Harmonizing Distributed Energy and the Endangered Species Act

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I. INTRODUCTION

Imagine a future in which people from urban cores to sprawling suburbs derive most or all of their energy from rooftop solar panels, backyard wind turbines, and community solar, wind, and biomass facilities. Gone are the huge industrial power plants and mega transmission lines.

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Energy and the environment are in peaceful harmony. Life is good in the distributed energy future.[1] But what about endangered species?

Why worry about endangered species when promoting the idea of distributed renewable energy? To be sure, the Endangered Species Act (ESA),[2] our nation's emergency room safeguard against the ultimate human abuse of our fellow travelers, has presented significant complications for utility-scale renewable energy facility siting,[3] but those are huge industrial facilities with large environmental footprints.[4] Expansive solar panel arrays could potentially displace endangered species habitat, the dozens of turbines concentrated in commercial wind farms present obvious concerns for endangered birds and bats, and the new transmission lines needed to move power from these distant generation sources to consumers will consume habitat and pose risks to a broad range of species.[5]

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1. Distributed energy refers to "a variety of small, modular power-generating technologies that can be combined with load management and energy storage systems to improve the quality and/or reliability of the electricity supply. They are 'distributed' because they are placed at or near the point of energy consumption, unlike traditional 'centralized' systems, where electricity is generated at a remotely located, large-scale power plant and then transmitted down power lines to the consumer." *Distributed Energy Basics*, NAT'L RENEWABLE ENERGY LABORATORY, http://www.nrel.gov/learning/eds_distributed_energy.html (last visited Oct. 23, 2012).

2. 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 & RAFE PETERSEN, ENDANGERED SPECIES DESKBOOK (2d 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., 2005) [hereinafter THE ENDANGERED SPECIES ACT AT THIRTY].

3. *See* J.B. Ruhl, *Harmonizing Commercial Wind Power and the Endangered Species Act Through Administrative Reform*, 65 VAND. L. REV. 1769 (2012).

4. For example, based on generating capacity and power delivery infrastructure, the wind power industry generally consists of large commercial utility-scale projects, smaller community-scale projects, and yet smaller facility-scale energy projects. *See* U.S. FISH & WILDLIFE SERV., LAND-BASED WIND ENERGY GUIDELINES 6 (Mar. 23, 2012), *available at* http://www.fws.gov/windenergy/docs/WEG_final.pdf (distinguishing between types of projects) [hereinafter LAND-BASED GUIDELINES]. Most of the focus of the ESA with respect to wind power, and renewable energy in general, has been on utility-scale projects. *See, e.g.*, *id.* (explaining that the guidelines are designed only for utility-scale land-based projects). This Article focuses exclusively on application of the ESA to community-scale and facility-scale renewable power generation facilities, which I include under the umbrella of distributed energy.

5. For example, 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." *Id.* at vi. *See generally* NAT'L RESEARCH COUNCIL,

But distributed energy is not like these industrial facilities. Solar panels on rooftops, backyard wind turbines, even community-scale solar, wind, and biomass facilities—these couldn't present ESA compliance issues, right? Wrong!

As the utility-scale renewable energy industry has learned, there is no "green" exception under the ESA, but there is no "small" exception either—size does *not* matter in the eyes of the ESA. Low impact is not no impact, and many low impacts can add up. As we envision an energy profile relying increasingly on distributed energy generation sources, we must consider the potential *cumulative* impact on species. Although low-profile rooftop solar panels in any number are unlikely to pose risks to species, the proliferation of distributed wind turbines and the development of community-scale solar, wind, and biomass facilities do present potential conflicts with the ESA.[6] A bird or bat striking a wind turbine does not care that it is a distributed energy facility, not a utility-scale energy facility. And when turbines are sited in many backyards, or in many community-scale facilities, they may begin to look like wind farms after all, at least to birds and bats. The same could be said of community-scale solar and biomass facilities—they take up space, potentially displacing species habitat, and, in the case of biomass, could introduce invasive plant species and other environmental risks.[7] The point is clear: a distributed energy future might look very different from

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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 impacts 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.

6. 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 4, at 2–4 (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.

7. *See* J.N. Barney & J.M. DiTomaso, *Nonnative Species and Bioenergy: Are We Cultivating the Next Invader?*, 58 BIOSCIENCE 64 (2008) (discussing the potential for managed biofuel feedstock cultivations to spread invasive species).

our industrial energy present to humans, but perhaps not as much so to other species.

The utility-scale renewable energy industry, particularly the wind power industry, has been working feverishly over the past few years to forge ESA compliance solutions to fulfill the nation's policy of getting facilities sited and generating green electrons.[8] The key federal agency in this effort—the U.S. Fish and Wildlife Service (FWS)—has only recently taken significant steps toward providing compliance guidance and permitting frameworks.[9] The compliance solutions under development, however, will have little use in the distributed energy context. They are designed for large industrial facilities with the potential for concentrated impacts to species and habitat, and they rely on intensive and expensive development restrictions and impact mitigation measures.[10] Applying this kind of regulatory regime to the distributed energy world would be smothering. A different approach is needed.

The problem is that the ESA is at its clumsiest in contexts like distributed energy. The ESA is designed reasonably well to regulate discrete projects with straightforward causal effects on species, such as a new subdivision clearing habitat or a forest timber-harvesting project,[11] but not so well when harm to species comes from the cumulative effects of dispersed

8. 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* TEX. UTIL. CODE ANN. § 39.904 (2007) (setting new goals for renewable energy). Notwithstanding the possibly tenuous financial profile for utility-scale renewable energy, particularly the uncertain future of tax credits, 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.

9. For example, after almost 10 years in development, the agency issued its first comprehensive set of guidelines for siting commercial wind power facilities in late March 2012. *See* LAND-BASED GUIDELINES, *supra* note 4, at vi (explaining that the 2012 guidelines replace a much more abbreviated interim voluntary guidance issued in 2003).

10. *See* Ruhl, *supra* note 3, at 1776–87.

11. *See* BARTON H. THOMPSON JR., *Managing the Working Landscape*, *in* THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 2, 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) . . . ").

low-impact land uses.[12] Distributed energy thus demands innovative ESA compliance solutions.

This Article explores ways of harmonizing distributed energy and the ESA, a goal consistent with the national policy for renewable energy conservation.[13] Several legal practitioners and scholars have identified the ESA as a potentially significant constraint on the siting and operation of wind power facilities.[14] The ESA has also been identified as a potential barrier to renewable energy in general, as solar power, biomass, and ocean tide and wave facilities could have their own sets of impacts triggering ESA regulation.[15] But most of this attention has been devoted to utility-scale renewable energy, with distributed energy largely ignored or perhaps assumed not to be a problem. Before we dive deep into distributed energy, however, it would be prudent to develop an ESA compliance blueprint now rather than scrambling later at the "shovel ready" stage as has happened in the utility-scale wind power context.

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12. This mismatch is discussed in more detail, *infra* Part II.

13. *See* Exec. Order No. 13604, 77 Fed. Reg. 18887 (Mar. 22, 2012) (directing federal agencies to provide permitting and review processes that are "transparent, consistent, and predictable" for categories of infrastructure projects including "renewable energy generation").

14. *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 the 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).

15. *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, 546–47 (2010) (discussing solar, wind and geothermal power); 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, 821–30 (2012) (discussing direction of renewable energy generally under ESA).

Part II thus opens by framing the distributed energy problem for the ESA, showing how the proliferation of distributed energy facilities can present ESA compliance issues and how traditional ESA compliance solutions do not work well in that context. Part III of the Article explores compliance innovations the FWS could implement for distributed energy administratively, without need for legislative reform of the ESA. By providing low cost, expeditious compliance security and stability for distributed energy, the FWS can fulfill the ESA's goals and promote a better energy future for *all* species.

II. DISTRIBUTED ENERGY AS AN ESA CONUNDRUM

Widely regarded as the "pit bull" of environmental laws,[16] 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."[17] 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[18]—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,[19] and to designate a "critical habitat"[20] and develop a "recovery plan"[21] 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

16. Steven P. Quarles, *The Pit Bull Goes to School*, 15 ENVTL. F., no. 5, Sept./Oct. 1998, at 55 (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").

17. 16 U.S.C. § 1531(b).

18. 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).

19. 16 U.S.C. § 1533(a)(1). *See generally* LIEBESMAN & PETERSEN, *supra* note 2, at 13–27 (describing the listing process); J.B. Ruhl, *Listing Endangered and Threatened Species*, *in* LAW, POLICY, AND PERSPECTIVES, *supra* note 2, at 16, 17–35 (same).

20. 16 U.S.C. § 1533(a)(3). *See generally* LIEBESMAN & PETERSEN, *supra* note 2, at 29–34 (describing the critical habitat designation process); Federico Cheever, *Critical Habitat*, *in* LAW, POLICY, AND PERSPECTIVES, *supra* note 2, 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).

21. 16 U.S.C. § 1533(f). *See generally* LIEBESMAN & PETERSEN, *supra* note 2, at 35–38 (describing the recovery plan process); DALE D. GOBLE, *Recovery*, *in* LAW, POLICY, AND PERSPECTIVES, *supra* note 2, at 70 (same).

authorize do not "jeopardize" the continued existence of listed species or "adverse[ly] modif[y]" their critical habitat.[22]

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.[23] The statute defines "take" to include "harm,"[24] which the FWS and NMFS have defined to include significant modification of habitat leading to actual death or injury of protected species.[25]

Incidental Take Permits: Sections 7 (for federal agency direct, funding, and approval actions)[26] and 10 (for actions not subject to section 7)[27] establish a procedure and criteria for the FWS and NMFS to approve "incidental take" of listed species.[28]

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

22. 16 U.S.C. § 1536(a)(2). *See generally* LIEBESMAN & PETERSEN, *supra* note 2, at 27 (describing the consultation process); STANFORD ENVTL. LAW SOC'Y, *supra* note 2, at 83–103 (same); SULLINS, *supra* note 2, at 59–86 (same); Patrick W. Ryan & Erika E. Malmen, *Interagency Consultation Under Section 7*, *in* LAW, POLICY, AND PERSPECTIVES, *supra* note 2, at 104 (same).

23. 16 U.S.C. § 1538(a)(1). *See generally* LIEBESMAN & PETERSEN, *supra* note 2, 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 2, at 160, 161–68 (same).

24. 16 U.S.C. § 1532(19).

25. 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 23, at 168–82 (discussing application of the agencies' interpretations).

26. 16 U.S.C. § 1536(b)(4). Permits under this provision are known as "incidental take statements."

27. *Id*. § 1539(a)(1). Permits under this provision are known as "incidental take permits," but they require applicant submission of a "habitat conservation plan" and thus are also referred to as "HCP permits."

28. *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." *Id*. § 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 2, at 73–81.

factors . . . "[29] 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.[30] 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 bears the costs and who reaps the benefits.[31] The possibility that the ESA could be a barrier to distributed energy as well would only add to this list of complaints.

Given how "green" distributed energy presents itself to be, one might reasonably ask how likely this potential conflict is to arise. Who, in other words, is going to wave the ESA red flag at distributed energy? If the utility-scale wind power context is any indication, however, it will come from two sources. First, as popular as renewable energy may be, not everyone is enamored of renewable energy *facilities*, and this is as true on small scales as it is on large scales. Increased development of utility-scale 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.[32] Perhaps reflecting the changing regulatory landscape, wind development litigation has been inconsistent, resulting in little certainty for the industry.[33]

This dynamic could just as easily play out for distributed energy. Consider, for example, that many subdivision covenants and local zoning codes prohibit or severely burden installation of rooftop solar panels and wind turbines.[34] Although some states prohibit enforcement of such provisions,[35] they cannot preclude ESA enforcement designed to replicate the same preclusive effects or, at least, slow down the movement. Thus,

29. 16 U.S.C. § 1533(a)(1) (prescribing the factors upon which listing decisions are made).

30. *See* J. MICHAEL SCOTT ET AL., *By the Numbers*, *in* THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 2, at 16, 29–32.

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

32. *See generally* Engelman, *supra* note 14, at 10553–66.

33. *See* Lisa W. Stone & Sara Zdeb, *Lessons Learned From Wind Farm Litigation*, 11 A.B.A. ENVTL. LITIG. AND TOXIC TORTS COMM. NEWSLETTER 1, 2–6 (Mar. 2009), *available at* http://web.omm.com/files/upload/Lessons%20From%20Wind%20Farm%20Litigation.pdf.

34. *See* Michael L. Pisauro, Jr., *Renewables and Land Use Law*, 23 NAT. RES. & ENV'T 39, 39 (2008); Patricia Salkin, *Key to Unlocking the Power of Small Scale Renewable Energy: Local Land Use Regulation*, 27 J. LAND USE & ENVTL. L. 339, 339–40 (2012).

35. Salkin, *supra* note 34, at 351, 363.

the ESA could very well become a tool for local or neighborhood opposition to siting of distributed energy facilities.

Moreover, to the extent cumulative effects of distributed energy facilities on species become a concern, species conservation advocates may attempt to employ the ESA to control or limit the scale, siting, and operation of facilities just as they have against utility-scale wind power. For example, in *Animal Welfare Institute v. Beech Ridge Energy L.L.C.*, a plaintiff conservation group successfully enjoined the operation of a commercial wind project in West Virginia for failing to seek an ESA incidental take permit authorizing take of the Indiana Bat.[36] 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.[37] The court then adopted a low evidentiary standard for establishing whether an activity is likely to harm a listed species and trigger the ESA.[38] 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.[39] Third and finally, the *Beech Ridge* court determined that broad injunctive relief was appropriate, prohibiting all wind turbine operation pending compliance with the ESA.[40] There is no reason to believe that the court would have held otherwise had the case involved the same potential for harm from a community-scale wind, solar, or biomass facility.

One obvious difference between utility-scale and distributed energy is the defendant in litigation. A utility-scale renewable energy generation facility is a large target both in the physical sense and the financial sense. By contrast, waging a broad ESA battle against distributed energy generators faces the difficulty of a dispersed defendant pool. But this might not prove so problematic after all. In similar contexts, some courts have held that state and local agencies with regulatory jurisdiction over a dispersed class of defendants causing harms to endangered species can be held liable for allowing the harms to occur.[41] Plaintiffs could attempt

36. Animal Welfare Inst. v. Beech Ridge Energy L.L.C., 675 F. Supp.2d 540, 581 (D.Md. 2009).
37. *Id* at 560–61.
38. *Id*. at 563–64.
39. *Id*. at 563.
40. *Id*. at 580–81.
41. *See, e.g.*, Loggerhead Turtle v. City Council of Volusia County, 148 F.3d 1231, 1253 (11th Cir. 1998); Animal Protection Inst. v. Holstein, 541 F. Supp. 2d 1073,

to use this theory of vicarious liability to consolidate ESA litigation against distributed energy by suing entities such as home owner associations, local governments, and state agencies that either approve siting of distributed energy facilities or fail to regulate their impacts on endangered species.

The other obvious difference between the utility-scale context and distributed energy is facility size. But to escape the ESA, it is not enough to say that the impact of a distributed energy facility will be small. Under the ESA, low impacts count, and cumulative impacts count a lot.

A. Low Impact Isn't No Impact

The prohibition of "take" in section 9 of the ESA allows for little flexibility. In straightforward terms, take is prohibited except as provided in Sections 10 (HCP permits) and 7 (federal agency consultations). One can scour the ESA and find no other exception relevant to distributed energy—it does not matter that distributed energy is "green," or that it is small-scale, or that its benefits might help species in general. Rather, Section 9 prohibits take of any individual of a protected species,[42] and the ESA's incidental take authorization procedures do not contemplate netting out a take with offsetting mitigation benefits to conclude there has been no take to begin with.[43] Instead, "take" is determined at the lowest scale, on the basis of impacts to individual species members. Once take is determined to be present it is illegal to carry out the action without approval through incidental take authorization under Section 10 or 7. In short, a take is a take, requiring 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.

Of course, FWS can exercise prosecutorial discretion not to pursue enforcement, which may be appropriate in the distributed energy context given the low probability of significant harm to listed species. Like many other environmental statutes, however, the ESA contains a citizen suit provision allowing any person to commence litigation to enjoin violations of the ESA or to compel FWS to perform its nondiscretionary

1081 (D. Minn. 2008). For an overview, including a critique of the vicarious liability theory, see generally J.B. Ruhl, *State and Local Government Vicarious Liability Under the ESA*, 15 NAT. RESOURCES & ENV'T 70 (2001).

42. *See* 16 U.S.C. § 1538(a)(1)(B).

43. 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).

statutory duties.[44] Outside the context of illegal trade and transport of protected species, virtually all ESA enforcement is through this citizen suit mechanism.[45]

B. Low Impacts Add Up

One could reasonably expect litigation against specific distributed energy facilities to be mostly sporadic, ad hoc, and NIMBY-motivated. Even if so, however, extensive deployment of distributed energy could eventually lead to cumulative impact risks of more concern to species conservation interest groups. One backyard wind turbine may be inconsequential, but 100 turbines in a subdivision, and hundreds more in other nearby subdivisions, make for a potentially more significant risk profile.

Although they can be difficult to quantify, this kind of cumulative effects problem matters under the ESA. For example, Section 7 federal inter-agency consultation procedures require assessment of the effects of the discrete action under consideration along with the cumulative effects of the pre-existing environmental baseline and all other non-federal projects that are planned or underway.[46] To the extent federal agencies become involved in the deployment of distributed energy through funding and approval of state, local, or private programs and facilities, consultation will be required and must take cumulative effects into account.

Also, the vicarious liability theory discussed above, under which state and local agencies have in some cases been held liable for the ESA violations of people and businesses subject to their regulatory jurisdiction, is a mechanism for addressing cumulative impacts. The difficulty of

44. 16 U.S.C. § 1540(g).

45. Since 1997, I have compiled an annual summary of all ESA civil litigation for the American Bar Association's Section on Environment, Energy, and Natural Resources. *See, e.g.*, *Endangered Species 2011 Annual Report*, 2011 ABA ENVIRONMENT, ENERGY, & RESOURCES LAW: YEAR IN REVIEW 55, n.1 (2012). The federal government has rarely pursued civil enforcement litigation and is by far the most frequent defendant.

46. The precise question under review in a Section 7 consultation is whether "the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species." 50 C.F.R. § 402.14(g)(4) (2012). A consultation thus must "[e]valuate the effects of the action and cumulative effects on the listed species." *Id.* § 402.14(g)(3). Cumulative effects are "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation," and the action area includes "all areas to be affected directly or indirectly by the Federal action and not just the immediate area involved in the action." 50 C.F.R. § 402.02.

suing individual violators in highly dispersed causation contexts makes it more likely that the cumulative effects of many "small" harms could build up with no effective means of regulation. In such contexts, ESA plaintiffs have sought to pin liability on an intermediate causal entity that acts as a gateway for the dispersed harms, one obvious candidate being state and local agencies with some regulatory power over the offending activity.

III. COMPLIANCE SOLUTION INNOVATIONS

The ESA has received little attention in the distributed energy policy dialog thus far, and probably for good reason, as far more important and immediate hurdles face the rapid and widespread deployment of distributed energy. But it is not my purpose to fuel the ESA fire. Rather, my concern is that as those other hurdles are solved and distributed energy begins to gain significant traction, the ESA could become a sticking point as it has in the utility-scale wind power context. Even the slightest exposure to ESA litigation could deter some individuals, businesses, and communities from pursuing distributed energy options. Yet, this potential can be entirely avoided with some proactive and innovative action by the FWS and state and local authorities.

The ESA is no stranger to agency-led regulatory innovation. But 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 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.[47] The Obama Administration continues to focus ESA innovation on that context.[48]

As I have argued elsewhere, however, this landowner compliance incentive focus is off-target for the development of renewable energy.

47. *See* J.B. Ruhl, *Who Needs Congress? An Agenda for Administrative Reform of the Endangered Species Act*, 6 NYU ENVTL. L.J. 367, 370, 384–85 (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, 429–31, 436 (2004) (reflecting on the Babbitt era reforms).

48. Recently, for example, the FWS requested public input on an initiative to innovate ESA programs with the primary objective of addressing landowner incentives. *See* Endangered and Threatened Wildlife and Plants; Expanding Incentives for Voluntary conservation Actions Under the Endangered Species Act, 77 Fed. Reg. 15352 (Mar. 15, 2012) (to be codified at 50 C.F.R pts. 13, 17, 402) ("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: Landowner Incentives*, U.S. FISH & WILDLIFE SERV. (Feb. 8, 2013), http://www.fws.gov/endangered/improving_ESA/landowner_incentives.html.

The utility-scale wind power context, for example, 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, utility-scale wind power is a massive infrastructure undertaking that poses tremendous business risk management challenges for private and public investors. It's not a matter of deciding whether to comply—it's a matter of figuring out how, doing it expeditiously, and having it stick so that the business risk is minimized. The FWS should thus view utility-scale 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 to facilitate management of those risks that cannot be eliminated.

The distributed energy context is yet another kind of problem. Presumably people and businesses seeking to employ distributed energy options also wish to do so in a way that complies with the ESA. But if they view ESA compliance as a hassle, or as a significant added cost to choosing distributed energy, or as exposing them to even a remote litigation risk, their enthusiasm for distributed energy options may diminish. The objective of ESA innovation for distributed energy, therefore, should be to reduce the overall marginal "drag" the ESA places on the decision by people, businesses, and communities to choose distributed energy options.

A. Information-Based Assistance

If a homeowner, neighborhood, or small business owner is thinking about installing a wind turbine and hears that the ESA has been a problem in some areas of the nation, how does one access information to assess the risk? The answer today is, good luck finding anything useful. Neither the FWS nor any other informed entity has provided easily accessible information about the ESA and distributed energy.[49] Thus, step one for FWS is to help people and businesses understand how the ESA might affect their distributed energy plans.

49. The top result in my Google search for "distributed energy endangered species act" was a link to my presentation at this symposium. No other result proved even remotely on point.

In the utility-scale renewable energy context, industry and conservation organizations have financed development of landscape assessment tools to help evaluate the ESA compliance profile of potential facility sites.[50] Homeowners and small businesses, quite obviously, cannot finance such efforts, but the FWS could go a long way toward supplying the same service simply by identifying areas of the nations in which different types of distributed energy facilities could pose a potential risk to protected species. A website interface allowing people to click on their county and receive a coarse but nonetheless informative assessment of ESA issues for distributed energy in the county would allow many people and businesses to eliminate the ESA as a potential hassle.

For those counties in which the ESA cannot be excluded as a potential compliance issue, the FWS would need to go further in assisting the compliance assessment decision. As it has for the utility-scale wind power industry,[51] FWS could develop a set of design and siting guidelines that distributed energy suppliers and consumers could use to build to low-risk or even no-take scenarios. Moreover, as it has in similar contexts, the FWS could provide added security by issuing "no take" letters upon demonstration that a project is in compliance with the guidelines and the risk of take is removed.[52]

While these information-based initiatives could remove the ESA hassle factor for many if not most distributed energy scenarios, they cannot eliminate it in all cases. Ultimately, therefore, the FWS will have to take innovation to the permitting realm.

B. Permit Streamlining and Simplification

Unlike some environmental statutes, the ESA does not contain highly articulated regulatory and permitting provisions. Sections 10 and 7 are relatively sparse in terms of laying out permitting criteria and procedures. Most significantly, there is no explicit authority to promulgate exemptions or, more on point, to issue general permits for classes of low-impact

50. *See Seeing the Big Picture*, AM. WIND & WILDLIFE INST., http://www.awwi.org/initiatives/landscape.aspx (last visited Apr. 16, 2013).

51. *See* LAND-BASED GUIDELINES, *supra* note 4, at vi.

52. The FWS does not generally publicize that it will provide such letters, but it was a common practice of the agency when I was a practitioner in Austin, Texas, during the 1990s. A homeowner or small subdivision development could present evidence to the agency that the land development was designed to avoid take of endangered bird species resident in the Austin area, and if convinced of this the agency would provide a letter concurring in that conclusion but without purporting to authorize take were it to occur. These so-called "bird letters" attained the status of a quasi-permit for purposes of obtaining financing and other local and state approvals. *See* J.B. Ruhl, *Biodiversity Conservation and the Ever-Expanding Web of Federal Laws Regulating Nonfederal Lands: Time for Something Completely Different?*, 66 U. COLO. L. REV. 555, 635–36 n.245 (1995).

activities, which are a useful tool for managing cumulative effects in dispersed harm contexts.[53] On the other hand, the sparse statutory environment leaves considerable room for permitting innovation. For example, the FWS has developed what it calls a General Conservation Plan (GCP) policy under which it designs a general conservation plan for a specific activity in a specific area, such as farming in a county, thus simplifying the permitting process for people or businesses engaging in the activity by allowing them to adopt the GCP in connection with their individual Section 10 permits.[54]

Clearly, project-by-project ESA permitting is unlikely to match up well with national goals for renewable energy, so something more streamlined and simplified is needed. In an effort to explore how to streamline approvals of utility-scale wind development, therefore, 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 ESA permitting process to occur once for multiple species and multiple actions over a large geographic range.[55] Applied to the utility-scale wind power context, individual wind projects within a region could be covered by the RHCP and, depending on the structure of the RHCP, would not need to go through certain project-specific assessments or permitting processes for ESA compliance.[56]

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53. For example, Section 404 of the Clean Water Act, regulating discharges into navigable waters including wetlands, allows issuance of general permits for activities that are similar in nature, have minimal effects when performed separately, and "will cause only minimal adverse environmental effects." 33 U.S.C. § 1344(e)(1). There is no similar provision in the ESA.

54. *See* Memorandum from Director to Assistant Regional Directors Re: Final General Conservation Plan Policy (Oct 5, 2007), *available at* http://www.drecp.org/meetings/2012-09-24_workshop/background/USFWS_General_Conservation_Plan_Policy.pdf. This design falls somewhere between the general permit approach and the proposal I outline in the text that follows.

55. For a discussion of the origins and attributes of the urban RHCP model, see J.B. Ruhl, *Regional Habitat Conservation Planning Under the Endangered Species Act: Pushing the Legal and Practical Limits of Species Protection*, 44 SW. L.J. 1393, 1394–95 (1991). For extensive information on the program and the dozens of RHCPs FWS has issued since then, see *Habitat Conservation Plans: Overview*, U.S. FISH & WILDLIFE SERV., http://www.fws.gov/endangered/what-we-do/hcp-overview.html# (last updated Aug. 28, 2012).

56. *See* Draft Environmental Impact Statement and Habitat Conservation Plan for Commercial Wind Energy Developments Within Nine States, 76 Fed. Reg. 41,510,

By avoiding the significant permitting burden on individual projects, this model could significantly expedite utility-scale wind development within a given region as well as reduce the demands on agency time and resources.[57] Although the final structural approach has not been determined as of this writing, three utility-scale wind power RHCPs are currently in planning with some form of RHCP structure in mind.[58]

Similarly, the FWS could work with states and local governments to create a regional and local RHCP "master permit" for distributed energy installations.[59] Given the lower potential for species impacts associated with distributed energy and the dispersed nature of the facilities, these RHCPs could be far less complicated and costly undertakings than their utility-scale counterparts and impose very low burdens on distributed energy users. The permit would specify a maximum covered installed capacity in the permit area for each type of distributed energy generation facility, prescribe design and installation criteria, estimate a total take for covered species, and develop a take mitigation program (e.g., habitat restoration or invasive species control). Each distributed energy installation, from a backyard wind turbine to a larger community solar field, would plug into the permit, and thus immediately receive its ESA compliance status, by demonstrating compliance with the design and build criteria and paying a mitigation funding fee based on factors such as location, footprint, and capacity. The fee could likely be low or nominal for a modest home facility such as a small wind turbine or solar panel, and scaled appropriately for larger community or business facilities. As capacity limits are reached, the state or local government could seek an amendment to its permit to allow more installations based on FWS review of the status of the relevant species. Finally, any project qualifying

41,510–11 (July 14, 2011) (FWS public notice outlining various RHCP structural alternatives for utility-scale wind power).

57. *See, e.g.*, *Wind, Bats, and Birds: Region-Wide HCP for Wind Projects*, U.S. FISH & WILDLIFE SERV., http://www.fws.gov/midwest/endangered/esday/wind2010.html (last updated Mar. 6, 2012) ("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.").

58. *See* Ruhl, *supra* note 3, at 1784–85 (describing the permitting efforts and proposing the appropriate structure).

59. The FWS has used the terms "master permit" and "programmatic permit" to refer to the approach I am proposing in this section. *See* Memorandum from Deputy Director to Regional Directors, Re: Proposed Policy Guidance for Incidental Take Permits Covering Multiple Projects and Project Owners (July 20, 2012) (on file with author).

for coverage under the RHCP could take advantage of the fact that the RHCP issuance process satisfies all other applicable environmental assessments for the distributed energy component of the project, such as under the National Environmental Policy Act and Section 7 of the ESA.

Because these RHCPs would be limited to distributed energy facilities—they would not cover any other species impacts of a development, such as habitat clearing for building sites—they should be able to be developed relatively quickly and consistently across the relevant parts of the nation.[60] Where distributed energy installation and operation presents the only ESA compliance risk for a home, business, or community, these permits would eliminate the hassle of ESA compliance at low cost and would block NIMBY and other litigation alleging unauthorized take of protected species. Where other ESA compliance issues are involved in a particular development, at least distributed energy would be off the table as a potential added complication. Overall, the potential deterrent effects the ESA could have on distributed energy could be eliminated for the vast majority of applications, and if these permits were put in place proactively, the ESA would likely rarely arise as a concern for distributed energy in the first place.

Recognizing that it may not be practical to cover the entire nation with these RHCPs, and that some community-scale distributed energy projects could present species impact risk profiles falling outside the scope of the relevant area RHCP, the FWS could also develop an "umbrella permit" template for expedited facility-specific permitting using a "fill in the blanks" mitigation approach modeled off of the RHCP template.[61] These permits would require minimal processing time and cost, and in

60. Although the General Conservation Plan approach seems suited to this single-activity approach, the GCP requirement that each individual person or business apply for an individual Section 10 permit is likely to be too onerous for users of distributed energy. *See* Memorandum Re: Final General Conservation Plan, *supra* note 54. The effort that would go into the FWS developing a GCP is not materially different from that required of state or local governments for the proposed RHCP approach, whereas the RHCP approach eliminates the need for end users to apply for an individual Section 10 permit and allows overall monitoring and enforcement through the state or local entity holding the master permit. *Id*.

61. The FWS uses the term "umbrella permit" to describe this approach. *See* Draft Environmental Impact Statement, *supra* note 56, at 41,512. This may be the context in which the General Conservation Plan approach, which is a subset of the "umbrella permit" structure, would be useful—the FWS could develop national or state GCPs for distributed energy tracking the basic model of the RHCP, thus allowing projects that do not fit an RHCP to use the GCP as their conservation plan for purposes of their individual Section 10 permit applications.

most cases could qualify as low-impact HCPs and thus receive categorical exclusion under the National Environmental Policy Act.

IV. CONCLUSION

At the risk of making a mountain out of a mole hill, I have suggested that the ESA could present complications for the rapid and widespread deployment of distributed energy generation. But I have done so to show why such complications are unnecessary and could amount to no more than a mole hill after all. However, it will take some proactive effort on the part of the FWS and interested state and local governments to make that the case. There is no good reason to wait for it to become a problem. Distributed energy cannot claim no impact to endangered species, but it should claim the attention of the FWS to move now to take the ESA off the table as one of a number of barriers, however small it may be. Through a narrowly designed but broadly applied set of RHCPs designed for distributed energy, the FWS can facilitate the species conservation goals of both the ESA *and* our nation's renewable energy initiatives. The agency should act now to keep the mole hill a mole hill.