov/publications/publicroads/06may/05.cfm>. Of the three canal systems that make up the Intracoastal Waterway, work began on the Atlantic and Gulf systems before 1900. Janet Neuman, *Are We There Yet? Weary Travelers on the Long Road to Water Policy Reform*, 50 NAT. RESOURCES J. 139, 141 & n.7 (2010). As early as 1926, U.S. airlines offered regular passenger service between Los Angeles, CA and Salt Lake City, UT, and by 1960, the FAA led air traffic control efforts across the United States. *FAA Historical Chronology, 1926-*

infrastructure networks has not stopped, but there has been no new national-scale infrastructure-system project undertaken since the ESA was put on the books. Renewable energy, primarily commercial wind energy facilities, will be the first test case for how well the ESA performs in that context. And renewable energy, for the policy rhetoric behind it to come true, will require quite a massive and rapid slug of new infrastructure.¹⁷ Power-generating facilities like commercial wind farms and solar panel arrays, and the new transmission lines needed to move electricity from them to end users, are thus likely to bump into the ESA frequently, in many locations around the nation, and in a relatively compressed time frame. Can the ESA handle the job?

To be clear at the outset, as deep as these two questions plumb ESA policy and could lead to creative and substantial reform proposals, I examine both only in the context of *administrative* reform. Notwithstanding decades of ESA reform rhetoric in Congress, the statute has become a political third rail, long ago leaving all of the reform action to agency-led initiatives.¹⁸ Academic musings about legislative reform of the ESA to address wind and other renewable energy sources thus seem, well, academic. The alternative of Congress addressing the friction between renewable energy and the ESA through renewable energy legislation—for example, by preempting the ESA in that context and handling species concerns through the renewable energy regulatory regime—seems equally improbable. Hence, if wind power and the ESA are to be harmonized any time soon, it will have to come through agency reform that inevitably confronts the two questions I pose above.

To set the stage for these related inquiries, Part I of the Article provides background on how the ESA and wind power have met in policy, permitting, and litigation. Part II then examines whether wind power (and other renewable energy sources) can and should receive a “green pass” under the ESA given its unquestioned climate change mitigation benefits, and concludes that doing so would confront a host

1996, FEDERAL AVIATION ADMINISTRATION, <http://www.faa.gov/about/media/b-chron.pdf> (last visited Sept. 21, 2012). Dating back to the early twentieth century, oil and gas distribution networks were originally regulated under a public utility model. The Natural Gas Act of 1938, 15 U.S.C. § 717 (2006), empowered a federal commission to set “just and reasonable rates” for oil and gas producers engaging interstate commerce. *Id.* at § 717c(a); *see also* Donald F. Santa, Jr. & Patricia J. Beneke, *Federal Natural Gas Policy and the Energy Policy Act of 1992*, 14 ENERGY L.J. 1, 4 (1993) (explaining development of natural gas regulation).

17. *See Industry Statistics*, *supra* note 6 (detailing wind industry’s expansion).

18. *See* J.B. Ruhl, *Who Needs Congress? An Agenda for Administrative Reform of the Endangered Species Act*, 6 N.Y.U. ENVTL. L.J. 367, 368–70 (1998) (discussing the political stalemate the ESA encountered in Congress beginning in the early 1990s).

of legal and policy concerns. Part III then turns to the infrastructure dimension and outlines a model for administrative innovation centered on facilitating risk management in renewable energy infrastructure projects.

I. BLOWN TOGETHER: THE HISTORY OF WIND POWER AND THE ESA

Widely regarded as the “pit bull” of environmental laws,¹⁹ the central purpose of the ESA is to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.”²⁰ The agencies delegated to administer the ESA, the FWS for the Department of the Interior and the National Marine Fisheries Service (“NMFS”) for the Department of Commerce,²¹ have authority over several core programs aimed toward that objective:

The Listing Programs: Section 4 authorizes the agencies to identify “endangered” and “threatened” species, known as the listing function,²² and to designate “critical habitat”²³ and develop a “recovery plan”²⁴ for each species.

Interagency Consultations: Section 7 requires all federal agencies, using the “best scientific and commercial data available,” to “consult[]” with the FWS or NMFS (depending on the species) to ensure that actions they carry out, fund, or authorize do not “jeopardize” the continued existence of listed species or “adverse[ly] modif[y]” their critical habitat.²⁵

19. Steven P. Quarles, *The Pit Bull Goes to School*, ENVTL. F., Sept.–Oct. 1998, at 59 (discussing the origins of this reputation); see also Steven P. Quarles & Thomas R. Lundquist, *The Pronounced Presence and Insistent Issues of the ESA*, 16 NAT. RESOURCES & ENV'T 59, 59 (2001) (giving additional historical context to highlight the Act's “overbearing statutory certainty”).

20. 16 U.S.C. § 1531(b) (2006).

21. The FWS administers the ESA for all terrestrial, freshwater, and certain other specified species, and the NMFS (also known as NOAA-Fisheries) administers the ESA for most marine species and anadromous fish. See 50 C.F.R. § 402.01(b) (2011) (sharing administration between the two agencies).

22. § 1533(a)(1). See generally LIEBESMAN & PETERSEN, *supra* note 1, at 13–27 (describing the listing process); J.B. Ruhl, *Listing Endangered and Threatened Species*, in LAW, POLICY, AND PERSPECTIVES, *supra* note 1, at 16, 17–35 (same).

23. § 1533(a)(3). See generally LIEBESMAN & PETERSEN, *supra* note 1, at 29–34 (describing the critical habitat designation process); Federico Cheever, *Critical Habitat*, in LAW, POLICY, AND PERSPECTIVES, *supra* note 1, at 40, 41–69 (same); Murray D. Feldman & Michael J. Brennan, *The Growing Importance of Critical Habitat for Species Conservation*, 16 NAT. RESOURCES & ENV'T 88, 88 (2001) (describing the history of critical habitat designation).

24. § 1533(f). See generally LIEBESMAN & PETERSEN, *supra* note 1, at 35–38 (describing the recovery plan process); Dale D. Goble, *Recovery*, in LAW, POLICY, AND PERSPECTIVES, *supra* note 1, at 70, 71–103 (same).

25. § 1536(a)(2). See generally LIEBESMAN & PETERSEN, *supra* note 1, at 27–39 (describing the consultation process); STANFORD ENVTL. LAW SOC'Y, *supra* note 1, at 83–103 (same);

The Take Prohibition: Section 9 requires that all persons, including all private and public entities subject to federal jurisdiction, avoid committing “take” of listed endangered species of fish and wildlife.²⁶ The statute defines “take” to include “harm,”²⁷ which the FWS and NMFS have defined to include significant modification of habitat leading to actual death or injury of protected species.²⁸

Incidental Take Permits: Sections 7 (for federal agency actions)²⁹ and 10 (for actions not subject to section 7)³⁰ establish a procedure and criteria for the FWS and NMFS to approve “incidental take” of listed species.³¹

These four programs are designed to intervene in several categories of environmental change that cause species decline: (1) “the present or threatened destruction, modification, or curtailment of . . . habitat,” (2) “overutilization for commercial, recreational, scientific, or educational purposes,” (3) “disease or predation,” and (4) “other natural or manmade factors.”³² While few species listed for protection for one or more of these reasons have recovered to full health, the statute’s regulatory and other conservation programs are credited with preventing the vast majority of such species from ultimate extinction.³³ Along the way, however, the statute has attracted criticism as being too burdensome on landowners and businesses, insufficiently respectful of property rights, and unfair in terms of who

SULLINS, *supra* note 1, at 59–86 (same); Patrick W. Ryan & Erika E. Malmen, *Interagency Consultation Under Section 7*, in LAW, POLICY, AND PERSPECTIVES, *supra* note 1, at 104, 105–25 (same).

26. § 1538(a)(1). See generally LIEBESMAN & PETERSEN, *supra* note 1, at 63–72 (describing the cases developing the legal standards for what constitutes “take”); Steven P. Quarles & Thomas R. Lundquist, *Land Use Activities and the Section 9 Take Prohibition*, in LAW, POLICY, AND PERSPECTIVES, *supra* note 1, at 160, 161–68 (same).

27. § 1532(19).

28. 50 C.F.R. §§ 17.3 (FWS), 222.102 (NMFS). Most of the regulatory weight of the ESA comes through the agencies’ interpretation of harm and its application to land development and natural resources extraction. See Quarles & Lundquist, *supra* note 26, at 168–82 (discussing application of the agencies’ interpretations).

29. 16 U.S.C. § 1536(b)(4).

30. *Id.* § 1539(a)(1).

31. *Id.* “Incidental take,” although not explicitly defined in a specific statutory provision, is described in section 10 of the statute as take that is “incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.” § 1539(a)(1)(B). The FWS, for example, has adopted this meaning in regulations implementing incidental take authorization under section 7. 50 C.F.R. § 402.02 (2011). For a description of the incidental take authorization procedures, see LIEBESMAN & PETERSEN, *supra* note 1, at 73–81.

32. 16 U.S.C. § 1533(a)(1)(A)–(E) (prescribing the factors upon which listing decisions are made).

33. See J. Michael Scott et al., *By the Numbers*, in THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 1, at 16, 29–32.

bears the costs and who reaps the benefits.³⁴ Rarely, though, has the ESA been criticized for being too overbearing on *green* land uses, but that is only because the ESA has never had to lower its hammer there. Commercial wind power has opened up this dimension of the statute in three realms—policy, permitting, and litigation.

A. Policy

Faced with a rapidly growing and officially promoted industry with potential impacts on protected species, the FWS has scrambled to absorb increased commercial wind development into the ESA program.³⁵ The Agency's first significant step came in 2003 with issuance of the Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines.³⁶ These guidelines, coming in at a mere four pages long (without appendices), were limited to land-based projects and sought to assist FWS staff in evaluating potential siting issues and assessing risk to endangered species with pre- and post-construction monitoring.³⁷ The guidelines amounted largely to experiential and common sense advice such as: "[a]void placing turbines in documented locations of any species of wildlife, fish, or plant protected under the Federal Endangered Species Act."³⁸ Clearly, more would be needed to support and manage the push for wind power.

The Agency thus commissioned a Wind Turbine Guidelines Advisory Committee in March 2007.³⁹ The Committee was to study the effects of land-based wind energy development on wildlife in greater detail than the 2003 guidelines.⁴⁰ The Committee released its policy recommendations to the Secretary of the Interior in March

34. Thus, the statute has been characterized as "perhaps the most controversial of the federal environmental protection laws." Robert Infelise & Holly Doremus, *Foreward to Annual Review of Environmental and Natural Resources Law*, 37 *ECOLOGY L.Q.* 277, 279 (2010).

35. For a concise history see LAND-BASED GUIDELINES, *supra* note 3, at 1.

36. U.S. FISH & WILDLIFE SERV., INTERIM GUIDELINES TO AVOID AND MINIMIZE WILDLIFE IMPACTS FROM WIND TURBINES 1 (2003), available at <http://www.fws.gov/habitatconservation/wind.pdf>.

37. *Id.* at 1–2.

38. *Id.* at 3.

39. Press Release, U.S. Fish & Wildlife Serv., Interior Sec'y Kempthorne Names Members for Comm. to Address Wildlife Impacts of Wind Turbines (Oct. 26, 2007), available at <http://www.fws.gov/habitatconservation/windpower/Press%20Release%2010-26-07.pdf>.

40. *Id.*

2010,⁴¹ advising that the FWS establish five tiers of voluntary evaluation and monitoring policies that wind developers should use to reduce the likelihood that the project will harm an endangered species: (1) preliminary evaluation or screening of potential wind turbine sites, (2) site characterization, (3) field studies to document wildlife patterns and potential impacts of the site, (4) postconstruction fatality studies, and (5) any other postconstruction studies to evaluate direct and indirect effects of adverse habitat impacts and assess how they may be addressed.⁴²

Drawing extensively from the Committee's recommendations, in March 2012 the FWS released its final Land-Based Wind Energy Guidelines ("Land-Based Guidelines").⁴³ The new guidelines, which replace the 2003 guidelines, adopt the Committee's five-tier policy approach.⁴⁴ In spirit, the Land-Based Guidelines seek to identify and address all wildlife concerns of a wind project as early as possible, and thus avoid significant cost, regulatory delay, and upset expectations. Nevertheless, the Land-Based Guidelines are simply that—guidelines—and the FWS emphasizes that "adherence to the Guidelines is voluntary and does not relieve any individual, company, or agency of the responsibility to comply with laws and regulations."⁴⁵ Compliance with the guidelines thus is not the equivalent of securing ESA compliance; at most, FWS advises, "[I]f a violation occurs the Service will consider a developer's documented efforts to communicate with the Service and adhere to the Guidelines."⁴⁶

Alongside these general guidelines, FWS has issued guidance specifically addressing the effects of wind power development on particular species. For example, the 2011 Indiana Bat Guidance candidly admits that Indiana bats, despite few recorded fatalities, have proved a persistent problem for wind developments. Given that the species' habitat is also prime wind power country, Indiana bats are likely to be a continued point of stress for the ESA and commercial

41. U.S. FISH & WILDLIFE SERV., WIND TURBINE GUIDELINES ADVISORY COMMITTEE RECOMMENDATIONS (2010), *available at* http://www.fws.gov/habitatconservation/windpower/Wind_Turbine_Guidelines_Advisory_Committee_Recommendations_Secretary.pdf.

42. *Id.* at ii; *see also* Mensing, *supra* note 10, at 68–80 (detailing thoroughly the history and assessment of the Committee's formation, work, and recommendations).

43. *See* LAND-BASED GUIDELINES, *supra* note 3.

44. *See id.* at 4–5.

45. *Id.* at vii.

46. *Id.*

wind power.⁴⁷ As such, a “quorum of Service biologists” determined that the Agency would benefit from “practical and enforceable methods to: 1) determine anticipated take levels, 2) develop monitoring plans, 3) track take, and 4) develop appropriate adaptive management plans.”⁴⁸ To achieve this end, the FWS staff identified eighty-four frequently asked questions on how to handle the Indiana bat in the context of ESA compliance for wind projects.⁴⁹ The questions range from procedural (“Are we required to issue permits for thirty years if requested?”) to biological concerns (“Is it reasonable to assume that pups are less skilled at flying than adults, and therefore, will forage closer to their roosting sites?”), highlighting common sense issues and spreading knowledge from experienced staff members to the Agency as a whole.⁵⁰ As such, the Bat Guidance exemplifies a bottom up attempt to address the wind development process in a specific ESA context. Nevertheless, the document candidly recognizes significant uncertainty in both bat science and wind energy policy, with many of the answers identifying a lack of sufficient empirical evidence. Additionally, the document generally cautions that it should be regularly updated as the issue develops.⁵¹

FWS also maintains a general website on wind energy,⁵² including links to a myriad of guidance documents developed by regional FWS offices, state agencies, private organizations, and even other national governments.⁵³ Again highlighting the incredibly dynamic nature of wind energy development and bird and bat science, FWS encourages developers to use any and all tools available when assessing the impacts of wind energy on protected species.⁵⁴

47. U.S. FISH & WILDLIFE SERV., INDIANA BAT SECTION 7 AND SECTION 10 GUIDANCE FOR WIND ENERGY PROJECTS 1 (2011), *available at* <http://www.fws.gov/midwest/endangered/mammals/inba/pdf/inbaS7and10WindGuidanceFinal26Oct2011.pdf>.

48. *Id.*

49. *Id.*

50. *Id.* at 14, 45.

51. *Id.* at 1 (“The information is rapidly evolving in this arena, thus it is appropriate to view the responses as interim guidelines that will be updated periodically.”).

52. *See Wind Energy Development Information*, U.S. FISH & WILDLIFE SERVICE, <http://www.fws.gov/windenergy/index.html> (last updated March 27, 2012).

53. *Wind Energy Development Information: Other Tools*, U.S. FISH & WILDLIFE SERVICE, <http://www.fws.gov/windenergy/references.html> (last updated March 26, 2012) (providing links to applicable studies on wind energy effects on bird and bat species, as well as international approaches to wind energy and species conservation).

54. U.S. FISH & WILDLIFE SERV., METRICS AND METHODS TOOLS FOR ASSESSING IMPACTS TO BIRDS AND BATS AND ADDRESSING EPISODIC MORTALITY EVENTS 1, *available at* <http://www.fws.gov/windenergy/docs/References.pdf> (“Because of advances in the science and constant improvements in the use of ‘tools’ that include the metrics and methods for assessing

B. Permitting

Wind projects that have even the potential of affecting a listed species, which many do, run directly into the strict prohibition against take in section 9 of the ESA and thus may need to apply for an Incidental Take Permit (“ITP”) under section 10 of the ESA.⁵⁵ In order to receive an ITP, the applicant must prepare a Habitat Conservation Plan (“HCP”).⁵⁶ The HCP is a detailed document outlining, among other elements, the nature of the project, the species affected, how the species are affected, mitigation measures the applicant will take to address harm caused to species, how the applicant will fund necessary mitigation measures, and plans for alternative unexpected scenarios. HCPs ensure that the applicant’s project will only harm listed species in a manner incidental to the lawful operation of the project, and that this impact to the species will be minimized and mitigated to the maximum extent practicable. Through the HCP process, the FWS will issue the project an ITP that allows the project to operate in compliance with the ESA. As such, HCPs are an essential, cooperative tool for balancing the interests of species conservation while still encouraging land-based wind energy development.

Although the HCP process has been a well-accepted tool for species conservation since the mid-1990s,⁵⁷ it was not until 2006 that

bird, bat and other wildlife population status . . . publishing a time-specific list of recommended metrics and methods may not be the best approach in these guidelines. We therefore provide the following list of guidelines for performing studies based on the (from 1999 to present) best available technologies and best management practices for conducting research and monitoring. Some of these publications include recommended ‘tools’ from Great Britain, Canada, Australia, and elsewhere.”).

55. See 16 U.S.C. § 1539(a)(1)(B) (2006) (describing the authority of the Secretary to permit otherwise prohibited takings under certain conditions).

56. See 16 U.S.C. § 1539(a)(2)(A) (describing the limits on the Secretary’s authority to permit otherwise prohibited takings); see also LIEBESMAN & PETERSEN, *supra* note 1, at 73–81 (describing the ITP procedures and the requirements for HCPs).

57. Albert C. Lin, *Participants’ Experiences with Habitat Conservation Plans and Suggestions for Streamlining the Process*, 23 *ECOLOGY L.Q.* 369, 371–74 (1996); see also Eric Fisher, *Habitat Conservation Planning Under the Endangered Species Act: No Surprises & the Quest for Certainty*, 67 *U. COLO. L. REV.* 371, 371–76 (1996); Barton H. Thompson, *The Endangered Species Act: A Case Study in Takings & Incentives*, 49 *STAN. L. REV.* 305, 305–09 (1997); Robert D. Thornton, *Habitat Conservation Plans: Frayed Safety Nets or Creative Partnerships?*, 16 *NAT. RESOURCES & ENV’T* 94, 95 (2001) (analyzing the program after having the benefit of several years’ experience of HCP program implementation). See generally Robert D. Thornton, *Searching for Consensus and Predictability: Habitat Conservation Planning under the Endangered Species Act of 1973*, 21 *ENVTL. L.* 605, 605–08 (1991) (discussing the HCP permit program written as the program was emerging from dormancy under Secretary Babbitt’s visionary administrative reform agenda of early 1990s).

a wind energy project received an ITP.⁵⁸ Generally the HCP program has worked on an ad hoc basis for commercial wind development, and some projects continue to move forward through the traditional, individualized HCP process.⁵⁹ However, the HCP process is a lengthy endeavor that can last several years. In light of the strong national push to rapidly expand wind energy, as well as the frequency with which commercial wind development projects implicate the ESA, both wind developers and regulatory officials went looking for a new, more efficient solution.

In 2010, largely in response to federal experience with the contentious offshore Cape Wind project, Secretary Salazar announced the Smart from the Start initiative.⁶⁰ With the objective of “moving aggressively” to approve and build necessary offshore transmission lines, Smart from the Start sought to reduce the regulatory burden for Atlantic offshore wind projects by removing notice requirements and completing extensive feasibility, resource, and environmental studies on the Atlantic offshore region before projects were even proposed.⁶¹ Importantly, the Smart from the Start theme was easily applied to onshore commercial wind power and has come to represent an effort to expedite regulatory approval using regional tools.⁶²

58. See *Welcome to Kaheawa Wind*, FIRST WIND, <http://www.firstwind.com/projects/kaheawa-wind> (last visited September 21, 2012) (“The Kaheawa Wind project is unique because it was the first wind project in the United States with a detailed Habitat Conservation Plan.”); see also HABITAT CONSERVATION PLAN: WINDMAR RE PROJECT (2005), available at http://coalicionventanasverraco.org/files/HCP_FinalDraft_Feb2005.pdf (showing that an HCP was created for a wind project in Puerto Rico in 2005).

59. See, e.g., Press Release, U.S. Fish & Wildlife Serv., Draft Habitat Conservation Plan for Auwahi Wind Power Facility Available for Pub. Comment 1–2 (Oct. 5, 2011), available at <http://www.fws.gov/pacificislands/news%20releases/NR%20Auwahi%20HCP%20100511.pdf> (showing a project moving through the traditional HCP process).

60. Press Release, U.S. Dept. of Interior, Salazar Launches ‘Smart From the Start’ Initiative to Speed Offshore Wind Energy Development off the Atlantic Coast (Nov. 23, 2010), available at <http://www.doi.gov/news/pressreleases/Salazar-Launches-Smart-from-the-Start-Initiative-to-Speed-Offshore-Wind-Energy-Development-off-the-Atlantic-Coast.cfm>.

61. Press Release, U.S. Dept. of Interior, Frequently Asked Questions: ‘Smart from the Start’ Atlantic OCS Offshore Wind Initiative (Nov. 23, 2010), available at <http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&PageID=73317>.

62. See *Fish and Wildlife Service Evaluates Landmark Wind Energy Corridor from Canada to Gulf of Mexico*, U.S. FISH & WILDLIFE SERV., <http://www.fws.gov/southwest/es/wind.html> (last visited September 3, 2012) (“As part of Secretary of the Interior Ken Salazar’s ‘Smart from the Start’ initiative to accelerate the responsible development of wind energy projects across the nation, the Service has begun to evaluate the environmental impacts of wind energy development across a 200-mile wide corridor stretching from Canada to the Gulf of Mexico on the Texas coast. This innovative approach to wind energy development, the first of this scope, will apply to nonfederal lands.”).

In this pursuit to streamline approvals of land-based wind development, the wind power industry and FWS have imported and built upon the Regional Habitat Conservation Plan (“RHCP”) model. RHCPs—which the Agency began developing in the early 1990s primarily for centers of urban land development—expand the traditional HCP process over an entire region, allowing the environmental assessment and wildlife permitting process to occur once for multiple species over a large geographic range.⁶³ Applied to the commercial wind power context, individual wind projects within a region could be covered by the RHCP and would not need to go through the assessment or permitting process again.⁶⁴ By avoiding the significant regulatory burden on individual projects, this model could significantly expedite commercial wind development within a given region as well as reduce the demands on Agency time and resources.⁶⁵

Three such commercial wind power RHCPs are currently in planning. The Great Plains Wind Energy Habitat Conservation Plan is the largest of the three, covering a 200-mile-wide north-south corridor from the Texas coast to North Dakota, and including most of North Dakota, South Dakota, Montana, Colorado, Nebraska, Kansas, New Mexico, Oklahoma, and Texas.⁶⁶ It currently is designed to cover four endangered species, over nineteen major wind development companies, and is planned to take effect in 2013.⁶⁷ The Midwest Habitat Conservation Plan covers Indiana, Ohio, Michigan, Iowa, Missouri, Illinois, Wisconsin, and Minnesota.⁶⁸ It potentially could address as many as twenty-five listed species and five candidate

63. See J.B. Ruhl, *Regional Habitat Conservation Planning Under the Endangered Species Act: Pushing the Legal and Practical Limits of Species Protection*, 44 SMU L. REV. 1393, 1393–95 (1991) (describing the early development of the RHCP model).

64. See, e.g., *Wind, Bats, and Birds: Region-Wide HCP for Wind Projects*, *supra* note 15 (“For the wind industry, a multistate approach ensures consistent application of species conservation measures (i.e., avoidance, minimization and mitigation measures) . . . prevents unnecessary delays and provides an ‘even playing field’ for developers. For the Service and developers, obtaining a permit will be easier and faster than preparing numerous, single, site-specific HCPs. Developers will know beforehand the conditions of the permit, which will provide them better tools for site selection and project design.”).

65. *Id.*

66. See WIND ENERGY WHOOPING CRANE ACTION GRP., GREAT PLAINS WIND ENERGY HABITAT CONSERVATION PLAN: FACT SHEET *available at* http://www.greatplainswindhcp.org/documents/fact_sheet.pdf (outlining the Great Plains Plan).

67. *Id.*

68. See INDIANA ET AL., DEVELOPMENT OF A MULTI-SPECIES HABITAT CONSERVATION PLAN FOR WIND ENERGY DEVELOPMENT IN THE MIDWEST 1 (2009), *available at* <http://www.fws.gov/Midwest/Endangered/grants/2010/pdf/MultiStateWindHCPproposal.pdf> (describing the Midwest Habitat Conservation Plan).

species⁶⁹—and by the parties’ own admission will take many years to complete.⁷⁰ Third, the Desert Renewable Energy Conservation Plan seeks to enable all renewable energies, not just wind, throughout the Mojave and Colorado Deserts that cover a vast majority of southern California.⁷¹ The Desert Plan will cover nineteen listed species and two candidate species under federal law, plus many more species protected by California’s own species conservation law.⁷²

It is no accident that these three plans will collectively cover an area with the greatest potential for land-based wind development in the United States.⁷³ The Department of Energy estimates that harnessing the wind potential in these regions, when combined with offshore wind development, would be “sufficient to supply the electrical energy needs of the entire country several times over.”⁷⁴ By permitting the mother lode of wind potential, these RHCPs illustrate an attempt to rapidly remove ESA impediments to wind energy.

As the first RHCP of its size and importance, the FWS has solicited comments on how to implement the Great Plains Plan.⁷⁵ Specifically, FWS has sought advice on how to structure such a large permitting scheme between the Agency, permit-holder, and developers within the region.⁷⁶ Although the Great Plains Plan sets up the issue, FWS fundamentally asked how it should apply such large-scale RHCPs in the future.⁷⁷ FWS offered four different structures for public comment, each with differing levels of responsibility for developers, FWS, and potential third parties who would hold the ITP for the

69. *Id.* at 5–6.

70. *See Wind, Bats, and Birds, supra* note 15 (“An eight-state HCP is a huge undertaking because of the number of players, the number of species included, and the size of the area. Initially it will be slower than a small HCP, but the result will benefit all parties, allowing wind energy facilities to flourish while protecting, conserving, and recovering threatened and endangered species.”).

71. PLANNING AGREEMENT BY AND AMONG CALIFORNIA DEPARTMENT OF FISH AND GAME, CALIFORNIA ENERGY COMMISSION, UNITED STATES BUREAU OF LAND MANAGEMENT, AND UNITED STATES FISH AND WILDLIFE SERVICE FOR THE DESERT RENEWABLE ENERGY CONSERVATION PLAN 5–7 (2010), available at <http://www.energy.ca.gov/2009publications/REAT-1000-2009-034/REAT-1000-2009-034-F.PDF>.

72. *Id.* at 30–33.

73. *See* U.S. DEP’T OF ENERGY, *supra* note 2, at 24 (“The United States, particularly the Midwestern region from Texas to North Dakota, is rich in wind energy resources.”).

74. *Id.*

75. Draft Environmental Impact Statement and Habitat Conservation Plan for Commercial Wind Energy Developments Within Nine States, 76 Fed. Reg. 41,510, 41,510–11 (July 14, 2011).

76. *Id.* at 41,512–13.

77. *Id.*

entire region.⁷⁸ These structures, discussed in more detail in Part III, represent significant innovation on the part of FWS, particularly the portions that call for a third-party HCP holder to distribute ITPs to participating projects absent direct government involvement. Indeed, some observers have already raised questions as to whether FWS can delegate its authority in such a way, and whether it should.⁷⁹ How the FWS, industry, and environmental interests will work through this and numerous other permit design and implementation issues remains to be seen.⁸⁰

C. Litigation

Increased development of commercial wind energy has been accompanied by considerable litigation on a wide range of issues. Most cases stem from local resistance to wind development placement and siting.⁸¹ Perhaps reflecting the changing regulatory landscape, wind development litigation has been inconsistent, resulting in little certainty for the industry. A recent review distilled four pessimistic lessons from early wind development litigation: that the decisions (1) did not turn on uniform principles of law, (2) demonstrate a fundamental conflict between federal and state renewable energy goals and local land use laws, (3) have yet to sort out standing and other procedural concerns, and (4) illustrate that plaintiff challenges to wind farm siting are generally unsuccessful.⁸²

78. *See id.* at 41,512 (The four structures are each fundamentally different. The first is a Programmatic HCP, where the ITP is held by a third party who administers the HCP without further government involvement. The second is an Umbrella HCP, where there are multiple ITP holders under the single HCP. Both environmental species impact assessments would be required for each ITP applicant under an Umbrella HCP. The third involves a single HCP and a single ITP held by a third party, who then issues smaller ITPs to individual developments. The fourth, a co-permitted HCP, involves a single HCP and a single ITP with all the parties named on the ITP.)

79. *See, e.g.*, Letter from Conservation Law Ctr. to U.S. Fish and Wildlife Serv., Comments on Draft Eenvtl. Impact Statement and Habitat Conservation Plan for Commercial Wind Energy Devs. Within Nine States 29–36 (Oct. 12, 2011), *available at* http://www.abcbirds.org/abcprograms/policy/collisions/pdf/CLC-ABC_COMMENTS_GREAT_PLAINS_WIND_CORRIDOR_FINAL_10.12.11.pdf (questioning the ability of the FWS to delegate such authority).

80. In July 2012 FWS issued more proposed policy guidance on the topic and asked for feedback from Agency personnel. *See* Memorandum from Deputy Director to Regional Directors Re Proposed Policy Guidance for Incidental Take Permits Covering Multiple Projects and Project Owners (Jul 2, 2012) (on file with author).

81. *See* Engelman, *supra* note 10, at 10553–66.

82. Lisa W. Stone & Sara Zdeb, *Lessons Learned from Wind Farm Litigation*, ABA ENVTL. LITIG. AND TOXIC TORTS COMM. NEWSLETTER, Mar. 2009, at 2, 2–6, *available at* http://apps.americanbar.org/environ/committees/toxictorts/newsletter/mar09/ELTT_Mar09.pdf.

Similarly, recent decisions that specifically address the intersection of the ESA and wind development underscore the need for comprehensive regulatory action. In *Animal Welfare Institute v. Beech Ridge Energy L.L.C.*, a plaintiff conservation group successfully enjoined the operation of a wind project in West Virginia for failing to seek an ITP for the Indiana bat.⁸³ The court made three important holdings that fundamentally affect the interaction of wind development with the ESA. First, the court held that plaintiffs may sue under the citizen suit provision of the ESA for future violations of the statute by wind projects.⁸⁴ The court then adopted a low evidentiary standard for establishing whether an activity is likely to harm a listed species and trigger the ESA.⁸⁵ Under *Beech Ridge*, a plaintiff must only establish by a preponderance of evidence that an activity is likely to harm a listed species, and thus trigger the ESA.⁸⁶ Third and finally, the *Beech Ridge* court determined that broad injunctive relief was appropriate, prohibiting all wind turbine operation pending compliance with the ESA.⁸⁷ However, the court's stated intent was not to stop wind development but to funnel the projects through existing ESA procedures. The court presciently observed that wind development exemplifies a conflict between two environmentally minded federal policies—one seeking to conserve endangered species and the other seeking to promote renewable energy.⁸⁸ Yet, the court noted that the policies need not be in tension, and would not have been pitted against each other in *Beech Ridge* if the wind developer had utilized existing procedures under the ESA to assemble an HCP and apply for an ITP.⁸⁹

As such, the court in *Beech Ridge* illustrated a clear desire to fit wind development into existing ESA policies. Yet, the court nevertheless glossed over the changing reality of wind development's regulatory structure. As illustrated above, FWS is pursuing dynamic change in existing ESA policies to accommodate federally endorsed growth in wind development. With *Beech Ridge* as the only bellwether, courts have left little guidance to developers and federal regulators as to whether the expansive innovation will withstand review.

83. *Animal Welfare Inst. v. Beech Ridge Energy L.L.C.*, 675 F. Supp. 2d 540, 581 (D. Md. 2009).

84. *Id.* at 559–60.

85. *Id.* at 563–64.

86. *Id.*

87. *Id.* at 580–81.

88. *Id.* at 581.

89. *Id.* at 581–83.

ESA litigation against commercial wind power also recently moved onto the public lands domain. In March 2012, several environmental groups sued the Bureau of Land Management (“BLM”) alleging that the BLM had failed to comply with the ESA when it issued a right-of-way for a commercial wind power project on federal public lands.⁹⁰ Unlike *Beech Ridge*, which involved the HCP program, the allegations against the BLM involve the interagency consultation program established in section 7 of the ESA. The plaintiffs allege that the BLM failed to consult adequately with the FWS about the impact of the wind project on the California condor and several other bird species. The litigation could be a harbinger of more ESA-based challenges to wind power development on public lands.

Continued uncertainty about how species conservation and wind development policies will be resolved has also led to business litigation over commercial wind project developer expectations and project financing. In *enXco Development Corp. v. Northern States Power Co.*, a contract dispute between two wind energy developers pushes forward to trial because of the ambiguities and complications of ESA regulation. enXco had agreed to sell a potential wind development called the Merricourt Project to Northern States Power (“NSP”), a subsidiary of major energy developer Xcel Energy.⁹¹ The deal collapsed when NSP exercised its contractual termination rights.⁹² enXco has alleged that NSP did so because the financial market for wind energy was not as desirable as expected, not because of ESA issues, and that the contract thus was still valid.⁹³ However, NSP responded that it could legally terminate the purchase agreement because, among other breaches, enXco dragged its heels in seeking an ITP for two endangered species—the whooping crane and the piping plover—and thus missed a critical transaction deadline.⁹⁴ Numerous communications from FWS to enXco expressed concern about the Merricourt Project’s species conservation measures,⁹⁵ and FWS eventually suggested that the developers not start construction of the Merricourt Project until they obtained an ITP for the listed

90. See Complaint for Declaratory and Injunctive Relief at 1, *Sierra Club v. Kenna*, No. 2:12-cv-974, (E.D. Cal. Apr. 13, 2012), available at <http://www.shb.com/newsletters/ECU/Etc/SierraClubvKenna.pdf>.

91. *enXco Dev. Corp. v. N. States Power Co.*, Civil No. 11-1171, 2011 WL 5396045, at *1 (D. Minn. Nov. 8, 2011).

92. *Id.*

93. *Id.*

94. *Id.* at *1-2.

95. *Id.* at *1.

whooping crane.⁹⁶ NSP's early motion to dismiss was denied, and the issue remains in litigation.⁹⁷ The dispute provides a prime example of the havoc regulatory uncertainty can cause among private wind project developers and investors.

Finally, uncertainty regarding wind development and the ESA could have unexpected effects on the ESA itself. For example, in *Center for Biological Diversity v. Salazar*, the San Carlos Apache Tribe attempted to block the delisting of an eagle species by citing an increased risk of harmful wind development.⁹⁸ Increased wind development in the region, so says the Tribe, creates a significant risk to eagles absent ESA protection.⁹⁹ As such, the Tribe argued that prospective wind development in the region by its very nature should cut against delisting the eagle.¹⁰⁰ Although the court rejected the Tribe's argument, it is important to point out that wind energy is having a reflexive effect on the ESA itself, in that the effects associated with wind development are being used to influence ESA processes outside of the HCP and ITP procedure.¹⁰¹

II. THERE IS NO GREEN PASS UNDER THE ESA

As the historical account in Part I suggests, after almost ten years of policy development, permitting, and litigation, there is still no comprehensive, tested, reliable template for commercial wind power to secure expeditious ESA compliance. Continuing with the ad hoc HCP approach seems untenable, yet the more efficient RHCP approach is still in the design stage. More creative approaches that may exist remain unexplored.

At an even higher level, however, staunch advocates of climate change mitigation might ask, why are we even haggling over HCPs, RHCPs, and other potential reforms for wind power under the ESA? We know that wind power is going to be a key player in the quest for renewable energy, and that renewable energy will be a key player in the quest to reduce greenhouse gas emissions, so shouldn't FWS get the ESA out of the way of saving the planet? Would it be possible, in other words, for the FWS to recognize the holistic benefits wind power

96. *Id.*

97. *Id.* at *5.

98. *Ctr. for Biological Diversity v. Salazar*, No. CV10-2130-PHX-DGC, 2012 WL 78943, at *8 (D. Ariz. Jan. 11, 2012).

99. *Id.*

100. *Id.*

101. *Id.*

offers to all species and deem them sufficient for ESA compliance? Although this is not the position of the wind power industry or environmental groups working with it to forge ESA solutions, the question has been put to the FWS.¹⁰² As the Agency has recognized, however, the ESA is not so easily handled.¹⁰³ Giving wind power such a green pass through administrative reform would violate both the letter and the spirit of the statute.

A. *The Letter of the Law*

There are a number of premises one would have to accept in order even to begin entertaining the proposition of giving wind power a pass under the terms of the ESA. First, it would be necessary for the FWS to quantify the impact of installed wind power capacity on climate change. Presumably it would have some beneficial mitigation effect over time—what I will call the “wind power effect.” Second, it would be necessary for the FWS to be able to evaluate the impacts of the wind power effect on wildlife and habitat in general, which would also presumably be positive overall. And from there, it would be necessary for the FWS to be able to conclude that the net impact of the wind power effect on species balanced against the overall harms to species posed by wind power infrastructure comes out on the positive side for species overall. If the FWS could not reach that conclusion, the idea of handing wind power a pass under the ESA would be a nonstarter. As preposterous as it would be to suggest that under current climate and species modeling capacity the FWS or any other entity could conclusively support such a finding,¹⁰⁴ I will assume it to be true for these purposes. Even if true, however, the green pass cannot be issued.

102. See AWEA COMMENTS, *supra* note 14 (describing the conflict between wind power and ESA enforcement); see also *Wind, Bats, and Birds*, *supra* note 15 (describing the conflict between wind power and ESA enforcement).

103. See *Wind, Bats, and Birds*, *supra* note 15 (observing that “[w]e do have a legal mandate under the Endangered Species Act”).

104. See Memorandum from Mark Myers, Dir. U.S. Geological Survey, to Dir., U.S. Fish and Wildlife Serv., *The Challenges of Linking Carbon Emissions, Atmospheric Greenhouse Gas Concentrations, Global Warming, and Consequential Impacts* (May 14, 2008), available at http://www.fws.gov/home/feature/2008/polarbear012308/pdf/Memo_to_FWS-Polar_Bears.PDF (describing the challenges of linking carbon emissions, atmospheric greenhouse gas emissions, global warming, and consequential impacts).

1. Accounting for Species Effects Under Section 7

The interagency consultation procedure of section 7 of the ESA imposes a species-wide impact evaluation pertaining to particular land uses or patterns of land uses: Will the federal agency carrying out, funding, or authorizing the land-use action put the continued existence of the species in jeopardy or adversely modify the species' critical habitat?¹⁰⁵ The rationale for giving wind power (or renewable energy more generally) a pass under this impact assessment program is obvious: wind power will contribute to the reduction of greenhouse gas emissions and thus to the mitigation of climate change, which is in the interests of all species. Yet, although likely to be true, for several reasons this proposition is difficult to support within the section 7 legal framework.

First, section 7 requires species-specific analyses and thus cannot leverage the wind power effect and its overall benefits to species in general as necessarily a substantial benefit to every particular species.¹⁰⁶ Some species are likely to be more threatened by climate change than others, and some are likely to be more benefitted by greenhouse gas reductions than others. Climate mitigation benefits for a particular species thus may be small in comparison to the harms the wind power infrastructure action causes to that species. A blanket pass for wind power would obscure these differential effects.

Second, given the requirement that each species be assessed separately under section 7, the case for engaging in a species-specific assessment of the wind power effect is far more tenuous than is the generalized "all species" premise described above. The FWS would have to quantify the wind power effect for each species and net it for each species against the potential harms caused to the species by wind power infrastructure as well as other nonclimate threats, such as habitat loss and invasive species. But the ESA requires that the FWS adhere to the best available science when making decisions under section 7.¹⁰⁷ Applying this standard, the Agency has already concluded that the current capacity of climate and species modeling cannot support engaging in species-specific section 7 analyses to assess the harms of *increased* emissions attributable to actions such as new

105. See 16 U.S.C. § 1536(a)(2) (2006) (describing requirements for interagency cooperation).

106. *Id.* (explaining that the specific language of the consultation provision requires the agencies to determine whether the action is "likely to jeopardize the continued existence of *any* endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat of *such species*").

107. See *id.*

power plants.¹⁰⁸ By the same reasoning, the current capacity of climate and species modeling cannot support engaging in species-specific section 7 analyses to assess the benefits of *decreased* emissions attributable to actions such as new wind power facilities.

The weakest link in this regard is the temporal trading between current harms and anticipated future benefits that would be required to support a green pass approach. The climate change benefits of the wind power effect will inure to species in the future, perhaps the very distant future, as today's decreased emissions slowly work their way through the climate system, whereas the harms of wind power infrastructure are more immediate. Wisely, the FWS does not seem eager to make the case that it can reliably quantify and weigh that temporal tradeoff, and until it can there is no basis for awarding wind power (or any other form of renewable energy) a green pass under section 7.

2. Accounting for Individual Effects Under Section 9

Although the case for a green pass under section 7 for wind power at least starts from a plausible argument that shifting more generating capacity to renewables such as wind will *in general* benefit a species over the long run, that position gets absolutely no traction under the take prohibition of section 9. Even if one accepts that the overall benefits of wind power to a species fully offset the detrimental effects of takes of individual members of a species from strikes, habitat loss, and other impacts of wind power infrastructure, that fact would not support a green pass for wind under section 9.

Section 9 prohibits a take of any individual of a protected species,¹⁰⁹ and the ESA's incidental take authorization procedures do

108. The FWS during the George W. Bush Administration issued several such guidance positions. See U.S. DEPT. OF THE INTERIOR, SOLICITOR'S OPINION M-37017, GUIDANCE ON THE APPLICABILITY OF THE ENDANGERED SPECIES ACT'S CONSULTATION REQUIREMENTS TO PROPOSED ACTIONS INVOLVING THE EMISSION OF GREENHOUSE GASES 1 (2008), *available at* www.doi.gov/solicitor/opinions/M-37017.pdf (stating that the best available science does not support inferring the impact of climate change on any specific location); Memorandum from H. Dale Hall, FWS Dir., to FWS Reg'l Dirs., Expectations for Consultations on Actions that Would Emit Greenhouse Gases 1 (May 14, 2008), *available at* www.fws.gov/policy/m0331.pdf (stating the belief of the FWS that greenhouse gas emissions alone will not trigger section 7 review of an agency's action because "the best available science does not allow us to draw a causal connection between GHG emissions from a given facility and effects posed to listed species or their habitats"); Memorandum from Mark Myers, *supra* note 104 (highlighting the difficulty in scaling down global climate change models to the local level). The FWS under the Obama Administration has not wavered from this position.

109. See 16 U.S.C. § 1538(a)(1)(B).

not contemplate netting out a take with offsetting mitigation benefits to conclude that there has been no take to begin with.¹¹⁰ Rather, take is determined at the lowest scale, on the basis of impacts to individual species members, and once take is determined to be present it is illegal to carry out the action without approval through incidental take authorization. In short, a take is a take. It requires authorization through an incidental take approval mechanism regardless of whether the impact of the take of some number of individuals on the species as a whole is fully or more than fully offset at the species scale by an offsetting mitigating action such as reduced greenhouse gas emissions.

B. The Spirit of the Law

Even overlooking the technical framework of sections 7 and 9, the idea of a green pass for wind power also seems misguided from the standpoint of the purpose and thrust of the ESA. Although the stated ecosystem conservation purpose of the ESA might be seen as justifying differentiating between “green” and “brown” land uses to promote better ecosystem-wide results, the internal wiring of the statute makes ecosystem conservation only an incidental benefit of species-specific conservation.¹¹¹

The ESA is about protecting *species*, not about fulfilling the nation’s energy or climate policies. The ESA is *not* an ecosystem management statute; rather, it is a species protection statute that switches on in rather abrupt fashion when other ecosystem management mechanisms have failed. Given this “emergency room” posture of the ESA, it is designed to be precautionary.¹¹² Despite all the benefits wind power offers to reducing the nation’s greenhouse gas emissions profile, the layers of faith needed to support the green pass arguments under sections 7 and 9 subvert the ESA’s precautionary purpose.

And one should ask whether we really want to open the door to the “green pass” idea for a statute serving the ESA’s purposes. It would lead inevitably to questions about shades of green and brown. If

110. Section 10(a)(1)(B) allows for permits to allow any taking otherwise prohibited under section 9, provided the permit applicant demonstrate “what steps the applicant will take to minimize and mitigate such impacts.” 16 U.S.C. § 1539(a)(2)(A)(ii).

111. See J.B. Ruhl, *Ecosystem Management, the ESA, and the Seven Degrees of Relevance*, 14 NAT. RESOURCES & ENV’T 156 (2000) (describing the difficulties of using the ESA to promote ecosystem-wide protection).

112. See J.B. Ruhl, *The Battle over Endangered Species Act Methodology*, 34 ENVTL. L. 555, 592–99 (2004) (examining the policy and use of precaution in ESA programs).

wind power gets a pass, what about solar, or nuclear, or biomass, or carbon sequestration, or even a coal-fired power plant using advanced emissions control technology? The question “Green as compared to what?” would plague the concept of taking emissions into account.

Even the “avoiding catastrophe” justification for suspending business as usual to advance climate change mitigation would go too far when put up against the ESA. The ethics of intergenerational policy choices, in this case not between human generations but of our fellow species, seem inept at handling a tradeoff between avoiding a large probability of dangerous losses to an imperiled species in the present versus avoiding a low probability of catastrophic losses to the species in the distant future. If the present losses are too severe, the species might never reap the benefit of avoiding the catastrophic loss. It is best to keep the ESA guarding against the former and employ other legal and policy mechanisms to bring about the latter.

III. FACILITATING RISK MANAGEMENT FOR COMMERCIAL WIND POWER PROJECTS

Not handing wind power or other renewable energy infrastructure a green pass does not mean that the ESA must be completely blind to their advantages for the climate system and thus for species. The wind power industry has not sought a pass out of the ESA—it has sought a passage through the ESA that is clear, secure, and expeditious. The question is whether the ESA can be implemented to facilitate commercial wind power development without diluting its species protection mission.

This is a challenge unlike any the ESA has faced. Its regulatory protections have been most effective when aimed at small-scale, causally straightforward contexts in which habitat condition is closely linked to species condition and the cause of habitat degradation is direct and easily identified, such as the effects of a subdivision development on habitat for an endangered bird.¹¹³ As was once said of the statute, it has worked well “one creek, one spring, one cave, one valley” at a time.¹¹⁴ The prospect of locating massive wind power infrastructure throughout the nation’s landscape, and quickly, pushes on this small-scaled approach. Rapidly placing commercial

113. See Barton H. Thompson Jr., *Managing the Working Landscape*, in THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 1, at 101, 104 (“[ESA enforcement] has had the greatest impact on active changes in species habitat (e.g., the construction of new subdivisions, timber harvesting, and water diversions) . . .”).

114. *Id.* at 291.

wind power on the ground will demand administrative ESA reform innovations designed to process a large-scale undertaking over a short-scale time frame.

To be sure, past ESA administrative reforms—particularly the wave of reforms instituted during Secretary Bruce Babbitt’s tenure in the Clinton Administration—have focused on ecosystem-scale problems, but primarily with the objective of altering the compliance incentive structures for landowners (for example, ranchers, farmers, and subdivision developers) and resource users (for example, timber companies and water users) to improve compliance and to enhance proactive species conservation.¹¹⁵ The Obama Administration continues to focus ESA innovation in that context.¹¹⁶

The commercial wind power context, however, is not about wind power developers’ compliance incentive structures—they are on board. The *Beech Ridge* case all too clearly has demonstrated to the industry the risks of downplaying the ESA. Rather, like the other forms of infrastructure associated with renewable energy and likely soon to be associated with climate change adaptation, commercial wind power is a massive infrastructure undertaking that poses tremendous business risk management challenges for private and public investors. It is not a matter of deciding whether to comply—it is a matter of figuring out how to comply, doing it expeditiously, and having it stick. The FWS thus should view wind power and other renewable energy projects as serving a key public policy and, overall, an important species conservation purpose, with the focus of reform being to reduce business risks associated with the ESA and facilitate management of those risks that cannot be eliminated.

115. See J.B. Ruhl, *Who Needs Congress? An Agenda for Administrative Reform of the Endangered Species Act*, 6 N.Y.U. ENVTL. L.J. 367, 374–400 (1998) (contemporaneously examining the Babbitt era reforms); see also J.B. Ruhl, *Endangered Species Act Innovations in the Post-Babbittonian Era—Are There Any?*, 14 DUKE ENVTL. L. & POL’Y F. 419, 430–38 (2004) (reflecting on the Babbitt era reforms).

116. Recently, for example, the FWS requested public input on an initiative to innovate ESA programs with the primary objective of addressing landowner incentives. See Advance Notice of Proposed Rulemaking on Expanding Incentives for Voluntary Conservation Actions under the Endangered Species Act, 77 Fed. Reg. 15,352, 15,352 (proposed Mar. 15, 2012) (“By this notice, we are inviting public comment to help us identify potential changes to our regulations that would create incentives for landowners and others to take voluntary conservation actions.”); *Improving ESA Implementation*, U.S. FISH & WILDLIFE SERV., http://www.fws.gov/endangered/improving_ESA/landowner_incentives.html (last updated Aug. 28, 2012).

A. *The ESA as a Source of Commercial Wind Power Project Risk*

Commercial wind development is a business, and, as the Beech Ridge compliance litigation and Merricourt Project contract litigation illustrate, ESA compliance is one of many moving parts commercial wind developers must manage as a business risk. Under the present state of ESA policy, permitting, and litigation, consider the sources of business risk the ESA poses to a commercial wind power company considering investing tens of millions of dollars in a new project:

- Uncertainty as to whether the ESA applies to a site
- Inability to quantify ESA compliance costs and timeline
- Protracted permitting and consultation processes
- Uncertain permitting and consultation outcomes
- Constraints from permit and consultation conditions
- Post-permitting and post-consultation litigation and judicial review
- The long-term stability of permit and consultation outcomes
- The contingency of new species listings at any stage from planning through operation

Clearly, this is not an ideal business planning, investment, and operating environment. As the Merricourt Project litigation in particular reveals, the aggregate effect of these regulatory ambiguities is likely to deter investment in commercial wind power, make financing of commercial wind power projects more expensive, and potentially derail the projects that do come together through complex business ventures. Indeed, this was the central focus of the American Wind Energy Association's ("AWEA") comments on the FWS's 2011 draft guidance on land-based wind power facilities, which stressed the impact of the proposed guidelines on project revenues, acquisition and cost of financing, operation and maintenance costs, and disruption of existing project finances.¹¹⁷ The FWS responded to many of these concerns in its final Land-Based Guidelines, leading the AWEA and many of its member companies to endorse them.¹¹⁸ As noted previously, however, following the Land-Based Guidelines is not the equivalent of incidental take authorization and thus falls far short of an overall risk management strategy.

117. See AWEA COMMENTS, *supra* note 14, at 19–22.

118. See Press Release, AWEA, Wind Energy Indus. Unites to Endorse Final USFWS Siting Guidelines (May 16, 2012), available at http://www.awea.org/newsroom/pressreleases/120517USFWS_endorse.cfm.

B. Innovation for Risk Management

Thus far, to the extent what the FWS has done with regard to commercial wind power can be called regulatory innovation, it has focused largely on minimization of take from wind projects. To be sure, the Land-Based Guidelines provide clarity about how to reduce the risks of take, which necessarily reduces the risks associated with ESA regulation. But they do not lead directly to compliance security and nothing in them is designed to allow the industry to expedite attaining compliance status and maintain it efficiently over the long term. While the RHCP efforts underway are designed with securing compliance status as their endpoint, the FWS still has not determined even the basic structural approach, and working out the details and scope of permit conditions and implementation are even further down the road. In short, our nation has launched an enormous new infrastructure investment program, expecting public and private financing and resources to flock to it, with nothing in place to get through the ESA but a set of voluntary siting and design guidelines and the clunky ad hoc HCP permit program.

So, while keeping the goal of take minimization central to the undertaking, what can the FWS do to also advance an overall strategy of reducing the sources of business risk the ESA poses to commercial wind power development? While surely not exhaustive, the following measures likely would help.

First, developer project siting decisions can be greatly facilitated by enhanced species impact databases and standardized metrics for take assessment. Ideally, a project developer should be in a position to quickly and reliably evaluate the ESA compliance demands of different project site and design profiles. Recognizing that the FWS has neither the resources nor the expertise to assemble such mechanisms from scratch, the Agency could work toward reviewing and endorsing the work product of outside entities, such as the landscape assessment tool the American Wind and Wildlife Institute (“AWWI”) has produced.¹¹⁹ As for estimating take, the difficulties of actually observing and counting wind turbine strikes and other sources of harm from wind projects will demand development of proxies for take, such as perhaps number and density of turbines, with attention to the likelihood of species presence given project location.

119. See *Seeing the Big Picture*, AWWI, <http://www.awwi.org/initiatives/landscape.aspx> (last visited Sept. 22, 2012).

Again, this is the kind of foundational work the FWS could leverage from entities such as AWWI.

Second, the FWS could develop a standard methodology for mitigation of harms, drawing from a wide set of mitigation options and recipes including habitat conservation banks and payment formulae. In other words, once the project compliance demand has been evaluated, the compliance costs should also be capable of quick and reliable evaluation. Given that many of the species potentially harmed by wind power likely face a suite of other sources of harm present over wide swaths of landscape, including habitat loss to development and agriculture, habitat degradation in other nations, invasive species, disease, and climate change—anything the wind power industry can do to alleviate those harms should count as mitigation for wind power related takes. Once again, the AWWI has begun to develop a comprehensive mitigation strategy for wind power projects, which the FWS could build upon for this purpose.¹²⁰

Third, once standardized take and mitigation methods are in place, risk management becomes a matter largely of securing compliance through incidental take authorization. As previously discussed, the Agency has issued a number of individual project HCP permits and is developing RHCP approaches for large-scale permits. The work toward an RHCP approach is promising and can learn from over a decade of regional permitting approaches that the FWS has used in the urban development context. Clearly, the most efficient approach would be to adopt the programmatic model in which the Agency, incorporating the standardized take and mitigation methods, issues a master permit to a third party who then would enroll companies and their projects under the permit. The third party would follow all enrollment criteria specified in the master permit and would be responsible for enrollment, compliance monitoring, biological monitoring, coordination of the mitigation, annual reporting to the FWS, adaptive management, and annual coordination meetings. Projects seeking enrollment would not be required to engage in further impact analysis under the ESA or related requirements, as that would have been completed as part of the master permit.¹²¹ For

120. See AWWI, ENABLING PROGRESS: COMPENSATORY MITIGATION SCENARIOS FOR WIND ENERGY PROJECTS IN THE U.S. (2009), available at <http://www.awwi.org/uploads/files/AWWI%20Mitigation%20Report%20Enabling%20Progress.pdf> (detailing different mitigation measures that wind developers may take in order to offset their impacts on ecosystems).

121. This is how the Agency has described the model in its request for comments on the structural approach for wind power permits. See 76 Fed. Reg. 41,510, 41,512–13 (July 14, 2011), available at <http://www.fws.gov/policy/library/2011/2011-17638.html>. The Agency's July 2012

projects that cannot or do not wish to take advantage of the available RHCPs, the Agency can develop regional off-the-shelf templates for individual HCPs that draw from the same take and mitigation assessment methods.

Fourth, for wind development projects on federal public lands, the FWS and the federal land management agencies can develop streamlined section 7 consultation frameworks to facilitate land management agency approval of rights-of-way and other necessary authorizations. If the project developer on federal lands follows the same methods employed in the RHCP permits on nonfederal lands, there should be no reason for protracted consultations.

Finally, notwithstanding what was said above about the difficulty of accounting for the wind power effect as a basis for a green pass out of the ESA, the wind power effect ought to count for something in terms of mitigation credit. As climate change begins to affect more species, the ameliorative benefits of wind power should be recognized within the ESA framework. For example, if a species covered in wind power RHCP and individual HCP permits is thrust into further decline by climate change, it would be illogical to look first to the wind power industry as the provider of additional conservation measures. This concern is not limited to the wind power industry, as there is a wide spectrum of land uses with varying emissions and climate impact profiles. While I do not have the answer for how to account for climate change in this ESA context, it is likely the demand on the Agency for doing so will increase as climate change becomes a larger source of threat to a growing number of species. It may behoove the Agency, as it did for the land-based wind power guidelines, to convene advisory committees to begin to sort out the issues and recommend approaches.

CONCLUSION

Unless national policy is willing to either give up on renewable energy or give up on endangered species conservation, the ESA will present inevitable constraints to the development of wind power and other renewable energy infrastructure. The only difference between that tradeoff and the tradeoff inherent in ESA regulation of timber harvesting, subdivision development, highway construction, pesticides, and the like is that renewable energy has such solid green

proposed guidance, *see supra* note 80, also describes this approach, calling it a “master permit,” and requesting comments from Agency personnel on some of the administrative issues it entails.

credentials. The overall environmental benefits of wind power, however, are of little direct and immediate value to an endangered bird struck by a wind turbine. If anything, therefore, the color blindness of the ESA is what defines the statute. But neutrality in this sense does not require inattention to context. The prospect of erecting an extensive new renewable energy infrastructure system on the nation's landscape demands that ESA implementation methods evolve to facilitate that undertaking as much as possible within the statute's legal confines and primary purposes.

The FWS clearly is working toward that goal, but thus far has taken only the first steps. The administrative initiatives outlined in this Article, and similar measures built around the central objective of facilitating business risk management, will advance the ball even further. To be sure, the devil is in the details, and each of these initiatives must be designed to fit within the Agency's scope of discretion, to avoid overdelegation of authority to other actors, to comply with other environmental laws, and to find support in the best available science. But the administrative innovations the FWS instituted in the 1990s for landowner incentives show the Agency can pull it off. That same spirit can and must be injected into the Agency's approach to commercial wind power and all other forms of renewable energy.