OVERHAULING ESA PRIVATE LAND PROVISIONS IN LIGHT OF THE RENEWABLE ENERGY BOOM ON FEDERAL PUBLIC LANDS

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"I am the Lorax, and I'll yell and I'll shout for the fine things on earth that are on their way out!"[1]

Introduction

Many of us are familiar with the recent rise in renewable energy development in the United States. What we are not as familiar with, however, is the story of the Mojave desert tortoise and how it succeeded in shutting down for three months what remains the largest solar energy project in the world.[2] Taking a step back, the Endangered Species Act (ESA),[3] now forty years old, has plodded along at a slow and steady pace, with Congress slowly chipping away at the ESA until it was transformed from "prohibitive to permissive."[4] While the ESA has had the benefit of a significant head start, renewable energy development in the United States has burst onto the scene in a strong and swift fashion in the last ten years,[5] a newcomer that has developed at an accelerating pace. What may be described as a "green clash" has been cre-

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1 Dr. Seuss, The Lorax (1971).

2 *Ivanpah*, BrightSource Energy, http://www.brightsourceenergy.com/ivanpah-solar-project (last visited Mar. 9, 2014); *see infra* subsection II.A.2.a.

3 Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (codified as amended at 16 U.S.C. §§ 1531–44 (2006)).

4 J. Michael Scott et al., *Introduction* to 1 The Endangered Species Act at Thirty 3, 9 (Dale D. Goble et al. eds., 2006).

5 *See, e.g.*, David J. Lazerwitz, *Renewable Energy Development on the Federal Public Lands: Catching Up with the New Land Rush*, 55 Rocky Mtn. Min. L. Inst. 13-1, 13-3 (2009) (describing the rapid increase in solar and wind power projects as a "surge" onto the federal public lands).

ated as ESA and the renewable energy development "land rush"[6] policies diverge on limited federal public lands. This conflict is easily demonstrated by the example of the desert tortoise. The solar energy project slated for construction collided with the ESA when more desert tortoises were found at the site than the project's ESA permit allowed, resulting in the stoppage of the entire project as remedies for the tortoise were sorted out.[7] In a study this year, the U.S. Geological Survey has found further evidence of this clash, as demonstrated by the fact that seventeen percent of biodiversity "hot spots"[8] are found on land designated for renewable energy development.[9] This clash between federal green initiatives has magnified the infirmities of the ESA, and the renewable energy land rush has catalyzed the need for imminent change in how the ESA regulates (currently, how the ESA *fails* to effectively regulate) the habitat of threatened and endangered species on private lands in the United States.

First, Part I of this Note provides a background of the relevant ESA and renewable energy laws and policies in play today with regard to the renewable energy land rush in the United States, chronicling the recent explosion in renewable energy development on federal public lands in particular. Second, in Part II this Note details the lack of effectiveness of the ESA with regard to federal public lands and the conflict created for the Bureau of Land Management (BLM) with the diverging "green" mandates from the ESA and renewable energy policy. This Part then addresses the failure of the ESA with regard to private lands regulation and posits that the expansion of renewable energy development on public lands is rapidly accelerating the need to change how the ESA regulates and incentivizes private landowners. Finally, in Part III this Note concludes by addressing two methods—subsidies and market-based approaches—by which the ESA can be modified to successfully provide a positive habitat protection structure. By focusing on the ESA's private lands infirmities, the United States can provide suitable private land habitat for endangered species amidst an accelerating need to devote federal public lands to renewable energy projects and away from endangered species' critical habitats.

I. THE ESA AND RENEWABLE ENERGY POLICY IN THE UNITED STATES

This Part first provides a background regarding the evolution of federal laws leading up to the enactment of the Endangered Species Act of 1973 and the purposes given for its enactment. This is followed by an overview of some of the ESA's key provisions. Next, a summary of the development of renewable energy policy and laws in the United States is given along with an account

6 *See infra* note 66 and accompanying text.

7 *See infra* subsection II.A.2.a.

8 *See infra* note 76.

9 Chris Clarke, *Government Study: Big Renewable Energy Projects Threaten Wildlife*, KCET (Apr. 16, 2013, 2:47 PM), http://www.kcet.org/news/rewire/wildlife/study-utility-scale-renewable-energy-threatens-mojave-biodiversity-hotspots.html.

of the rapid growth of renewable energy development and a few of the reasons for this swift expansion.

A. The Endangered Species Act

1. Development and Evolution

Congress began its species protection legislation in 1966 with the Endangered Species Preservation Act.[10] The Endangered Species Preservation Act was limited in only requiring federal agencies to follow it "insofar as is practicable and consistent with [their] primary purposes."[11] The law was amended a few years later to add a few enforcement provisions regarding the sale of endangered species in the United States.[12] President Richard Nixon indicated to Congress that he was not satisfied with these existing species preservation efforts,[13] and the following year Congress passed the Endangered Species Act[14] with broad bipartisan support.[15] Upon its passage, President Nixon memorably stated:

> Nothing is more priceless and more worthy of preservation than the rich array of animal life with which our country has been blessed. It is a many-

10 Endangered Species Preservation Act of 1966, Pub. L. No. 89-669, 80 Stat. 926 ("To provide for the conservation, protection, and propagation of native species of fish and wildlife, including migratory birds, that are threatened with extinction; to consolidate the authorities relating to the administration by the Secretary of the Interior of the National Wildlife Refuge System; and for other purposes."), *repealed by* Endangered Species Act of 1973, Pub. L. No. 93-205, § 14, 87 Stat. 903 (codified as amended at 16 U.S.C. §§ 1531–44 (2006)).

11 *Id.*

12 Endangered Species Conservation Act, Pub. L. No. 91-135, 83 Stat. 275 (1969) ("To prevent the importation of endangered species of fish or wildlife into the United States: to prevent the interstate shipment of reptiles, amphibians, and other wildlife taken contrary to State law: and for other purposes."), *repealed by* Endangered Species Act of 1973 § 14.

13 *See* Bradford C. Mank, *Can Congress Regulate Intrastate Endangered Species Under the Commerce Clause? The Split in the Circuits over Whether the Regulated Activity Is Private Commercial Development or the Taking of Protected Species*, 69 BROOK. L. REV. 923, 937 n.81 (2004) (indicating President Nixon's sentiment that "even the most recent act to protect endangered species, which dates only from 1969, simply does not provide the kind of management tools needed to act early enough to save a vanishing species" (quoting 118 CONG. REC. 3140, 3143 (1972))).

14 16 U.S.C. §§ 1531–44.

15 *See* Brian E. Gray, *The Endangered Species Act: Reform or Refutation?*, 13 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 1, 1 (2007) (stating that the Act passed the House of Representatives with a 355 to 4 vote and was unanimously passed in the Senate). Nonetheless, it is apparent that Congress passed the legislation without a significant realization that the legislation would encompass more species protection than simply "charismatic megafauna." *Id.* at 2. This lack of understanding of the breadth of the Act as passed was tested in the now infamous *Tennessee Valley Authority v. Hill* 1978 Supreme Court case, in which it was held that the preservation of the endangered Tennessee snail darter (dubbed the "two inch terror" by former Senator Howard Baker) meant enjoining the completion of a dam within its final construction phase. *Id.* at 5–6.

> faceted treasure, of value to scholars, scientists, and nature lovers alike, and it forms a vital part of the heritage we all share as Americans.[16]

The ESA was enacted with the purpose of "provid[ing] a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species."[17] The ESA's structure is "short and compact" compared to other environmental laws.[18] The U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) (collectively referred to as the "Service") are responsible for administering the majority of the ESA,[19] with the Secretary of the Interior and the Secretary of Commerce (collectively referred to as the "Secretary") being the ultimate decisionmakers regarding the listing of a species.[20]

2. Specific Provisions

Beyond the development and policy behind the ESA, there are four specific sections within the Act that provide its main framework. A brief look at each of these sections provides a glimpse into how the ESA designates threatened and endangered species and enforces protection of those species.

a. Section 4: Species Listing and Critical Habitat Designation

Section 4[21] is widely regarded as the "keystone" of the ESA.[22] The section acts as a "gateway to the ESA,"[23] providing protection only once a species is classified as threatened or endangered.[24] The Secretary has broad discretion in listing a species and may not look at economic factors—only scientific factors may be considered.[25] Within section 4 the Secretary is also

16 *Id.* at 2 (citation omitted).

17 16 U.S.C. § 1531(b).

18 Nathan Paulich, *Increasing Private Conservation Through Incentive Mechanisms*, 3 STAN. J. ANIMAL L. & POL'Y 106, 112 (2010).

19 *Endangered Species Act*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., http://www.nmfs.noaa.gov/pr/laws/esa/ (last updated Dec. 13, 2013) ("Generally, [FWS] manages land and freshwater species, while NMFS manages marine and 'anadromous' species. NMFS has jurisdiction over 94 listed species.").

20 *See* 16 U.S.C. § 1532(15) (defining the term "Secretary" as the Secretary of the Interior or the Secretary of Commerce depending on program responsibilities); *id.* § 1533(a)(1) ("The Secretary shall . . . determine whether any species is an endangered species or a threatened species . . . .").

21 *Id.* § 1533.

22 *See* H.R. REP. NO. 97-567, at 10 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2807, 2810.

23 *See* Paulich, *supra* note 18, at 113.

24 SAM KALEN & MURRAY FELDMAN, ESA: ENDANGERED SPECIES ACT 5 (2d ed. 2012).

25 *See* Paulich, *supra* note 18, at 113; 16 U.S.C. § 1533(a) (mandating that the Secretary "determine whether any species is an endangered species or a threatened species because of any of the following factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing

required to designate "critical habitat"[26] and create "recovery plans"[27] for species. Notably, the critical habitat designation process is the only instance in which the Secretary is charged with specifically considering economic factors in the ESA.[28]

b. Section 7: Species Protection

Section 7(a)(2) requires that federal agencies consult[29] with the FWS or NMFS in order to ensure that a federal action does not "jeopardize"[30] a species. Section 7(a)(1) also indicates that the Secretary must review her department's programs in ensuring that they further the purposes of the ESA. This is distinct from the section 7(a)(2) consultation and jeopardy requirements.[31] It would appear that section 7(a)(1) thus creates an independent obligation on each federal agency, but because of its poor definition no rules have been enacted addressing this provision.[32]

c. Section 9: Prohibition on Takes

Section 9[33] is a critical provision of the ESA—it operates to enforce prohibitions on actions that harm threatened or endangered species.[34] The "take" prohibition is contained in section 9 as well, which prohibits any action "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."[35] This definition autho-

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regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence").

26 16 U.S.C. § 1533(a)(3); *see* Paulich, *supra* note 18, at 113 n.39 ("'Critical habitat' is defined as habitation that is 'essential to the conservation of the species,' whether the threatened or endangered species inhabits the area at the time or not." (quoting 16 U.S.C. § 1532(5)(A)(i)–(ii)).

27 16 U.S.C. § 1533(f); *see also* KALEN & FELDMAN, *supra* note 24, at 41 ("Section 4(f) of the ESA requires the Secretary to develop and implement 'recovery plans' for the conservation and survival of each listed species, unless the Secretary finds that a recovery plan will not promote species conservation. To the maximum extent practicable, the Secretary must give priority to the listed species most likely to benefit from recovery plans, such as those in immediate conflict with construction projects or other economic activity." (footnote omitted)).

28 *See* KALEN & FELDMAN, *supra* note 24, at 31 ("Critical habitat designations must be based on 'the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact' of the designation. . . . [I]f the benefits of excluding an area from designation outweigh the benefits of inclusion, an area may be excluded as long as the exclusion does not result in the species' extinction." (quoting 16 U.S.C. § 1533(b)(2))).

29 16 U.S.C. § 1536(a)(2).

30 *Id.*

31 *See* KALEN & FELDMAN, *supra* note 24, at 38.

32 *Id.* at 38–39; *see also* Paulich, *supra* note 18, at 114 ("Section 7 . . . has not proved to be very limiting in practice to federal actions.").

33 16 U.S.C. § 1538.

34 J. PEYTON DOUB, THE ENDANGERED SPECIES ACT 64 (2013).

35 16 U.S.C. § 1532(19).

rizes the ESA to regulate and limit the actions of private landowners,[36] and it has been broadly defined by the courts.[37] Both the federal government and private citizens may bring enforcement actions against someone who has caused an illegal "take,"[38] whether accidental[39] or purposeful, as well as obtain permanent injunctions.[40] Penalties for those who knowingly violate section 9 include civil fines of up to $25,000 per violation,[41] criminal penalties of up to $50,000, one year of imprisonment, or both.[42]

d. Section 10: Incidental Take Permits

In 1982, Congress amended section 9 to remove some of the harshness from its application to private landowners, allowing landowners to take a listed species if they obtain an incidental take permit.[43] In order to do this, the landowner must submit and receive approval of a habitat conservation plan (HCP)—this involves meeting specified criteria in the provision.[44] A key issue with section 10 as applied to individual landowners is its lengthiness and complexity—it is possible that an application for an incidental take per-

36 *See* DOUB, *supra* note 34, at 64 (noting that the "take" definition is ambiguous, and this presents a problem because section 9 applies to the general public in addition to federal agencies); Derek Bertsch, Comment, *When Good Intentions Collide: Seeking a Solution to Disputes Between Alternative Energy Development and the Endangered Species Act*, 14 SUSTAINABLE DEV. L.J. 74, 79 (2011).

37 Hadassah M. Reimer & Sandra A. Snodgrass, *Tortoises, Bats, and Birds, Oh My: Protected-Species Implications for Renewable Energy Projects*, 46 IDAHO L. REV. 545, 549 (2010) ("Many courts have held that the term 'take' must be construed 'in the broadest possible manner to include every conceivable way in which a person can 'take' or attempt to 'take' any fish or wildlife.'" (quoting Strahan v. Coxe, 127 F.3d 155, 162 (1st Cir. 1997); Forest Conserv. Council v. Rosboro Lumber Co., 50 F.3d 781, 784 (9th Cir. 1995))).

38 16 U.S.C. § 1540.

39 Reimer & Snodgrass, *supra* note 37, at 549.

40 16 U.S.C. §§ 1540(e)(6), 1540(g)(1)(A).

41 *Id.* § 1540(a)(1).

42 *Id.* § 1540(b)(1).

43 *Id.* § 1539(a); Bertsch, *supra* note 36, at 79.

44 *See* Bertsch, *supra* note 36, at 79 (indicating that receiving approval of a submitted HCP "requires an assessment of the likely impacts the proposed action would have on the listed species, the steps that will be taken to 'minimize and mitigate' any impacts on endangered species 'to the maximum extent practicable,' and the funding available to carry out the steps" (citation omitted)). Incidental take permits were not used with any regularity until the creation of the somewhat controversial "No Surprises Rule," which "assures private landowners receiving an incidental take permit that the [FWS or NMFS] will not hold permittees liable for future, unanticipated ecological consequences in response to unanticipated ecological consequences related to the species covered by the permit." DOUB, *supra* note 34, at 150–51.

mit will trigger both the National Environmental Policy Act (NEPA)[45] and a section 7 FWS consultation.[46]

B. Renewable Energy Policy and Laws

1. The Development and Evolution of Energy Policy in the United States

The development of renewable energy law and policy has taken a less linear course than endangered species protection. There are five major types of renewable energy: solar, wind, hydro, biomass, and geothermal.[47] Importantly, the growth of renewable energy has largely been state-led,[48] in contrast to the federal push and oversight behind the ESA. This has mainly occurred in the form of Renewable Portfolio Standards (RPS) or Renewable Energy Standards (RES) implemented state by state.[49] As of May 20, 2013, twenty-nine states had RPSs in place.[50] K.K. DuVivier has defined an RPS as follows:

> A resource portfolio requirement requires certain electricity sellers and/or buyers to maintain a predetermined percentage of designated clean resources in their wholesale supply mix. . . .
>
> . . . The key to making portfolio requirements work is to establish trading schemes for "portfolio obligations." Portfolio standards are flexible . . . .

45 NEPA is a procedural and informational statute requiring federal agencies, among other requirements, to provide an environmental impact statement (EIS) for "every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment." Arnold W. Reitze, Jr., *The Role of NEPA in Fossil Fuel Resource Development and Use in the Western United States*, 39 B.C. ENVTL. AFF. L. REV. 283, 287 (2012) (quoting National Environmental Policy Act of 1969, Pub. L. No. 91-190, § 102(2)(C), 83 Stat. 852, 853 (1970) (codified as amended at 42 U.S.C. §§ 4331–4370 (2006))). For a comprehensive summary and analysis of NEPA and its requirements, see *id.* at 286–316.

46 Reimer & Snodgrass, *supra* note 37, at 551 (suggesting that the added complications of possibly triggering the NEPA and a section 7 FWS consultation may make redesigning a project to avoid section 10 altogether a worthwhile undertaking).

47 K.K. DUVIVIER, THE RENEWABLE ENERGY READER 14 (2011); *see id.* at 17–270 (providing an in-depth look at each major renewable energy category).

48 *Id.* at 14. In contrast to the majority of renewable energy forms, it should be noted that the bulk of hydropower historically has been from federal projects. *See* KELSI BRACMORT ET AL., CONG. RESEARCH SERV., R42579, HYDROPOWER: FEDERAL AND NONFEDERAL INVESTMENT 12–17 (2013) (discussing the distribution of federal and nonfederal hydropower projects and the federal oversight structure of nonfederal projects).

49 *See* BRACMORT ET AL., *supra* note 48, at 16.

50 For a comprehensive list of renewable energy standards and initiatives within each state and classifications of the type of standard in place for each state, see *Renewable & Alternative Energy Portfolio Standards*, CTR. FOR CLIMATE & ENERGY SOLUTIONS, http://www.c2es.org/sites/default/modules/usmap/pdf.php?file=5907 (last updated May 20, 2013). *See also Renewable Portfolio Standard Policies*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (Mar. 2013), http://www.dsireusa.org/documents/summarymaps/RPS_map.pdf (mapping states with renewable portfolio standards and renewable portfolio goals).

> The standard allows market competition to decide how best to achieve these standards.[51]

The growth of state-led RPSs has been supplemented by the Energy Policy Act of 2005.[52] Title II addresses renewable energy specifically by establishing several programs and incentives to promote the expansion of renewable energy.[53] The Act instructs the Secretary of the Interior to approve renewable energy projects and prioritizes the development of renewable energy, establishing federal target percentages increasing to 7.5 percent by 2013.[54] The Act even went so far as to mandate that the Secretary of the Interior install 10,000 megawatts (MW) of non-hydropower renewable energy projects on public lands by 2015.[55] Within Title II, section 109 of the Act establishes grants for rural communities to promote energy efficiency and renewable energy, and section 110 establishes biomass grants.[56] Additionally, Title XIII amends the Internal Revenue Code of 1986 to provide various incentives "for individual energy conservation and efficiency from automobiles, home electrical and heating conservation technologies, to home appliances."[57]

2. The Recent Explosion in Renewables

The recent explosion in renewable energy cannot be fully explained by state RPSs and the Energy Policy Act, however—high energy prices and growing greenhouse gas concerns have also contributed to the expansion.[58] A

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51 DUVIVIER, *supra* note 47, at 186–87.

52 Pub. L. No. 109-58, 119 Stat. 594 (2005) (codified in scattered sections of 42 U.S.C.).

53 *See* JONES DAY, ENERGY POLICY ACT OF 2005, at 27–37 (Kevin J. McIntyre et al. eds., 2006) (summary of Title II).

54 Kevin M. Walsh, *Renewable Energy Financial Incentives: Focusing on Federal Tax Credits and the Section 1603 Cash Grant: Barriers to Development*, 36 ENVIRONS ENVTL. L. & POL'Y J. 207, 213 (2013); Kristin Bluvas, Comment, *Distributed Generation: A Step Forward in United States Energy Policy*, 70 ALB. L. REV. 1589, 1596 (2007).

55 *Renewable Energy*, BUREAU OF LAND MGMT., http://www.blm.gov/wy/st/en/programs/energy/renewable.html (last updated Apr. 15, 2013).

56 JONES DAY, *supra* note 53, at 29–30 ("Congress appropriated $140 million for the years 2006–2012 for this program. Section 210 of the Act establishes grants to improve the commercial value of forest biomass for electric energy, useful heat, transportation fuels, and other commercial purposes. Congress appropriated $550 million for fiscal years 2006–2016 for these grants.").

57 *Id.* at 193–94.

58 *See* Jeffrey E. Lovich & Joshua R. Ennen, *Wildlife Conservation and Solar Energy Development in the Desert Southwest, United States*, 61 BIOSCIENCE 982, 982 (2011) (discussing the "unprecedented rate" of renewable energy growth); Walsh, *supra* note 54, at 210 (noting the growth of renewable energy); 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, 819 (2012) (documenting the positive effect of renewable energies on greenhouse gas reductions); Ben Block, *U.S. Renewable Energy Growth Accelerates*, http://www.worldwatch.org/node/5855 (last visited Mar. 9, 2014) (documenting the surge in renewable energy); *Renewable Energy*, EPA, http://www.epa.gov/statelocalclimate/state/topics/renewable.html (last visited Mar. 9, 2014)

four-fold increase in the amount of energy produced from renewable sources occurred from 2007 to 2012,[59] with a forty-nine percent increase in solar energy production from 2011 to 2012 and a wind energy increase of sixteen percent.[60] In fact, the renewable energy push has been so strong that the section 211 mandate on the Secretary of the Interior to designate enough federal public land to achieve 10,000 MW of renewable energy development per the Energy Policy Act[61] was met three years early.[62] Additionally, tax credits have been and continue to remain enormously important and successful in incentivizing renewable energy growth.[63] The Renewable Electricity Production Tax Credit has been the main credit available for wind energy,[64] and state credits and incentives have propelled solar energy projects.[65] Thus, available data suggests that renewable energy investment and production will only continue to increase in coming years.

(recognizing that renewable energies have the capacity to replace the use of conventional fossil fuels, thereby reducing greenhouse gas emissions).

59 *Ramping Up Renewables: Energy You Can Count On*, UNION OF CONCERNED SCIENTISTS, http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/ramping-up-renewable-energy-sources.html (last updated Apr. 8, 2013).

60 Laura Poppick, *US Renewable Energy Tops Record in 2012*, LIVESCIENCE (July 30, 2013, 2:44 PM), http://www.livescience.com/38542-renewable-energy-2012.html.

61 *See supra* note 55 and accompanying text.

62 Scott Streater, *Renewable Energy: BLM Won't Allow New Mining Claims on Lands Targeted for Solar* (July 5, 2013), http://www.eenews.net/stories/1059983928.

63 *See, e.g.*, *How Effective Are U.S. Renewable Power Policies?*, ENERGY COLLECTIVE (Dec. 3, 2013), http://theenergycollective.com/jemillerep/311406/how-effective-are-us-renewable-power-policies (noting that wind and solar power generation have increased by 300% and 600%, respectively, since 2007, and attributing much of this to the Renewable Energy Production Tax Credit and state RPS standards).

64 *See Renewable Electricity Production Tax Credit*, *Database of State Incentives for Renewables & Efficiency*, http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F (last updated Oct. 2, 2013) (providing details on this corporate, per-kilowatt-hour tax credit for electricity created by particular renewable energy sources); *see also* Al Maiorino, *Expiration of Production Tax Credit Is Not Wind Developers' Only Hurdle*, ENVTL. LEADER (Jan. 6, 2014), http://www.environmentalleader.com/2014/01/06/expiration-of-production-tax-credit-is-not-wind-developers-only-hurdle/ ("According to the [American Wind Energy Association], the [Renewable Energy Production Tax Credit] has contributed to [a] decrease in wind costs by 90 percent, and it has helped install enough energy capacity in the US to power the equivalent of over 15 million homes."); *Residential Renewable Energy Tax Credit*, U.S. DEP'T OF ENERGY, http://energy.gov/savings/residential-renewable-energy-tax-credit (last visited Mar. 5, 2014) (summarizing the residential framework and tax credit amounts of the Residential Renewable Energy Tax Credit).

65 *See Solar Policy Guide: Tax Credits*, *Database of State Incentives for Renewables & Efficiency*, http://dsireusa.org/solar/solarpolicyguide/?id=13 (last visited Mar. 9, 2013).

II. THE ESA'S FAILURES ON PUBLIC AND PRIVATE LANDS IN LIGHT OF RENEWABLE ENERGY DEVELOPMENT

A. The Federal Public Lands Conflict

With an understanding of the ESA and its purposes, along with renewable energy growth in the United States and the statutes involved in its expansion, this Part addresses the ailments of the ESA with regard to federal public lands. First is a discussion of the "land rush" of renewable energy on federal public lands, which has created a "green clash" between the competing federal initiatives of endangered species habitat protection on federal public lands and rapidly growing renewable energy development. Next, this "green vs. green" conflict is explored in more detail through two specific illustrations: the effects of solar farm construction on the Mojave desert tortoise and the mortality effects of wind energy on the Indiana bat. While some advocate for a "green pass" for renewable energy projects to skirt ESA requirements, the harms illustrated by this Part provide support for the argument that, despite the BLM's conflicting priorities in accommodating both the ESA and renewable energy mandates, a "green pass" would serve to cause more harm than good.

1. The Renewable Energy "Land Rush" on Federal Public Lands

David J. Lazerwitz nicely lays out the framework for the "modern-day land rush" behind renewable energy on federal public lands in particular:

> Today, a modern-day land rush promises to define a new era for the federal public lands, one that will require even greater vigilance to balance both the use of natural resources and protection of the environment. Unlike the resource booms that preceded it, however, this land rush focuses not on what is *in* the land but what is available *above* it—specifically, solar and wind resources, which are uniquely situated on the federal public lands and necessary to achieve national goals of energy independence and greenhouse gas emission reductions.[66]

According to Lazerwitz, this land rush stems from three different areas: market forces, government intervention, and resource availability.[67]

First, market forces have driven the rush to develop renewable energy on federal public lands because the gap between conventional energy forms and renewables has significantly decreased; this is due to massive increases in oil prices in combination with simultaneous declines in renewable energy development costs.[68] Second, the public interest has helped drive the government to implement policies incentivizing and promoting the development of renewable energy.[69] This has been compounded by the increase in state

66 Lazerwitz, *supra* note 5, at 13-3.
67 *Id.*
68 *See id.* at 13-4.
69 *Id.* at 13-5.

establishment of RPSs, most of which have occurred after 2001.[70] Third and possibly most important, the federal public lands (particularly in the western United States) are uniquely suited to meet the siting requirements for renewable energy projects. These areas are characterized by vast, open space with high levels of sunshine and wind, which is ideal.[71] Additionally, these lands contain better access to large-scale utility transmission lines, which is a required part of renewable energy infrastructure.[72] Each of these factors has contributed to the massive increase in BLM requests for permits.[73] The BLM has not been able to handle this explosion, particularly in obtaining other required federal and state agency approvals under the Federal Land and Policy Management Act (FLPMA), NEPA, and ESA, just to name a few.[74]

2. The Green vs. Green Conflict

The conflict between the ESA and renewable energy development is one that should be thought about in terms of reconciliation. The issue arises when one "green" goal is pitted against another. This conflict is particularly problematic when it involves competing beneficial uses of federal public lands—the protection of endangered species' critical habitat and the designation of the same land for land-based renewable energy projects. Justice Antonin Scalia has noted the broad challenge created in trying to harmonize conflicting uses of land in the context of "multiple use management"—the statutory management mandate for many of the public lands. The conflict between the ESA and renewable energy is akin to the many others that challenge public lands management:

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70 *Id.*; *see also supra* subsection I.B.1.

71 *See* Lazerwitz, *supra* note 5, at 13-5 to -6 ("[A]s a general matter, utility-scale projects can range in size from a few megawatts . . . to more than 1,000 MW. Such projects typically require large, open, and generally level, undeveloped tracts ranging in size from several thousand acres to more than 50,000 acres. They require access . . . to major transmission lines. Finally, and most importantly, for optimal efficiency, these projects need to be situated in areas with consistently high levels of sunshine and wind. Each of the required characteristics is present in abundance on the federal public lands in the West, lands that remain largely undeveloped, crossed with major utility transmission lines, and recognized as containing the highest density of solar and wind resources in the United States.").

72 *Id.*

73 *See* Press Release, U.S. Dep't of the Interior, Secretary Jewell Announces Approval of Three Renewable Energy Projects in Arizona and Nevada (June 3, 2013), *available at* http://www.interior.gov/news/pressreleases/secretary-jewell-announces-approval-of-three-renewable-energy-projects-in-arizona-and-nevada.cfm (indicating that "[s]ince 2009, Interior has approved 25 utility-scale solar facilities, 9 wind farms and 11 geothermal plants . . . [that] could provide . . . enough electricity to power 4.4 million homes, and support an estimated 17,000 . . . jobs").

74 *See* Lazerwitz, *supra* note 5, at 13-6 to -7. Lazerwitz also recounts the BLM's failed attempt at a moratorium on applications in 2008 in order to catch up on applications after encountering strong industry and public backlash, and documents the sheer volume of applications and strain on BLM resources. *Id.* at 13-8.

> "Multiple use management" is a deceptively simple term that describes the enormously complicated task of striking a balance among the many competing uses to which land can be put, "including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and [uses serving] natural scenic, scientific and historical values."[75]

Two examples of the balancing problem created by the competing "green" initiatives on federal public lands, the Mojave desert tortoise and the Indiana bat, may best illuminate this issue.

A 2013 study by the U.S. Geological Survey found that biodiversity "hot spots"[76] are threatened by renewable energy development and transmission corridors,[77] as up to seventeen percent of the hot spot habitat is on land sited for development.[78] The impact of land-based renewable energy development on species fits into two categories: (1) effects of construction and operation such as habitat disturbance, fragmentation, and human activity; and (2) mortality effects from wind energy blade collisions.[79]

a. The Mojave Desert Tortoise Example: Translocation and Habitat Fragmentation

In addition to possessing biodiversity hot spots for desert species, the Mojave Desert in southeastern California boasts some of the best-suited land in the United States for solar and wind energy projects.[80] The Mojave Desert population of the desert tortoise burst onto the ESA scene when it was emergency listed[81] as endangered in 1989—a year later, it was downgraded to threatened status.[82] The desert tortoise provides an example of the first category of species development impact—renewable energy projects negatively impact the desert tortoise due to habitat loss from construction, habitat fragmentation, and vehicle collisions.[83] In February 2009, BrightSource Energy

75 Norton v. S. Utah Wilderness Alliance, 542 U.S. 55, 58 (2004) (alteration in original) (quoting 43 U.S.C. § 1702(c) (2000)).

76 "Hotspots" are areas of high genetic diversity, and they are significant because "they can offer a species a greater chance of surviving future ecological challenges such as climate change." Clarke, *supra* note 9.

77 *See infra* note 93 and accompanying text.

78 Clarke, *supra* note 9.

79 Reimer & Snodgrass, *supra* note 37, at 559. For an in-depth discussion of the effect of wind turbines on avian species, see Bertsch, *supra* note 36, at 80–85; Householder, *supra* note 58, at 807–13, 830–34; 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, 42–58 (2012); and Reimer & Snodgrass, *supra* note 37, at 563–66.

80 *See* Ina Jaffe, *A Renewable Energy Debate Heats Up in the Mojave*, NPR (Apr. 23, 2010, 12:01 AM), http://www.npr.org/templates/story/story.php?storyId=126173547 ("The Mojave Desert in southeastern California is the mother lode of renewable energy.").

81 16 U.S.C. § 1533(b)(7) (2006); 50 C.F.R. § 424.20 (2012).

82 Reimer & Snodgrass, *supra* note 37, at 560–61.

83 *Id.* at 560 (noting that the effects extend to "[a]voidance behavior" as well, in which the species avoids an area altogether due to development "disrupt[ing] essential activities such as foraging, mating, and nesting").

announced a contract with Southern California Edison to provide 400 MW of electricity per year through the construction of three large-scale solar power plants in the Mojave Desert.[84] At the Ivanpah site in particular, BrightSource was warned of the dense population of desert tortoises but proceeded with development because of the site's ideal siting for meeting solar farm location requirements.[85] BrightSource received a permit from the FWS to remove up to thirty-eight adult tortoises from the Ivanpah site and was allowed up to three accidental deaths per year, but in April 2011 the project was entirely shut down once it was discovered that far more tortoises existed at the site than the permit allowed.[86]

The project was later reopened, but the "solution" involved placing at least 166 tortoises in a holding facility to eventually release them into land falling outside of the Ivanpah project site.[87] This remedy, often called "translocation" or "assisted migration,"[88] raises a number of interesting issues for listed species. First, it does not always work. For example, the desert tortoise's instinct to return "home" is particularly strong, and many of them simply begin plodding back as soon as they are relocated.[89] Recent studies have found that only around half of species translocations are successful.[90] Jeffrey E. Lovich and Joshua R. Ennen have summed up the strategy succinctly: "Although this strategy may be appealing at first glance, animal translocation has a checkered history of success, especially for reptiles and amphibians. Translocation has yet to be demonstrated as a viable long-term solution that would mitigate the destruction of . . . desert tortoise habitat."[91]

Second, translocation raises a related issue—habitat fragmentation. A species' habitat becomes fragmented when a range of habitat becomes disconnected and closed off for a species (mainly through various forms of human development), "thereby disrupting natural population dynamics, decreasing genetic variability, and making those populations more susceptible to extinction through stochastic events."[92] Habitat fragmentation is thus

84 Bertsch, *supra* note 36, at 75.

85 Julie Cart, *Saving Desert Tortoises Is a Costly Hurdle for Solar Projects*, L.A. TIMES (Mar. 4, 2012), http://articles.latimes.com/2012/mar/04/local/la-me-solar-tortoise-20120304.

86 *Id.*

87 *See id.*

88 *See* Alejandro E. Camacho, *Assisted Migration: Redefining Nature and Natural Resource Law Under Climate Change*, 27 YALE J. ON REG. 171, 171–76 (2010) (defining "assisted migration" as "the intentional movement of an organism to an area in which its species has never existed" and acknowledging translocation as referring to moving the species from one location to another generally).

89 *See* Cart, *supra* note 85, at 2–3 ("'If I pick you up and drop you off in Kansas, wouldn't you try to come back to California?' Fesnock asked. Tortoises live long and have good memories, she said. 'They know when they are not at home. They know where the water is. They know where the food is.'").

90 *See* Camacho, *supra* note 88, at 184–85.

91 Lovich & Ennen, *supra* note 58, at 989–90 (citation omitted).

92 Mark R. Thompson, *Keeping the Door Open: Protecting Biological Corridors with Existing Federal Statutes*, 34 ENVTL. L. 703, 703 (2004); *see also* Katherine Simmons Yagerman, *Protect-*

of particular concern in relation to vulnerable populations such as listed species. With regard to renewable energy projects, transmission corridors[93] and roads needed for the conveyance of solar and wind electricity from project sites have the effect of isolating species populations, thereby exacerbating the effects of habitat fragmentation.[94]

b. The Indiana Bat Mortality Effects Example: Collisions and Barotrauma

In addition to habitat disturbance and fragmentation, a second major direct effect of wind-based renewable energy development in particular is species mortality resulting from collisions with wind turbines.[95] Along with turbine blades, species can also collide with power-related structures or be electrocuted by power lines.[96] Scientists in 2001 estimated that 33,000 birds would be killed annually by 15,000 wind turbines.[97] Bats are also highly sus-

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ing Critical Habitat Under the Federal Endangered Species Act, 20 ENVTL. L. 811, 824–27 (1990) (discussing the effects of habitat fragmentation).

93 *See Electric Transmission Facilities & Energy Corridors*, BUREAU OF LAND MGMT., http://www.blm.gov/wo/st/en/prog/energy/transmission.html (last updated Dec. 31, 2013) (indicating that transmission corridors are the method by which energy is conveyed to various parts of the United States). As indicated on the White House website:

> The Obama Administration is focused on building the infrastructure needed to support a clean energy economy because the countries that lead in clean energy will be the countries that lead the 21st century global economy. Electric transmission projects are one specific area where the Administration is acting to catalyze the transition to a clean energy economy. Building greater transmission infrastructure will facilitate, among other things, increased reliability, the greater integration of renewable sources of electricity into the grid; will accommodate a growing number of electric vehicles on America's roads; and will reduce the need for new power plants.

Interagency Rapid Response Team for Transmission, WHITE HOUSE, http://www.whitehouse.gov/administration/eop/ceq/initiatives/interagency-rapid-response-team-for-transmission (last visited Mar. 9, 2014).

94 *See* Lovich & Ennen, *supra* note 58, at 986 (indicating that large-scale energy development projects have the potential to worsen the fragmentation problem, particularly within desert environments traditionally consisting of large blocks of continuous land and habitat).

95 J.B. Ruhl, *Harmonizing Commercial Wind Power and the Endangered Species Act Through Administrative Reform*, 65 VAND. L. REV. 1769, 1771 (2012). For a startling example of avian mortality that went viral on the Internet, in which a bald eagle was struck by a wind turbine blade, see Instantlyviral, *Bird vs. Wind Turbine FAIL!*, YOUTUBE (Oct. 29, 2009), http://www.youtube.com/watch?v=8NAAzBArYdw.

96 Reimer & Snodgrass, *supra* note 37, at 563.

97 *Id.* (noting additionally that "[s]tudies show that an average of 2.19 birds are killed by a single turbine each year"). Among the ESA-listed birds that may be harmed by wind turbines are "the whooping crane, northern aplomado falcon, southwestern willow flycatcher, Mexican spotted owl, piping plover, and least tern." *Id.*

ceptible to fatalities from wind energy development[98]—this occurs not only from collision with turbines directly, but from barotrauma[99] as well.

One of the most high-profile examples of the conflict between wind energy and the ESA occurred with the proposed Beech Ridge Wind Farm in West Virginia and the endangered Indiana bat. Environmental groups successfully sued for an injunction of the project on the grounds that the wind project did not follow section 9 of the ESA in applying for an Incidental Take Permit, after the district court had determined that "there is a virtual certainty that Indiana bats will be harmed, wounded, or killed imminently by the Beech Ridge Project."[100]

c. The BLM's Conflicting Priorities—No "Green Pass" for Fast-Tracking Projects

Another pressure point with regard to the ESA and federal energy initiatives is the competing (and often conflicting) priorities of the BLM. Under the mandate of the Federal Land Policy and Management Act, the BLM is required to manage multiple uses of its land, which results in "difficult choices with regard to public lands within its jurisdiction when energy development conflicts with grazing interests, wildlife protection, or other environmental protection goals."[101] This can result in lose-lose situations for the BLM, particularly with regard to multiple competing "green" uses of the land under its charge and conflicting federal statutes.[102] As previously discussed in subsection II.A.1, the BLM has been strained by the accelerating renewable energy "land rush." This rush has been compounded by mounting pressure to either streamline the renewable energy development federal approval process or exempt renewable energy projects altogether.

First, the approval process for projects on federal public lands has been widely criticized for unnecessarily delaying renewable energy projects, which will directly contribute to reducing greenhouse gases and U.S. dependence on foreign oil.[103] The need to streamline the process is readily apparent,

98 *See id.* at 563–64 (noting that wind turbine collision makes up less than half of all annual bat fatalities).

99 Barotrauma is defined as "hemorrhage in the lungs due to a sudden drop in air pressure," and bats must be within one to two meters of wind turbine blades for this to occur. *Id.* at 564.

100 *Id.* (quoting Animal Welfare Inst. v. Beech Ridge Energy LLC, 675 F. Supp. 2d 540, 579 (D. Md. 2009)).

101 Alexandra B. Klass, *Energy and Animals: A History of Conflict*, 3 SAN DIEGO J. CLIMATE & ENERGY L. 159, 161–62 (2012).

102 *See, e.g.*, Press Release, Ctr. for Biological Diversity, New BLM Plan for California's Algodones Dunes Slashes Protections for Rare Species, Undermines Renewable-energy Planning (Sept. 10, 2012), *available at* http://www.biologicaldiversity.org/news/press_releases/2012/algodones-dunes-09-10-2012.html (criticizing the BLM's designation of 40,000 acres of rare species habitat for off-road vehicle use "just two days after the BLM assured the public that conservation measures it would adopt to offset the impacts of large-scale renewable energy projects in the California desert would be meaningful and enduring").

103 Ruhl, *supra* note 95, at 1773–74.

and the BLM has begun to address this in combination with other federal agencies. For example, the Desert Renewable Energy Conservation Plan (DRECP) is a joint effort by California and federal agencies to streamline the permitting process for renewable energy projects.[104]

Second, some parties advocate for the exemption of renewable energy projects entirely through the use of a "green pass," but various environmental organizations have complained that the FWS is unwilling to enforce the ESA against renewable energy developers, even when there are "green harms" that outweigh the "green benefits" on particular sites. The organizations argue that this creates a de facto "green pass" exemption for renewable energy.[105] In reality though, the construction of renewable energy projects create very real harms that cannot be overlooked. Exempting renewable energy projects entirely from ESA regulations disincentivizes developers to take mitigation actions that could greatly help in reducing harm to species from renewable energy development.[106] Thus, while the process may be viewed as onerous and while there are great environmental and societal benefits to the swift development of renewable energy capacity, there is a net gain to species when renewable energy developers are required to follow ESA procedures—this process ensures that actions are taken to reduce harm to species on development sites.

B. The Private Lands Failure of the ESA

An analysis of the ESA's effectiveness raises questions regarding whether the structure of the ESA and its main provisions are achieving the law's intended goals. The three goals of the ESA are as follows: (1) to prevent species extinction, (2) to secure species' eventual recovery, and (3) to protect those species' ecosystems.[107] The ESA has achieved the most success (relative to the other goals, and not to be confused with actual "success") in meeting its first goal—only ten species have been officially delisted due to

104 *See The Desert Renewable Energy Conservation Plan*, DESERT RENEWABLE ENERGY CONSERVATION PLAN, http://www.drecp.org/whatisdrecp/ (last updated July 10, 2012) (stating that the intended purpose of the DRECP is "to advance state and federal conservation goals in these desert regions while also facilitating the timely permitting of renewable energy projects under applicable state and federal laws"); *see also* Ruhl, *supra* note 95, at 1782–83 (discussing the "Smart from the Start" streamlining initiative proposed by Secretary Salazar in 2010 in response to publicized approval and permitting issues with the Cape Wind project).

105 *See* John Copeland Nagle, *Green Harms of Green Projects*, 27 NOTRE DAME J.L. ETHICS & PUB. POL'Y 59, 96–97 (2013) (discussing the "green pass" issue in relation to the Beech Ridge saga of wind energy projects versus endangered Indiana bats); *see also* Ruhl, *supra* note 95, at 1773–74. Professor Nagle goes on to provide a comprehensive discussion of the problems with the "green pass" argument. Nagle, *supra*, at 87–92.

106 *See* Ruhl, *supra* note 95, at 1781 (positing that "HCPs are an essential, cooperative tool for balancing the interests of species conservation while still encouraging land-based wind energy development").

107 Kieran F. Suckling & Martin Taylor, *Critical Habitat and Recovery*, *in* 1 THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 4, at 75, 75.

extinction.[108] This is in contrast to data from 2006 indicating that 227 species would have been expected to become extinct.[109]

Nonetheless, the ESA has been widely viewed as falling far short of its two remaining goals.[110] In the area of species recovery, according to the FWS's Delisting Report, only thirty species have been delisted due to recovery[111] out of 2139 total species listed as endangered or threatened.[112] This amounts to roughly a 1.5% recovery rate, which is attributed to the Service (FWS or NMFS) involved tending only to manage a species to the point of minimum population viability rather than substantial recovery.[113] This lack of species recovery can be ascribed to two aspects of the ESA. First, the ESA mandates only a *plan* for recovery as compared to actual recovery[114]—a focus on *actual* recovery of species through increasing its numbers would mean increasing the populations enough to remove the species from being listed at all (and would thus mean a higher recovery percentage). Second, the ESA's focus on preventing extinction is explicitly clear, whereas the recovery of a species to high enough populations to consider it "recovered" and delist the species entirely is much murkier.[115] Additionally, only some of the delisted species' successful recoveries can be attributed to the actions of the Service

108 *See Delisting Report*, U.S. FISH & WILDLIFE SERV., http://ecos.fws.gov/tess_public/DelistingReport.do (last visited Mar. 18, 2014).

109 Suckling & Taylor, *supra* note 107, at 75.

110 *See, e.g.*, Jacqueline Lesley Brown, *Preserving Species: The Endangered Species Act Versus Ecosystem Management Regime, Ecological and Political Considerations, and Recommendations for Reform*, 12 J. ENVTL. L. & LITIG. 151, 171 (1997) ("When measuring the ESA's success using the recovery standard as a benchmark, one would probably conclude that the ESA has failed." (footnote omitted)).

111 *See Delisting Report*, *supra* note 108.

112 *See Species Report*, U.S. FISH & WILDLIFE SERV., http://ecos.fws.gov/tess_public/pub/SpeciesCountReport.do (last visited Mar. 5, 2014) (follow "Species Count Search" hyperlink; then select "Federal Listing Status" of "Endangered" and "Threatened"; then view "Species Count Search Results").

113 Suckling & Taylor, *supra* note 107, at 75. *But see* Paulich, *supra* note 18, at 116–17 ("The species that have recovered because of ESA regulations have often had an identifiable threat that regulation could directly address."); J.B. Ruhl, *Keeping the Endangered Species Act Relevant*, 19 DUKE ENVTL. L. & POL'Y F. 275, 277 (2009) ("The ESA has long been the workhorse of species protection in contexts for which a species-specific approach can effectively be employed to address discrete human-induced threats that have straightforward causal connections to the decline of a species, such as clearing of occupied habitat for development or damming of a river.").

114 *See* Suckling & Taylor, *supra* note 107, at 75 (noting the explanation of the NMFS that "'[t]he [ESA] does not mandate recovery, it mandates a recovery plan'" (quoting Rebecca Clarren, *Dams Will Stand, Salmon Be Damned*, HIGH COUNTRY NEWS (Oct. 11, 2004), http://www.hcn.org/issues/284/15043)).

115 *See id.* (asserting that the ESA successfully prevents extinction because it has "clear marching orders" for this goal, whereas the Act does not provide much guidance for the goal of species recovery).

under the ESA rather than the actions of other federal initiatives and national events,[116] further watering down the rate of recovery.[117]

Most central to this Note, the goal of ecosystem protection has also not been met, despite being difficult to quantify.[118] The primary threat to listed species is habitat loss,[119] followed by invasive species.[120] There are two veins to the failure to achieve the ecosystem protection goal—a lack of effective private land habitat protection and a lack of "critical habitat" designations[121] overall.

First, it is estimated that nonfederal land makes up sixty-seven percent of endangered and threatened species' habitat, and forty percent of at-risk species do not even exist on federal land whatsoever.[122] In fact, privately owned land alone makes up seventy-one percent of the United States if Alaska is excluded.[123] Thus, nonfederal land and private land in particular are a vital part of species habitat. Private lands can be more ecologically beneficial to species as well[124]—this is because "private lands tend to be more productive, better watered, and higher in soil quality than public land."[125] Privately owned land is thus critical to species survival,[126] yet the ESA has failed to preserve critical habitat on privately owned land. In short, this is because the ESA has created the wrong incentives for private landowners.[127] The Act's

116 Two prominent examples of this include the recoveries of the Arctic peregrine falcon and the brown pelican due the United States' DDT ban as well as the delisting of three endangered species of birds on Palau (an island over which the United States exercises trusteeship) due to the ending of World War II hostilities. Brown, *supra* note 110, at 172.

117 *See id.* at 171–72.

118 Suckling & Taylor, *supra* note 107, at 75.

119 Jonathan H. Adler, *Money or Nothing: The Adverse Environmental Consequences of Uncompensated Land Use Controls*, 49 B.C. L. REV. 301, 335 (2008).

120 Ruhl, *supra* note 113, at 282.

121 For a discussion of critical habitat designation and section 4, see *supra* notes 26–28 and accompanying text.

122 Mark L. Shaffer et al., *Proactive Habitat Conservation*, *in* 1 THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 4, at 286, 291.

123 *See* Jodi Hilty & Adina M. Merenlender, *Studying Biodiversity on Private Lands*, 17 CONSERVATION BIOLOGY 132, 133 (2003).

124 Adler, *supra* note 119, at 301–02.

125 Hilty & Merenlender, *supra* note 123, at 133; *see also* Jonathan Adler, *The Leaky Ark: The Failure of Endangered Species Regulation on Private Land*, *in* REBUILDING THE ARK 6, 7 (Jonathan H. Adler ed., 2011) ("Private land is also often . . . ecologically superior to government lands of the same type.").

126 *See* Adler, *supra* note 119, at 302 n.6 (listing authorities asserting that species recovery cannot be achieved without habitat conservation on private land).

127 Adler, *supra* note 125, at 6–7 ("One of the primary reasons that the ESA has failed to realize its objectives is that it is ineffective at preserving habitats that are found on private land. . . . At present, most endangered and threatened species' habitat is privately owned: over three-quarters of threatened and endangered species rely upon private land for some or all of their habitat. Thus, even if all federal lands were managed exclusively for species conservation, this would be insufficient to save many imperiled species, because a significant percentage is not even found on federal lands. . . . If the ESA is to be effective at conserving species by preserving their habitats, it must be effective at doing so on private

punitive structure has encouraged habitat destruction rather than preservation, largely because it "fails to adequately address the 'fundamental tension between conservation and private development.'"[128] This tension can be alleviated by creating reasons for private landowners to engage in *helpful actions*—something which the ESA has come nowhere close to doing with its current command-and-control, punishment-based structure.[129]

Second, a lack of critical habitat designation as a whole contributes to the failure of the ESA to meet its habitat and ecosystem protection goal. While officials embraced the development of critical habitat in the ESA's infancy,[130] the Service's position has changed markedly over the past thirty years—the FWS website currently indicates that "the critical habitat designation usually affords little extra protection to most species, and in some cases it can result in harm to the species."[131] As a result of this position and additional factors stated on the FWS website, as of May 5, 2009, critical habitat had only been designated for 523 out of 1317 listed species.[132] Finally, the ESA has been ineffective at addressing biodiversity overall through providing ecosystem management and protection—species do not live in isolated bubbles.[133] In sum, the ESA has been effective in pulling species from the brink

land. However, the ESA's greatest failing has been species conservation on private land." (footnotes omitted)); *see also* Jeffrey A. Lockwood, *The Intent and Implementation of the Endangered Species Act: A Matter of Scale*, *in* PRIVATE PROPERTY AND THE ENDANGERED SPECIES ACT 70, 73 (Jason F. Shogren ed., 1998) ("Over one-third of all endangered species are found exclusively on private property, and about three-quarters of listed species rely on habitat found on these lands.").

128 Paulich, *supra* note 18, at 118–19 (quoting James Boyd et al., *The Law and Economics of Habitat Conservation: Lessons from an Analysis of Easement Acquisitions*, 19 STAN. ENVTL. L.J. 209, 211 (2000)).

129 *See infra* Sections III.A–B.

130 *See* Suckling & Taylor, *supra* note 107, at 76 (discussing responsible agencies' and President Jimmy Carter's embrace of a critical habitat designation program in the early years of the ESA).

131 *Critical Habitat*—What Is It?, U.S. FISH & WILDLIFE SERV., http://www.fws.gov/midwest/endangered//saving/CriticalHabitatFactSheet.html (last updated Jan. 3, 2013). *But see* Suckling & Taylor, *supra* note 107, at 76–77 (discussing that from January 2000 to August 2005 critical habitat designations rose from ten to thirty-seven percent due to increased litigation, but that the Department of the Interior has contentiously fought the use of the designations in its policy as being ineffective for species recovery despite a lack of evidence being provided for this theory).

132 *See Critical Habitat*—What Is It?, *supra* note 131 (indicating that since a congressional moratorium on listing new species ended in 1996, a low priority has been given to critical habitat designations due to limited staff resources); *see also* James Salzman, *Evolution and Application of Critical Habitat Under the Endangered Species Act*, 14 HARV. ENVTL. L. REV. 311, 312 (1990) ("Although critical habitat is among the strongest enforcement provisions of the ESA, critical habitats are never designated for four of five endangered species.").

133 *See* Jonathan Remy Nash, *Trading Species: A New Direction for Habitat Trading Programs*, 32 COLUM. J. ENVTL. L. 1, 7–8 (2007) (discussing the ESA's failure to consider the fact that species are linked to each other, providing the example that an "endangered species' habitat may not support . . . other species' survival, however, to the extent that the endan-

of extinction, but has largely failed in its attempts to recover species to levels required for delisting—and much of this is attributable to a lack of habitat protection for listed species.[134]

C. The Catalyst: The Expansion of Renewable Energy Development on Federal Public Lands Accelerates the Need to Modify Private Lands Regulation Under the ESA

This Note argues that the expansion of renewable energy development on federal public lands catalyzes the need to fundamentally change how the ESA protects critical habitat on private lands.[135] Three arguments are connected as follows to achieve this conclusion. First, the renewable energy "land rush" of development on federal public lands—which are uniquely suited for renewable energy development—should not be stopped by the ESA despite the critical habitat implications for endangered species.[136] Second, many private lands are better suited and more ecologically beneficial for endangered and threatened species' critical habitat than are federal public lands; and there is far more private than public land in the United States.[137] Finally, the combination of this need to divert federal public lands to renewable energy development and the better suitability of private lands (as compared to public lands) as critical habitat for endangered species uniquely catalyzes the need to incorporate private property into an effective habitat preservation scheme under the ESA.

The first premise is that the renewable energy "land rush" should not be stopped by the ESA. While it would not be in the interest of endangered species and environmental protection to allow renewable energy projects on

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gered species' prey may require a broader ecosystem for its survival"); *see also* Brown, *supra* note 110, at 177–80 (criticizing the ESA's lack of biodiversity and ecosystem consideration in only adopting a "species-by-species" approach).

134 Additionally, the ESA and its implementing agencies have been criticized for not considering the effects of ecosystems more broadly than only the isolated ecosystem of a listed species. Notably, the ESA only once mentions "ecosystem" in its provisions, thereafter only referencing "species." *See* Brown, *supra* note 110, at 178–80; Ruhl, *supra* note 113, at 287–88.

135 It should be noted that this is a narrow aspect of a much broader series of interconnected environmental concerns and issues surrounding both renewable energy development and the current state of the ESA. Regrettably, not even the tip of the iceberg regarding the environmental effects of greenhouse gas emissions on ecosystems and species alike is within the scope of this Note.

136 This argument could alternatively be characterized as the renewable energy land rush presenting a net ecological benefit to species in the long run due to the resulting greenhouse gas reductions, despite the various harms associated with this development to individual species relying on the land as habitat.

137 This is not to say that federal public lands are never better suited than private lands for critical habitat designations. Public lands in the United States are incredibly varied and diverse, and a blanket statement that federal public lands are universally not as suitable for critical habitat designations as private lands is not intended.

federal public lands to circumvent the federal approval process altogether,[138] this development push allows for the environmentally important policy of greenhouse gas reduction to be pursued. The pursuit of greenhouse gas reductions, in part through renewable energy development, will present a net gain to humanity and organisms.[139] In addition to the obvious need to achieve reductions in greenhouse gas emissions, federal public lands (particularly in the western United States) are uniquely suited for land-based renewable energy development. As stated by Lazerwitz:

> The siting of solar and wind projects sufficient to meet utility-scale power needs requires certain land and resource characteristics uniquely available on the federal public lands. . . . [A]s a general matter, utility-scale projects can range in size from a few megawatts . . . to more than 1,000 MW. Such projects typically require large, open, and generally level, undeveloped tracts ranging in size from several thousand acres to more than 50,000 acres. They require access for interconnection to major transmission lines. Finally, and most importantly, for optimal efficiency, these projects need to be situated in areas with consistently high levels of sunshine and wind. Each of the required characteristics is present in abundance on the federal public lands in the West, lands that remain largely undeveloped, crossed with major utility transmission lines, and recognized as containing the highest density of solar and wind resources in the United States.[140]

The confluence of the benefits to endangered species globally of reducing greenhouse gas emissions with the unique ability of the federal public lands to provide optimal land-based renewable energy project siting (due to both the physical characteristics of the land generally, such as high levels of wind and sunshine, and the transmission line infrastructure already in place in parts of the desert southwest) provides a powerful argument in favor of the continued use and dedication of these lands to renewable energy projects.

The second part of this argument is that while public lands are uniquely suited for land-based renewable energy development, private lands overall are actually better suited than federal public lands for designation as critical habitat. As previously discussed, this is due to the fact that private lands have

138 *See* Ruhl, *supra* note 95, at 1788–93 (arguing that there is no "green pass" for renewable energy projects under both the letter and spirit of the ESA); *see also supra* subsection II.A.2.

139 *See* Lazerwitz, *supra* note 5, at 13-5 (noting that the public interest has helped drive the increased push for renewable energy development in part due to "increasing recognition of the adverse impacts from greenhouse gas emissions on air quality and climate change"); *The President's Climate Action Plan*, EXEC. OFFICE OF THE PRESIDENT 15 (June 2013), http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf ("The Administration is . . . implementing climate-adaptation strategies that promote resilience in fish and wildlife populations, forests and other plant communities, freshwater resources, and the ocean. Building on these efforts, the President is also directing federal agencies to identify and evaluate additional approaches to improve our natural defenses against extreme weather, protect biodiversity and conserve natural resources in the face of a changing climate . . . ."); *see also supra* note 58 and accompanying text.

140 Lazerwitz, *supra* note 5, at 13-5 to -6.

the tendency of being better watered, may contain higher soil quality, and can be more ecologically productive than public lands.[141] Compounding this is the fact that privately owned lands make up the majority of the United States, and estimates indicate that nonfederal land makes up sixty-seven percent of endangered and threatened species' habitat.[142] As previously discussed in Section II.B however, the ESA has failed at species preservation on private land despite its prominence in making up the vast majority of endangered species' habitat, as well as having failed to designate critical habitat as a whole. The result of all of this is that federal public lands have shouldered the burden of functioning as habitat for endangered species, while the ESA has failed to incorporate better-suited and more prolific private lands into an effective critical habitat regime.[143]

Finally, the culmination of the ultimately beneficial and unprecedented renewable energy land rush on federal public lands has exacerbated the failure of the ESA to regulate and encourage preservation of critical habitat on private lands. If the ESA's private land infirmities are not urgently addressed, the ESA runs the risk of attracting legislation that will serve to weaken it.[144] Additionally, this creates the risk of more net habitat loss for endangered species due to the continuing diversion of federal public lands to the renewable energy land rush. This diversion of federal public lands, in combination with a lack of legislative changes to the ESA that would serve to reverse the lack of habitat preservation occurring on private land,[145] creates a likelihood of even more habitat loss for endangered species.

In sum, the ESA shortcomings are a twofold dilemma requiring urgent resolution. First, the federal public lands are uniquely suited for rapidly expanding land-based renewable energy development and *should* be located on these lands.[146] Second, not only has private property failed to be incorporated into a habitat preservation scheme, but it (rather than federal public lands) also constitutes the majority of listed species habitat *and* has been

141 *See supra* notes 124–26 and accompanying text.

142 *See supra* notes 122–23 and accompanying text.

143 For a discussion of *why* the ESA has failed to regulate private lands, see *infra* Section III.A.

144 Evidence of this risk can already be seen in ESA-related legislation proposed by the 112th Congress—all but one of the over two dozen proposed amendments to the ESA would weaken the ESA and the tools by which the Service can protect listed species. *See* Melissa Chalek, *The Living Dead: Why One Species' Interference with Development May Undermine the Entire Endangered Species Act*, 18 ROGER WILLIAMS U. L. REV. 79, 103 (2013) ("The majority of the amendments proposed in the 112th Congress would have undermined either the purpose of the ESA or FWS's expertise in endangered species management. Several proposed amendments would have explicitly delisted or prohibited initial listing of specific species.").

145 *See infra* notes 154–57 and accompanying text.

146 *But see* Nagle, *supra* note 105, at 68–70, 92–98 (discussing the harms of renewable energy development, particularly on classically scenic and pristine landscapes such as the desert southwest of the United States, and the view of some environmentalists that the "green harms" of renewable energy projects outweigh the "green benefits").

widely deemed as more suitable for species protection. The result of this "green clash" is that there is an urgent need for private land ESA reform if endangered species are to be saved from the threat of extinction.

III. Solutions: Incentives and Market-Based Approaches

Before addressing the question of *how* the ESA is to be modified in order to tackle this "green clash," an even more fundamental question is asking why we protect endangered species to begin with. Francesca Ortiz posits that both altruism and self-interest are reasons why we attempt to preserve species.[147] While altruism contributes to the protection of species and environmental conservation as a whole, this is not enough to stop the decline of both listed and unlisted species. The "how" of changing the ESA is that it must tap in to the motive of individual self-interest if it is to survive the land rush of renewable energy projects.

In what manner is this reform to occur? The command-and-control structure of the ESA must be speedily replaced with both positive incentives and market-based structures if the ESA is to survive the renewable energy land rush and be effective in assisting species with the main driver of extinction—habitat loss.[148]

A. Why the ESA Has Failed to Regulate Private Lands

As previously discussed in Section II.B, the ESA has largely failed in regulating the habitat of listed species on private lands. Evidence exists that a critical habitat designation can have the opposite effect of its stated goal of demarcating habitat required for listed species' recovery—it can actually encourage development that harms endangered and threatened species.[149]

147 Francesca Ortiz, *Candidate Conservation Agreements as a Devolutionary Response to Extinction*, 33 Ga. L. Rev. 413, 413 (1999); *see* Brown, *supra* note 110, at 156–62 (providing a utilitarian perspective of the justifications for species preservation, including biodiversity, medicinal, and economic benefits); Jason F. Shogren & Patricia H. Hayward, *Biological Effectiveness and Economic Impacts of the Endangered Species Act*, *in* Private Property and the Endangered Species Act, *supra* note 127, at 48, 58–59 ("Environmental resources provided by endangered species on private property can supply a flow of direct and indirect private and social benefits to the property owner. The services provided by these endangered species and their corresponding levels of biological diversity are multifarious, ranging from basic life support to new genetic material for pharmaceutical purposes. These resources provide a nearly limitless set of valuable services . . . ."). *But see* Bruce Babbitt, *The Endangered Species Act and "Takings": A Call for Innovation Within the Terms of the Act*, 24 Envtl. L. 355, 359 (1994) (noting the "fundamental premise" of society that valid regulatory actions often inconvenience and trammel on an individual's rights, and thus that one might view the ESA as an extension of a well-known constraint—planning and zoning laws).

148 It is also worth noting the reality that these suggested changes to the ESA are infeasible in the current political climate, as the majority of proposed ESA amendments in recent history have been changes that would weaken the Act. *See supra* note 144 and accompanying text.

149 Adler, *supra* note 125, at 12.

But private land is where the majority of listed species exist, and habitat destruction is the single biggest threat to endangered species[150]—so why are species not being conserved on private land? Jonathan Adler lays out the issue as follows:

> The most likely culprit is the structure of the ESA itself and the incentives it creates for private landowners. . . . [T]he ESA penalizes owners of species habitat and so discourages habitat creation and conservation on private land. Under Section 9 . . . it is illegal for a private landowner to engage in activities that could "harm" an endangered species, including habitat modification, without first obtaining a federal permit. Acquiring permits may be costly and time consuming, [and create] substantial uncertainty, particularly for smaller landowners . . . . Section 7 constrains other actions on private land that are subject to federal permitting requirements.[151]

These onerous requirements create a negative perception of the ESA for private landowners and reduce land values—all of this creates negative incentives for landowners to refrain from preserving listed species habitat.[152] Landowners express a widespread fear that a habitat designation of their land for a listed species will restrict the future economic use of their land,[153] and in combination with the fact that the ESA does not compensate for the loss of land use, the incentive to destroy viable habitat rather than preserve it is perpetuated.[154] Countless examples exist of landowners engaging in preemptive habitat destruction so as to avoid being subject to the ESA's actual or perceived obligations, including examples of entire forests being harvested in order to avoid an endangered species of woodpecker from being found pre-

150 *See id.* at 11–14.

151 *Id.* at 14–15.

152 *Id.*

153 *See, e.g.*, *Endangered Species Act: 10 Myths & Facts*, NAT'L AUDUBON SOC'Y 2, http://web4.audubon.org/news/top10/esa_myths.pdf (last visited Mar. 9, 2014) (addressing the "myth" that "[c]ritical habitat is for the sole use of endangered species, and [that] it locks away land—often private land—from productive use" and that "[c]ritical habitat designations invite the federal government into Americans' backyards" with the response, in part, that the Congressional Research Service has noted that there is a misperception by the public "that critical habitat designations create binding federal restrictions on private lands"); *U.S. Fish and Wildlife Service Proposes Endangered Species Act Protection and Critical Habitat Designation for Three Plants in the Southeast, Frequently Asked Questions*, U.S. FISH & WILDLIFE SERV. 1, http://www.fws.gov/cookeville/pdfs/3plants_faq.pdf (last visited Mar. 9, 2014) ("The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. A critical habitat designation does not allow the government or public to access private lands, nor does it require implementation of restoration, recovery, or enhancement measures by non-federal landowners.").

154 Martin B. Main et al., *Evaluating Costs of Conservation*, 13 CONSERVATION BIOLOGY 1262, 1265 (1999); *see also* Betsy Carpenter, *The Best-Laid Plans*, U.S. NEWS & WORLD REP., Oct. 4, 1993, at 89 ("The incentives are wrong here. If I have a rare metal on my property, its value goes up. But if a rare bird occupies the land, its value disappears. We've got to turn it around to make the landowner want to have the bird on his property." (internal quotation marks omitted)).

sent.[155] Thus, despite the potential for individual positive actions of particular landowners, the punitive nature of the ESA creates negative incentives to destroy habitat that at best creates a zero-sum game, and at worst makes listed (or potentially listed) species' habitats worse off than if no critical habitat designation occurred.

It is the ESA's command-and-control style of regulation[156] that creates these negative incentives, which in turn lead to preemptive habitat destruction. As Nathan Paulich asserts:

> [The command-and-control] approach . . . has been largely ineffective at meeting the ESA's stated goals because it *fails to adequately address the "fundamental tension between conservation and private development.*" Furthermore, the regulation does not properly account for environmental externalities or public goods problems. . . . By overlooking the costs and benefits of restrictions on private landowners, the ESA has had the effect of antagonizing the very people needed the most to achieve meaningful conservation.[157]

Paulich has addressed three specific problems created by the ESA's command-and-control structure: the Fifth Amendment's Takings Clause, the government's perverse incentive, and the ESA's failure to promote active (versus reactive) habitat management.[158] First, the Takings Clause[159] has been interpreted as an extremely high standard for landowners to attempt to meet[160] in challenging an environmental regulation. This incentivizes land-

155 Dean Lueck & Jeffrey A. Michael, *Preemptive Habitat Destruction Under the Endangered Species Act*, 46 J.L. & ECON. 27, 29–30 (2003) ("Systematic studies of the occurrence and extent of preemption may be rare, but anecdotes abound. Michael Bean and Lee Ann Welch note how some forest landowners have harvested mature southern pine in order to avoid inhabitation of their land by the red-cockaded woodpecker. A notable case is that of North Carolina landowner Ben Cone, who dramatically increased his harvest of old-growth pine in response to potential ESA regulations and who became famous for his confrontations with [FWS] and for his lawsuit that settled out of court. In Texas, Charles Mann and Mark Plummer report habitat destruction for the golden-cheeked warbler, and J.B. Ruhl reports the same for the black-capped vireo. Albert Gidari finds evidence of clear-cutting in the Pacific Northwest in order to avoid logging restrictions designed to protect the northern spotted owl. In California, and other areas where land development values are high, Maura Dolan finds similar cases." (footnotes omitted)); *see also* Daniel R. Simmons & Randy T. Simmons, *The Endangered Species Act Turns 30*, 26 REG. 6, 7 (2003) (noting that the National Association of Home Builders has published guidance for homeowners with endangered species present on their land indicating that "the highest level of assurance that a property owner will not face an ESA issue is to maintain the property in a condition such that protected species cannot occupy the property" (internal quotation marks omitted)).

156 Paulich defines command-and-control regulation as that which "allows the government to prohibit development, limit activities, and control private actions." Paulich, *supra* note 18, at 118.

157 *Id.* at 118–19 (footnotes omitted) (emphasis added).

158 *Id.* at 119–24.

159 U.S. CONST. amend. V, cl. 5.

160 The seminal takings case of *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992), provided that "there will not be a taking simply because the regulation decreases

owners to avoid costly litigation that is unlikely to result in a victory and instead turn to other solutions such as preemptive habitat destruction.[161]

Second, the command-and-control regime creates a harmful incentive for the government by which it acts under the misapprehension that regulation is of lower cost than it actually is—the government is not incentivized to consider tradeoffs in its environmental policy when landowners are unlikely to be compensated because of a proposed environmental regulation on their land.[162] This creates inefficient environmental policy, as the government does not consider alternatives. If a taking is found and the government is forced to bear the cost of its regulation on private landowners, it will often abandon the particular environmental restriction as the cost is fully realized at its correct level.[163]

Third, command-and-control regulation is inherently reactive with regard to protecting habitat. This does not foster practices that preserve habitat for a listed species' survival: "The ESA prohibits private landowners from degrading or destroying habitat and thus deters harmful behavior, but it does nothing to compel *helpful actions*. For meaningful ecosystem and species conservation, more must be done than simply having regulation that punishes landowners who destroy habitat."[164] Thus the structure of the ESA serves to push costs that should be borne by society broadly (because the benefits from endangered species preservation are for society as a whole)[165] onto a few landowners individually whose land happens to contain listed species.[166] Thus, the ESA's current use of punitive regulation on private landowners does anything but promote the protection of habitat that is so clearly needed for species survival.

In sum, federal, state, and local initiatives have all failed to stop the continued loss of habitat for endangered species, primarily due to the failure of the ESA to address property rights in a manner that promotes rather than disincentivizes habitat conservation.

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the value of the property as long as there are still viable economic uses the landowner can undertake." Paulich, *supra* note 18, at 121.

161 Paulich, *supra* note 18, at 120–23.

162 *Id.*

163 *Id.*; *see* Nash, *supra* note 133, at 9 ("The [ESA] imposes restrictions on activities of private landowners with respect to endangered species without sufficient regard to the costs or benefits associated with those restrictions in particular cases.").

164 Paulich, *supra* note 18, at 123 (emphasis added).

165 *See* Brown, *supra* note 110, at 157–58 (providing a thorough discussion of the benefits to humans of species protection and biodiversity, including the recognition that "[a]s part of the interconnected web of life, humans depend on any number and combination of abundant and diverse biological resources, all of which provide crucial services to the Earth's ecosystems").

166 *See* Shogren & Hayward, *supra* note 147, at 54; William D. Ruckelshaus, *Foreword* to PRIVATE PROPERTY AND THE ENDANGERED SPECIES ACT, *supra* note 127, at xi, xi ("[The ESA] unfairly imposes the cost of preservation on a few for the benefit of the many.").

B. Shifting from a Punitive to Positive Habitat Protection Structure

The need for a change in the nature of the incentives for private landowners to conserve and manage habitat for listed species protection is widely supported by many, including environmental groups.[167] In the 1990s, then-Secretary of the Interior Bruce Babbitt pushed for incentive-based approaches including safe harbor agreements, conservation banking, and financial assistance programs for states and individual landowners, but much of this went unrealized after his tenure.[168] Babbitt also implemented policies designed to increase the flexibility of the habitat conservation plan (HCP) process including the "no surprises" rule[169] and a step-by-step handbook.[170] The development of HCPs was a step in the right direction (and was particularly successful for larger landowners),[171] but the continued high costs and lengthy approval process make this an unrealistic avenue for small landowners today.[172]

With these attempted incentive-based reforms as a background, the ESA must forge ahead to create incentive structures for small and large private landowners alike that create feasible, positive incentives for habitat protection and actions that promote species coexistence on private land. All of this must be done in light of the imminent conversion of vast amounts of federal land to renewable energy project designation by the BLM.

W.H. "Buzz" Fawcett refers to this new positive incentive structure as a "conservation economy" and advocates for its placement as a new "recovery

167 Lockwood, *supra* note 127, at 83 ("The need to shift the emphasis from punishment to positive reinforcement is probably the most widely endorsed modification of the ESA's implementation, with support coming from the National Wildlife Federation, the Audubon Society, the Environmental Defense Fund, the Interior Department, and the National Wilderness Institute." (footnotes omitted)). Additionally, it should be noted that this is not a new approach. "Aldo Leopold long ago argued that conservation policy ultimately boil[s] down to reward[ing] the private landowner who conserves the public interest." Gregory M. Parkhurst & Jason F. Shogren, *Incentive Mechanisms*, *in* 1 THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 4, at 247, 247 (alteration in original) (citation omitted) (internal quotation marks omitted).

168 Frank W. Davis et al., *Renewing the Conservation Commitment*, *in* 1 THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 4, at 296, 304. For more information on these specific types of incentive-based approaches, see Paulich, *supra* note 18, at 132–54.

169 *See supra* note 44 and accompanying text.

170 Douglas P. Wheeler & Ryan M. Rowberry, *Habitat Conservation Plans and the Endangered Species Act*, *in* ENDANGERED SPECIES ACT 220, 224–25 (Donald C. Baur & Wm. Robert Irvin eds., 2d ed. 2010).

171 *See* Paulich, *supra* note 18, at 132–34 ("Although larger landowners see HCPs as a way of minimizing some of the costs of complying with the ESA, the high transaction costs and often extended approval process can discourage small landowners from preparing HCPs.").

172 For a discussion of the limits of the current HCP regime, see *supra* notes 35–40 and accompanying text; *see also* Paulich, *supra* note 18, at 132–34; Shaffer et al., *supra* note 122, at 287.

section" in the ESA.[173] As recognized by Fawcett, one important benefit of including this scheme in the ESA itself is that it would become a "source of permanent funding that could not be appropriated for other means."[174] Babbitt began this process by demonstrating his desire to accommodate the capitalistic motives of private landowners—this was not ultimately successful in regard to small landowners, but in the wake of renewable energy expansion on federal public lands the need to head in this direction is being rapidly catalyzed. There is a much greater chance of harmonizing these green initiatives through "utilizing the forces of the economy."[175]

C. Positive Incentives

What are the means by which the "forces of the economy" may be used to incentivize private landowners to engage in *feasible* habitat preservation practices? While there are certainly others, the two that present the most realizable benefits and ease of use to private landowners are subsidies and market-based approaches.

1. Subsidies

Gregory M. Parkhurst and Jason F. Shogren nimbly present subsidies as a positive incentive mechanism for private landowners, indicating that "[s]ubsidies are financial assistance offered to landowners by regulators. Subsidies encourage landowners to maintain their land in an undeveloped state or to mitigate the environmental impact of development . . . ."[176] They are commonly distributed by federal or state agencies through grants, direct cash payments, or tax allowances and funded by a combination of tax revenue, lottery funds, and special permits.[177]

Programs of this type are not without critics however—incentivizing positive landowner behavior with regard to endangered species is seen by some as costly[178] and as compensating regulation that should be followed regardless.[179] Nonetheless, in the wake of massive federal public lands expansion and the recognized failure of the ESA to preserve the habitat (the primary

173 W.H. "Buzz" Fawcett, *Refocusing the Endangered Species Act: A Regulated Community Perspective*, *in* ENDANGERED SPECIES ACT, *supra* note 170, at 394, 405–06.

174 *Id.* at 406.

175 *Id.*

176 Parkhurst & Shogren, *supra* note 167, at 247–48.

177 *Id.*

178 *See, e.g.*, Juliet Eilperin, *Pentagon Issues 'Credits' to Offset Harm to Wildlife*, WASH. POST (Feb. 9, 2009), http://www.washingtonpost.com/wp-dyn/content/article/2009/02/08/AR2009020802128.html?hpid=moreheadlines.

179 *See* Adler, *supra* note 119, at 313 (noting the argument of environmentalists who oppose a compensation scheme that environmental regulation cannot be compensatory without sacrificing effective conservation).

factor leading to successful conservation), this approach will ultimately lead to a net gain.[180]

One major benefit of subsidies, such as tax incentives, is flexibility.[181] While a recognized downside of subsidies is the potentially high cost of implementation,[182] tax incentives have the advantage of being worked into the existing tax code, and thus already have infrastructure in place.[183] Additionally, while the government would lose some money in tax revenue, this may be at least partially offset by lower FWS spending needs for habitat conservation initiatives and by an ability to allocate more federal public lands to renewable energy development, generating revenue from the leases involved. Subsidies would successfully incentivize landowners not to preemptively destroy habitat—in fact, they have the potential to promote proactive habitat management rather than reactive "emergency room conservation."[184] This is something the ESA has not been able to do since its passing forty years ago.

One important issue with tax subsidies is addressed by Kevin M. Walsh—there is substantial uncertainty surrounding their use because Congress may or may not renew them.[185] For a tax subsidy regime to work in the habitat protection context, Congress would need to commit to long-term use for a specified amount of time (for example, a thirty-year time period) in order to minimize this uncertainty. An important additional note is the use and suc-

180 It should be noted that specific steps landowners could take to reap the benefits of positive incentives are outside the scope of this Note. However, it is worth emphasizing that a private landowner's development and use of his or her land may not need to be entirely blocked in order to reap the benefits of a tax credit. For example, a private landowner may wish to build a house on her land, while also protecting an endangered species of bird, in order to be eligible for a tax credit. Should the landowner provide documentation of her purchase and/or maintenance of the plants on which this species of bird relies, she may qualify for the tax credit. Worked into the tax code, this is similar to the documentation requirements of the IRS in countless code sections.

181 Paulich, *supra* note 18, at 142.

182 *See id.*

183 Brown, *supra* note 110, at 247. Additional benefits of the tax code approach include the ability of legislators to use it to mold individual development decisions and the tax code's reach to all economic entities (including small individual landowners that are hard to reach otherwise). *Id.*

While outside the scope of this Note to address in greater detail, Brown goes on to provide a comprehensive look at various specific forms of tax incentives that could be implemented, including state and local property tax credits, tax credits for habitat improvement expenses, deductions for revenues gain from preservation efforts (i.e., from engaging in beneficial ecological tourism), estate tax reform for habitat conservation, and tax credits for small landowners' expenditures to comply with the ESA. *Id.* at 246–55. For a discussion of the considerable success of the Renewable Energy Production Tax Credit, see *supra* notes 63–64 and accompanying text.

184 *See infra* note 197 and accompanying text.

185 *See* Walsh, *supra* note 54, at 209–10 (addressing this limitation in the context of renewable energy, but the same limitation applies in the context of potential habitat protection and mitigation subsidies).

cess of renewable energy tax credits in recent years.[186] Critics of the use of tax credits with regard to the ESA need only turn to the increasing (and successful) use of tax credits in the renewable energy sector to silence the argument that tax credits under the ESA would not be feasible.

2. Market-Based Approaches

Market-based approaches are another form of positive incentives that provide flexibility for individual landowners while incentivizing habitat conservation. Nathan Paulich recognizes that "[a]n alternative to a government compensation program is creating markets where private landowners are rewarded for their conservation efforts. Markets offer a promising tool for conservation efforts because they replace bureaucratic decision-making with basic economic incentives to coordinate more efficient decisions by private actors."[187] Additionally, there is evidence for the proposition that an at least partially privately run system is better ecologically than a purely government-based system.[188]

These market-based incentives may, and ideally should, come in various forms, including conservation banking,[189] tradable development rights programs,[190] and recovery crediting.[191] While any single mechanism may not be able to provide a broad solution for all types of landowners, the implementation of a flexible variety of tools to foster private landowners to protect habitat is the best strategy—"to be successful[,] incentives must align private landowners' interest with conservation needs."[192] These market-based approaches are in their early stages, and employing a variety of approaches in

186 *See* Lazerwitz, *supra* note 5, at 13-5 ("[Incentive] programs include the federal production tax credit for wind power and investment tax credit for solar power, which provide tax incentives of up to 30%. Congress recently extended these programs in the American Recovery and Reinvestment Act of 2009, which went a step further by creating grants-in-lieu of tax credits and directing hundreds of millions of dollars to research, development, and loan programs."); *see also Financial Incentives for Renewable Energy*, DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, http://www.dsireusa.org/summarytables/finre.cfm (last visited Mar. 9, 2014) (providing a comprehensive table of the various types of financial incentives for renewable energy in each state and at the federal level).

187 Paulich, *supra* note 18, at 147 (internal quotation marks omitted).

188 *Id.* (citing Jonathan H. Adler, *Free & Green: A New Approach to Environmental Protection*, 24 HARV. J.L. & PUB. POL'Y 653, 671 (2001)).

189 *See id.* at 147–51 (discussing conservation banking); Parkhurst & Shogren, *supra* note 167, at 249 (same); R. Neal Wilkins, *Improving the ESA's Performance on Private Land*, *in* REBUILDING THE ARK, *supra* note 125, at 56, 64–65 (same).

190 Parkhurst & Shogren, *supra* note 167, at 248–49 (discussing TDRs in detail); Paulich, *supra* note 18, at 151–53 (same).

191 *See* Wilkins, *supra* note 189, at 66–69 (discussing recovery credits).

192 Paulich, *supra* note 18, at 155; *see also* Wilkins, *supra* note 189, at 71–72 ("By having a variety of instruments available, conservationists are more likely to achieve a higher return on investment from available conservation funding. . . . For endangered species recovery, a regulatory framework that encourages testing of a wide variety of market-based approaches but then requires independent evaluation and public scrutiny of results would be superior to the more cautious approach taken thus far.").

the wake of rapid renewable energy development on public lands will help the strengths and weaknesses of each come to light. Ultimately this process will form better public policy that more effectively addresses positive incentives for private landowners.

D. Why This Will Work

A question that remains to be more fully fleshed out is *why* these tax incentive and market-based approaches will work in pushing private landowners to protect habitat as opposed to the current command-and-control structure of the ESA. First, these approaches activate personal norms. As stated by Michael P. Vandenbergh, "One of the greatest problems facing norms theorists and regulators is how to induce individuals to act who will not benefit personally and who are not subject to legal or social sanctions."[193] Vandenbergh goes on to state that the large number of unregulated individuals in the scope of environmental law remains the biggest challenge to effective environmental regulation today.[194] Positively incentivizing the behavior of private landowners through norm activation thus helps to redistribute some of the costs borne by those landowners having endangered species on their land onto those realizing the benefits—the American public.[195] Thus, the costs are more fairly spread out from a few individual landowners onto society more broadly.

Next, incentivizing habitat protection within private ownership fulfills the principle of "reconciliation ecology"—this involves "using land better, instead of setting land aside."[196] Positive incentives facilitate proactive conservation, so that the "emergency room conservation" that is characteristic today is no longer needed.[197] Positive incentives will also help end anti-conservation measures and sentiment, which are often fueled by the lack of compensation to private landowners.[198]

193 Michael P. Vandenbergh, *Order Without Social Norms: How Personal Norm Activation Can Protect the Environment*, 99 NW. U. L. REV. 1101, 1101 (2005).

194 *Id.* at 1101–02. *See generally* Katrina Fischer Kuh, *Capturing Individual Harms*, 35 HARV. ENVTL. L. REV. 155 (2011) (addressing the dichotomy between regulating the individual as compared to industry with regard to environmental harms, the reasons why this dichotomy exists, and how the schism can be addressed); Michael P. Vandenbergh, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 VAND. L. REV. 515 (2004) (discussing the fact that the individual is often the largest remaining polluter and creator of environmental harms today).

195 *See* Ruckelshaus, *supra* note 166, at xii.

196 Michael L. Rosenzweig, *Beyond Set-Asides*, *in* 1 THE ENDANGERED SPECIES ACT AT THIRTY, *supra* note 4, at 259, 265.

197 *See* Brown, *supra* note 110, at 185 (discussing that the current ESA regime is only focused on imminent threats rather than proactive preservation); *see also* Shaffer et al., *supra* note 122, at 289 ("[C]onservation efforts are likely to be more successful and less expensive if we design and protect adequate habitat conservation areas *before* species become threatened or endangered.").

198 Adler, *supra* note 125, at 18 ("Protecting private landowners from potential negative consequences of owning endangered species habitat—either by ending the regulation of

Finally, positive incentive approaches must remain flexible if they are to be a viable solution to the accelerating designation of federal public lands for renewable energy projects and the need for critical habitat for listed species. This need has been referred to as a "flexible menu" for habitat preservation.[199] Because individual landowners and individual species have differing needs, there is no one approach that will work for all parties.

It must be recognized that positive incentive mechanisms are not without their downsides. Challenges facing the use of incentive mechanisms include "the need to simplify associated administrative processes, provide predictable levels of funding, harmonize state and federal requirements, and clarify the application of existing incentive tools to particular land ownership situations."[200] Streamlining the process for small private landowners to successfully take part in incentive mechanisms, particularly those that are government-based,[201] is a key challenge because landowners are not willing to take part in "cumbersome incentive programs."[202]

Ultimately, changes that address the failure of the ESA to effectively regulate private land ownership must do so with the premise at the forefront of ensuring that those landowners who do have endangered species present on their land (and even those that do not) are not unfairly shouldering the burden of habitat preservation when it should be assumed by society as a whole. Positively incentivizing these landowners will assist in redistributing this societal burden fairly, increasing habitat protection on private lands so that federal public lands may be dedicated, without conflict with the ESA, to renewable energy expansion—ultimately resulting in a net benefit to humanity and organisms.

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habitat modification or ensuring that landowners are compensated when their ability to make reasonable use of their land is limited for the benefit of an endangered species—would remove the largest obstacle to greater landowner participation in conservation efforts. Many landowners are very willing to cooperate with conservation goals so long as they are not forced to bear the lion's share of the cost."). As noted by Adler, an additional benefit of positive incentives is that they improve the available science upon which the listing of species rests. *Id.* at 19–23.

199 *See* Shaffer et al., *supra* note 122, at 292–95; *see also* Ruckelshaus, *supra* note 166, at xii ("An increasing body of evidence in environmental regulation indicates that allowing flexibility in the means of attaining required performance goals is more likely to result in their successful achievement.").

200 Michael J. Bean, *Landowner Incentives and the Endangered Species Act*, *in* ENDANGERED SPECIES ACT, *supra* note 170, at 206, 214.

201 Davis et al., *supra* note 168, at 304–05 ("Creation of 'one-stop shopping' Web sites and offices where landowners could obtain information on the habitat and species conservation programs available from all agencies would help to relieve landowner frustration.").

202 *Id.* at 304 (discussing the need for streamlining as evidenced by the inability of small individual landowners to take part in the HCP process in the 1990s due to the "labyrinth of ESA-related processes and programs").

Conclusion

An assessment of the ESA as it stands today results in the understanding that the Act has failed to regulate critical habitat on private lands in the United States, while renewable energy development on federal public lands has experienced a "land rush" that has been compared to that of a modern-day gold rush.[203] This renewable energy expansion should be given precedence on the federal public lands—the benefits stemming from renewable energy's role in increasing non-carbon based sources of energy are too great, and the federal public lands are too ideally suited for land-based renewable energy projects not to move forward. Simultaneously, it must be recognized that private lands are often better suited as critical habitat for threatened and endangered species than public lands—ecologically as well as in terms of making up the vast majority of land ownership in the United States. This Note has argued that the confluence of the renewable energy land rush and the failure of the ESA to effectively protect and conserve habitat for endangered species has catalyzed the need for imminent changes in how the ESA regulates private landowners. Positive incentives that encourage preemptive habitat preservation, rather than preemptive destruction, must be swiftly implemented within the ESA.

"The [ESA] is a time capsule, and each time it is opened we have to deal with the fact that its fabric is crumbling over time. The sooner we realize the limitations of the current statutory text and open ourselves up to the possibilities of the future, the better."[204]

203 For a comparison to the California Gold Rush of 1848, see Lazerwitz, *supra* note 5, at 13-2 to -3.

204 Fawcett, *supra* note 173, at 406.