

# ***Seeing Red: Utilizing the IUCN Red List to Save Resources and Endangered Species***

C. Rose Wilkinson<sup>1</sup>

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<sup>1</sup> B.S. 2000, West Texas A&M University; M.S. 2004, The University of New Mexico; J.D. Candidate 2014, The George Washington University Law School. I would like to thank Professor Katie Lannon, my Notes Editor Ryan Fitzpatrick, and my work-in-progress group for their helpful feedback and positive support during the writing process.

## I. Introduction

On February 24, 1989, the U.S. Fish and Wildlife Service (“FWS”) published a proposed rule to reclassify wild chimpanzees as “endangered” and captive chimpanzees as “threatened.”<sup>2</sup> Prior to this time, *Pan troglodytes* was listed as threatened, but FWS had in place a special rule providing that all of the ESA Section 9 prohibitions that apply to endangered species would also apply to wild chimpanzees.<sup>3</sup> These prohibitions, however, did not apply to captive chimpanzees in the United States, nor to their progeny.<sup>4</sup> When the special rule was made, FWS failed to explain the rationale for the disparate treatment of captive individuals.<sup>5</sup> The rule arguably was lawful, however, because the ESA allows the Department of the Interior Secretary (“Secretary”)<sup>6</sup> to issue regulations as he or she deems necessary and advisable for the conservation of *threatened* species.<sup>7</sup> *Pan troglodytes* was listed as threatened, and the special rule went unchallenged.

When FWS proposed elevating *Pan troglodytes* to endangered status, eight scientific organizations recommended that FWS simultaneously elevate captive chimpanzees to endangered status.<sup>8</sup> FWS declined to do so, however, and asserted that captive groups of *Pan troglodytes* would supply “surplus animals for research and other purposes, [thus] there is a reduced probability that other individuals of that species will be removed from the wild.”<sup>9</sup> The resultant split-listing, in which a wild population is listed as endangered but the captive individuals in the United States are listed as threatened, has not occurred since.<sup>10</sup> Unfortunately, the split-listing of chimpanzees went unchallenged in the courts.<sup>11</sup> Since the split-listing

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<sup>2</sup> Proposed Endangered Status for Chimpanzee and Pygmy Chimpanzee, 54 Fed. Reg. 8152 (Feb. 24, 1989).

<sup>3</sup> Determination of 26 Species of Primates as Endangered or Threatened Species, 41 Fed. Reg. 45,990, 45,993 (Oct. 19, 1976).

<sup>4</sup> *Ibid.*

<sup>5</sup> The 1976 listing may have been an effort to end United States trade in wild chimpanzees while allowing for unrestrained use of the individuals held in captivity. Petition to Upgrade Captive Chimpanzees, at 15, n.5.

<sup>6</sup> Similar in some respects to a Minister for the Environment, the Secretary is a cabinet-level position within the U.S. Department of the Interior, which is responsible for managing most federally owned public lands and natural resources, including land and water, fish and wildlife, and environmental and cultural values of national parks and historic places. See Mission Statement, Dep’t of the Interior, *available at* <http://govinfo.library.unt.edu/npr/library/status/mission/mdoi.htm> (last visited Oct. 21, 2013).

<sup>7</sup> 16 U.S.C. § 1533(d) (2006).

<sup>8</sup> Endangered Status for Chimpanzee and Pygmy Chimpanzee, 55 Fed. Reg. 9129, 9131 (March 12, 1990).

<sup>9</sup> 54 Fed. Reg. at 8153.

<sup>10</sup> However, similar logic may be used in the future to separate captive individuals of a given species even further from their wild counterparts. See, e.g., 90-Day Findings on Petitions to Delist U.S. Captive Populations of the Scimitar-Horned Oryx, Dama Gazelle, and Addax, 77 Fed. Reg. 58084 (Sept. 19, 2012). The FWS is currently considering a petition to delist U.S. captive-bred and U.S. captive populations of three antelope species from the Endangered Species List.

<sup>11</sup> Note that the FWS has recently proposed to remove this split-list designation and list all chimpanzees as endangered. 78 Fed. Reg. 35201 (June 12, 2013).

designation, wild chimpanzee populations have fallen by 66 percent, and the species remains at risk of extinction.<sup>12</sup>

Various countries in Africa, such as Sierra Leone and Guinea, afford significant legal protection to both captive and wild chimpanzees, demonstrating a commitment of chimpanzee home range states to prevent the extinction of *Pan troglodytes*.<sup>13</sup> By refusing to list captive chimpanzees as endangered, the United States has failed to portray this same intent. The world's leading experts on chimpanzees strongly believe that this regulatory void has sanctioned and facilitated exploitation of chimpanzees, causing both the suffering of individual animals and the undermining of the conservation of the species as a whole.<sup>14</sup> Despite clear legislative intent that listing decisions be purely biological,<sup>15</sup> examples such as the split-listing of *Pan troglodytes* illustrate that federal agency listing decisions can be subject to political and bureaucratic considerations.

To protect priceless flora and fauna, such as the chimpanzee, and enable the United States to meaningfully contribute to the conservation of biodiversity worldwide, this article will argue that the U.S. ESA listing procedure must be amended. The U.S. Congress should direct the establishment of three separate lists that distinguish science from policy, saving time and resources devoted to litigation over listing decisions and fulfilling their international commitments to stop overexploitation of species worldwide. One list would be an objective, scientific assessment of the conservation status of all native species of plants and wildlife. The second would be a policy-driven list comprised of federally protected, native species deemed nationally significant in terms of conservation priority. The third list would be a list of "commercial use-restricted species." Any individual from species on this list should be protected from all instances of take and trade for commercial gain.

Amending federal law in this way would serve as a powerful incentive to other nations similarly operating separate national listing criteria but failing to adequately reflect to the public the risk of extinction for the species on their lists. Madagascar, for example, is a known biodiversity hotspot. Endangered species are listed and subsequently protected in Madagascar

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<sup>12</sup> See Petition to Upgrade Captive Chimpanzees at 95-96. According to Dr. Jane Goodall, "There is no doubt that chimpanzee populations in Africa are at greater risk of extinction today than they were in 1990, when the wild population was first listed as endangered." *Ibid.* at 99.

<sup>13</sup> See *Ibid.* at 117-118, citing REUTERS, *Sierra Leone Bans Capture, Killing of Chimps* (July 25, 2007); Bernard Unti, *Chimpanzee Protection in the Republic of Guinea: A Law Enforcement and Legislative Review*, Chimpanzee Conservation and Sensitization Program (2006).

<sup>14</sup> Dr. Richard Wrangham emphasizes the importance of regulatory protection to the survival of the chimpanzee species: "Commercial exploitation of chimpanzees in the U.S. not only directly threatens wild populations, but it also threatens the species indirectly by damaging the relationships and credibility essential for successful conservation efforts. In my experience, people in Africa are shocked to discover that in America it is legal to buy and sell chimpanzees, while it is illegal in African range countries . . . . The problem of moral consistency is a very real one – it is extremely awkward to be an advocate for conservation of this species when coming from a country that is arguably the most powerful in the world, and has many captive chimpanzees, but does not have the same high legal standards as chimpanzee range countries." *Ibid.* at 22-23.

<sup>15</sup> The ESA provides that listing decisions must be made "solely on the basis of the best scientific and commercial data available." 16 U.S.C. 1533(b)(1)(A) (2006).

under its Wildlife Act (Law 2006-400). Madagascar's current endangered species list includes approximately 650 vertebrates, but some 480 endemic species of vertebrates have been left unprotected by Malagasy law, including 24% of the world's most critically endangered species and eleven CITES Appendix I species.<sup>16</sup> While the changes to legislation are being formulated in the United States, FWS and other similarly situated agencies should prioritize their listing activities to ensure that species at the greatest risk of extinction are shielded, and that limited resources are devoted to species in most need of protection.

To delve further into these solutions, Part II of this paper will begin with the listing process itself by examining the history of threatened and endangered species lists in the United States followed by discussion of a widely accepted international standard that is used to quantify species' extinction risks. Part III details the main inadequacies with the current listing procedure under the ESA, and Part IV will describe how the United States federal listing process could integrate the international standards so as to be more transparent, cost effective, and protective of endangered species. Part V provides a summary of the arguments and a conclusion.

## **II. Mechanisms for Listing Animals Threatened with Extinction**

For nearly fifty years, the United States has demonstrated a concern for the preservation of endangered species.<sup>17</sup> Although the ESA is a powerful federal wildlife protection law with "teeth" and capable of protecting endangered species, the fundamental goals of the ESA are hampered by the fact that FWS does not utilize a listing process that reflects transparent and scientifically accurate extinction risk assessments.<sup>18</sup>

### **A. Early History of the Listing Process**

In 1966, the first legislative protection for endangered wildlife was enacted with the passage of the Endangered Species Preservation Act of 1966 ("ESPA").<sup>19</sup> The ESPA required the Secretary to compose a list of native species that required assistance to survive extinction and to publish this list in the Federal Register.<sup>20</sup> The Secretary would consult with affected States and "from time to time" seek advice and recommendations from interested parties, including scientists.<sup>21</sup> The first ESPA list consisted of seventy-eight species (fourteen mammals, thirty-six birds, six reptiles/amphibians, and twenty-two fish).<sup>22</sup>

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<sup>16</sup> See Andrinajoro R. Rakotoarivelo et. al, *Lois et Règlements sur la Faune Sauvage à Madagascar: Progrès Accomplis et Besoins du Futur*, 6(1) MADAGASCAR CONSERVATION AND DEVELOPMENT 38-41 (June 2011).

<sup>17</sup> The Endangered Species Preservation Act of 1966 authorizes land acquisition to conserve "selected species of native fish and wildlife." Pub. L. No. 89-669.

<sup>18</sup> See discussion *infra*.

<sup>19</sup> Pub. L. No. 89-669.

<sup>20</sup> Pub. L. No. 89-669, Section 1 (c); 80 Stat. 926.

<sup>21</sup> Pub. L. No. 89-669, Section 1 (c); 80 Stat. 926.

<sup>22</sup> Office of the Secretary, Native Fish and Wildlife Endangered Species, 32 Fed. Reg. 4001 (March 11, 1967).

Three years later, the ESPA was expanded to provide additional protection to non-native fish and wildlife and was renamed the Endangered Species Conservation Act (“ESCA”).<sup>23</sup> The ESCA reconstructed the listing procedure to require the Secretary to consult with the State and the foreign country where a potentially endangered species was normally found, and to the extent practicable, with all interested persons and organizations, including Federal agencies.<sup>24</sup> The Secretary also was required to make listing determinations on the best scientific and commercial data.<sup>25</sup> This change signified both the importance of biology in listing decisions and the idea that trade could be a contributing factor to a species’ risk of extinction.<sup>26</sup>

## **B. The Convention on International Trade in Endangered Species of Wild Fauna and Flora and the Modern Endangered Species Act**

The ESCA also called for an international meeting to adopt a convention to conserve endangered species.<sup>27</sup> In 1973, eighty nations met in Washington, D.C., to sign the Convention on International Trade in Endangered Species of Wild Fauna and Flora (“CITES”).<sup>28</sup> CITES was (and is) an agreement recognizing that international cooperation is essential for protecting species from overexploitation through international trade.<sup>29</sup> CITES places wildlife and plants threatened by overexploitation onto three lists (“Appendices”) with differing trade restrictions based on the degree of threat facing the species.<sup>30</sup>

Shortly after the 1973 CITES Convention, the Endangered Species Act of 1973 was implemented both to serve as the enabling legislation for CITES and to replace and expand the provisions of the ESCA.<sup>31</sup> Although the ESA directs the Secretary to consider species listed under CITES when making listing determinations,<sup>32</sup> there are species listed on CITES Appendices that are not currently listed under the ESA, and vice versa.<sup>33</sup> Under the ESA, the

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<sup>23</sup> Pub. L. No. 91-135.

<sup>24</sup> Pub. L. No. 91-135, Section 3(a); 83 Stat. 275, 283.

<sup>25</sup> Pub. L. No. 91-135; 83 Stat. 275, 283.

<sup>26</sup> Carlo A. Balistrieri, CITES: The ESA and International Trade, 8 NAT’L RESOURCES & ENV’T, 33, 33 (Summer 1993).

<sup>27</sup> Pub. L. No. 91-135, Section 5(b); 83 Stat. 275, 283.

<sup>28</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, D.C. (March 3, 1973), *amended at* Bonn (June 22 1979).

<sup>29</sup> *Ibid.* at Preamble.

<sup>30</sup> Any party to the convention may propose a species for addition to or deletion from Appendix I or II at meetings of the Conference of the Parties, which are held every three years, but proposed amendments may only be adopted if confirmed by a two-thirds majority of voting parties. *See Ibid.* at Article XI.

<sup>31</sup> The ESA provided protection to both threatened and endangered species, made plants and all invertebrates eligible for protection, applied broad “take” prohibitions, required Federal agencies to use their authorities to conserve listed species and consult on “may affect” actions, made matching funds available to States with cooperative agreements, and provided funding authority for land acquisition for foreign species. *A History of the Endangered Species Act of 1973*, U.S. FWS, available at [http://www.fws.gov/endangered/esa-library/pdf/history\\_ESA.pdf](http://www.fws.gov/endangered/esa-library/pdf/history_ESA.pdf) (last visited Dec. 29, 2012).

<sup>32</sup> 16 U.S.C. § 1533(b)(1)(B)(i) (2006).

<sup>33</sup> *See discussion infra* Part II.

Secretary maintains a list for “threatened” and “endangered” wildlife<sup>34</sup> and another list for plants<sup>35</sup> (collectively referred to from this point forward as the “Endangered Species List” or “list”). The ESA requires that the Secretary promulgate the list by regulation and review the list at least once every five years.<sup>36</sup> Once a species has been listed, all the ESA protections, including restrictions on take, immediately go into effect.<sup>37</sup>

The ESA does not provide detailed listing criteria, but allows species to be listed as endangered or threatened because of (A) habitat or range loss; (B) overutilization; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors.<sup>38</sup> The ESA dictates that the Secretary makes listing determinations “solely on the basis of the best scientific and commercial data available to him [or her] after conducting a review of the status of the species and after taking into account those efforts, if any, being made by [States or foreign nations].”<sup>39</sup> The Secretary must also list any species under the Department of Commerce’s jurisdiction that the Secretary of Commerce has determined to be threatened or endangered.<sup>40</sup> The listing criteria have not changed in the forty years since the ESA was enacted.<sup>41</sup>

### C. The Red List

Although species listed under the ESA receive protections under federal law, many individuals who work with exotic species at a management level have more working familiarity with the International Union for the Conservation of Nature (“IUCN”) Red List Categories and Criteria (“Red List”).<sup>42</sup> The Red List was first published in 1994 as a means of developing objectivity and transparency in assessing the conservation status of species worldwide and allowing for consistency and understanding among users.<sup>43</sup> The production of the Red List is made possible through the active participation of multiple Red List Partners<sup>44</sup> and individual experts from universities, museums, research institutes, and non-governmental organizations all over the world.<sup>45</sup> The extensive assessment process that must be followed in the production of the Red

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<sup>34</sup> 50 C.F.R. § 17.11.

<sup>35</sup> § 17.12.

<sup>36</sup> 16 U.S.C. § 1533(c)(2).

<sup>37</sup> §§ 1533, 1536, 1538.

<sup>38</sup> § 1533(a)(1).

<sup>39</sup> § 1533(b)(1)(A).

<sup>40</sup> § 1533(a)(2)(A).

<sup>41</sup> PL 93–205, Dec. 28, 1973, 87 Stat 884.

<sup>42</sup> For instance, the Red List status is utilized by zoo registrars and Species Survival Plan managers at institutions accredited by the Association of Zoos and Aquariums in the United States.

<sup>43</sup> See *Red List Overview*, IUCN, available at <http://www.iucnredlist.org/about/red-list-overview> (last visited Jan. 12, 2013).

<sup>44</sup> Including the IUCN, BirdLife International, Botanical Gardens Conservation International, Conservation International, NatureServe, Royal Botanic Gardens Kew, Texas A&M University, the Institute of Zoology at the Zoological Society of London, Sapienza University of Rome, and WildScreen. See *Partners and Technical Support*, IUCN, available at <http://www.iucnredlist.org/partners/partners-and-technical-support> (last visited March 24, 2013).

<sup>45</sup> See *Red List Overview*.

List makes it the most suitable for assessing species' extinction risk,<sup>46</sup> and the guidelines in place today are unlikely to be substantively changed.<sup>47</sup> The Red List has clearly defined categories into which every species in the world (excluding micro-organisms) can be classified.<sup>48</sup> The following Table provides a summary of the categories.

**Table 1: Red List Categories**

<b>Red List Category</b>	<b>Description</b>
<i>EXTINCT</i>	No reasonable doubt that the last individual has died. Extinction is presumed when exhaustive surveys in known and/or expected habitat at appropriate times throughout the historic range have failed to record an individual.
<i>EXTINCT IN THE WILD</i>	The species is known only to survive in cultivation, in captivity or as a naturalized population(s) well outside the past range.
<i>CRITICALLY ENDANGERED</i>	A species faces an <i>extremely high</i> risk of extinction in the wild.
<i>ENDANGERED</i>	A species faces a <i>very high</i> risk of extinction in the wild.
<i>VULNERABLE</i>	A species faces a <i>high</i> risk of extinction in the wild.
<i>NEAR THREATENED</i>	A species has been evaluated against the criteria and is close to qualifying for or is likely to qualify for a threatened category in the near future.
<i>LEAST CONCERN</i>	The species is widespread and abundant.
<i>DATA DEFICIENT</i>	There is inadequate information to make a direct, or indirect, assessment of a species' risk of extinction based on its distribution and/or population status.
<i>NOT EVALUATED</i>	A taxon has not yet been evaluated against the criteria.

The IUCN established the Red List criteria through wide consultation with scientists all over the world, and the species assessment process is fully explained throughout sixty-plus pages of explicit guidance.<sup>49</sup> The IUCN has developed a system of minimum documentation requirements that require assessments to be supported by scientific data, written justifications, and valid sources,<sup>50</sup> and to include estimates of uncertainty and data quality.<sup>51</sup> All assessors and reviewers

<sup>46</sup> Paloma C. DeGrammont and Alfredo D. Cuarón, *An Evaluation of Threatened Species Categorization Systems Used on the American Continent*, 20(1) CONSERVATION BIOLOGY 14-27 (Feb. 2006).

<sup>47</sup> Criteria are (A) Declining population (past, present and/or projected); (B) Geographic range size, and fragmentation, decline or fluctuations; (C) Small population size and fragmentation, decline, or fluctuations; (D) Very small population or very restricted distribution; and (E) Quantitative analysis of extinction risk. *Guidelines for Using the IUCN Red List Categories and Criteria Version 8.1* (August 2010), available at <http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf> (last visited Jan. 12, 2013).

<sup>48</sup> *Ibid.*

<sup>49</sup> *See Ibid.* at 19-81.

<sup>50</sup> To allow the assessment of species for which there is very little data, the Red List criteria does allow the incorporation of inference and projection into the assessment process, provided that all assumptions are documented. In addition, modified listing procedures are in place for atypical species, such as colonial organisms, asexual organisms, trees, sex-changing organisms, and fish. *See Red List Overview.*

are named in publicly available documents, ensuring the transparency of the process.<sup>52</sup> Some have criticized the Red List for accuracy problems,<sup>53</sup> bias toward well-known species/taxonomic gaps,<sup>54</sup> incapacity for handling increasing amounts of data, and general difficulty in accurately assessing species viability.<sup>55</sup> Such problems are inherent in any existing listing system, however, and do not negate the utility of the Red List. The Red List remains the most current, complete, and scientifically rigorous categorization system available and will presumably improve over time as more data are gathered.<sup>56</sup> Despite its comprehensiveness, transparency, and built-in safeguards to ensure impartiality, the extinction risk of species appearing on the Red List does not appear directly to influence listing decisions by the federal agencies tasked with protecting endangered species in the United States.<sup>57</sup>

### **III. Pre-Listing Problems and Post-Listing Implications of the Listing Criteria under the Endangered Species Act**

The FWS Endangered Species Listing Program (“Listing Program”) implements the listing requirements of the ESA. The listing process, though linear in nature, consists of a series of time-intensive regulatory hurdles<sup>58</sup> and is fraught with serious problems that undermine the goals

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<sup>51</sup> Ana S.L. Rodrigues et. al, *The value of the IUCN Red List for conservation*, 21 TRENDS IN ECOLOGY AND EVOLUTION 71, 71(Feb. 2006).

<sup>52</sup> All assessments are also subject to peer review and subsequent oversight by the Red List Programme Office. *See Red List Overview*.

<sup>53</sup> Grahame J.W. Webb, *The dilemma of accuracy in IUCN Red List categories, as exemplified by hawksbill turtles Eretmochelys imbricata*, 6(2) ENDANGERED SPECIES RESEARCH, 161-72, 163 (Oct. 2008) (stating that terms “critically endangered” should not be applied to species that have significantly declined but are still abundant and well-buffered from global extinction.)

<sup>54</sup> Rodrigues *supra* note 63, at 73.

<sup>55</sup> *Ibid.* at 75.

<sup>56</sup> *See Ibid.*

<sup>57</sup> *See discussion infra* Part II.

<sup>58</sup> The listing process under the ESA may be initiated by the FWS, NOAA, or any member of the public who files a petition. 50 C.F.R. § 424.14(a). If a petition is received from the public, the relevant agency has 90 days to determine if there is substantial scientific or commercial information to warrant the petitioned action. If further action is warranted, the Secretary must “promptly” commence a review of the status of the species concerned and publish each finding in the Federal Register. 16 U.S.C. § 1533(b)(3)(A). FWS and NOAA generally provide the public a 60-day commenting period to solicit biological information for the status review. 50 C.F.R. § 424.16. Sometimes the agency chooses to hold public hearings on matters that are of high public interest, but any individual may request the agency to hold a public hearing, as long as the request is made within 45 days from the proposal. The agency has one year from the time it determines further action is warranted to make a final rule concerning the petitioned action. *See Listing a Species as Threatened or Endangered*, U.S. FWS, available at <http://www.fws.gov/endangered/esa-library/pdf/listing.pdf> (last visited Jan. 1, 2013). In the agency’s final rulemaking, it may (1) publish a final listing rule; (2) withdraw the proposal because the biological information does not support the listing; or (3) extend the proposal for six months if there is substantial disagreement within the scientific community regarding the biological appropriateness of the listing. FWS reported that from 2000-2007, it spent essentially all of its listing appropriation on compliance with existing court orders, litigation support, and related program management and administrative functions. *See Katrina Miriam Wyman, Rethinking the ESA to*

of the ESA.<sup>59</sup> FWS has been subject to copious litigation over its listing decisions.<sup>60</sup> The budget for listing species has risen considerably in recent years, but FWS admitted in 2007 that it was still spending the majority of its new listing appropriations on court-mandated listing activities.<sup>61</sup> Agency listing decisions are subject to judicial review under the Administrative Procedure Act<sup>62</sup> and are upheld unless they are arbitrary or capricious or otherwise not in accordance with the law.<sup>63</sup> Thus, plaintiffs challenging listing decisions typically raise one or more of the following allegations: (1) an agency has delayed in listing or completely failed to list a species it has determined to be threatened or endangered; (2) the agency has violated the ESA's "best scientific data available requirement" in making a listing determination; (3) the agency has misinterpreted the term "significant portion of the range," and (4) an agency has improperly delisted a species that is still threatened with extinction.<sup>64</sup>

### A. Delays in Listing: Warranted-But-Precluded

The protective provisions of the ESA do not go into effect until a species is listed,<sup>65</sup> and timely listing is critical to adequately protect imperiled species.<sup>66</sup> Unfortunately for endangered species, the FWS Listing Program has been plagued historically by lengthy listing delays.<sup>67</sup> FWS has argued that continuous litigation and a congressionally imposed limited budget impairs its ability to keep up with listing proposals.<sup>68</sup> But despite a substantial increase in the statutory cap for the

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*Reflect Human Dominion over Nature*, 17 N.Y.U. Envtl. L.J. 490, 497 (2008) (citing FY 2007 Budget Justification 80, U.S. FWS).

<sup>59</sup> Research analyzing the various listing systems utilized by North American countries shows that the current U.S. system has serious deficiencies, including the inability to evaluate levels of uncertainty and considerations of risk tolerance, inapplicability at different geographic scales, and inability to adapt quickly to changes. The United States ranked in the 50<sup>th</sup> percentile in the number of desirable characteristics among other categorization systems employed in North America. *See* Paloma.

<sup>60</sup> *See, e.g.*, *Alaska v. Lubchenco*, 825 F. Supp. 2d 209 (D.D.C. 2011); *In re Polar Bear Endangered Species Act Listing and § 4(d) Rule Litigation*, 748 F. Supp. 2d 19 (D.D.C. 2010); *Home Builders Ass'n of N. Cal. v. United States Fish & Wildlife Serv.*, 529 F. Supp. 2d 1110 (N.D. Cal. 2007); *Center for Biological Diversity v. Kempthorne*, 466 F. 3d 1098 (9th Cir. 2006); *Alsea Valley Alliance v. Evans*, 161 F. Supp. 2d 1154 (D. Or. 2001);

<sup>61</sup> Department of the Interior and Related Agencies Appropriations Act, 2002 and 2010. Admittedly, some of this litigation involves contention over whether a particular group of animals satisfies the ESA definitions of species, subspecies, or distinct population segment, but a discussion of this is beyond the scope of this paper. For a recent overview on this topic, see Carmen Thomas Morse, *Listing Under the Endangered Species Act: How Low Can You Go?*, 47 IDAHO L. REV. 559 (2011).

<sup>62</sup> 5 U.S.C. §§ 551-559 (2006); *Friends of the Wild Swan, Inc. v. United States Fish & Wildlife Serv.*, 945 F. Supp. 1388, 1394 (D. Or. 1996); *Northern Spotted Owl (Strix occidentalis caurina) v. Hodel*, 716 F. Supp. 479 (W.D. Wash. 1988).

<sup>63</sup> *See, e.g.* *Cabinet Mountains Wilderness v. Peterson*, 685 F.2d. 678, 685 (D.C. Cir. 1982).

<sup>64</sup> *See* discussion *infra*.

<sup>65</sup> *See* §§ 1533, 1536, 1538.

<sup>66</sup> *See* Kieran Suckling, Rhiwena Slack, and Brian Nowicki, *Extinction and the Endangered Species Act*, CENTER FOR BIOLOGICAL DIVERSITY (May 1, 2004), available at <http://www.biologicaldiversity.org/publications/papers/ExtinctAndESA.pdf> (last visited March 3, 2013).

<sup>67</sup> *See Ibid.*

<sup>68</sup> In 1988, at the petitioned request of the FWS, Congress has placed a statutory cap on funds which may be expended for the Listing Program. *See* Noah Greenwald, Kieran Suckling, and Martin Taylor, *The Listing Record*, in

listing budget and settlements to limit litigation over listings, the rate of timely promulgation of listings has remained dismal in recent years.<sup>69</sup>

Part of the delay may stem from the ESA's "warranted-but-precluded" provision, which essentially allows FWS to place endangered species on a "waiting list" pending other listing proposals.<sup>70</sup> Species on the waiting list do not receive any protections under the ESA, even though the agency has determined that the species are threatened with extinction. The ESA requires the Secretary to implement a system to monitor the status of warranted-but-precluded species, but there is no statutory deadline for listing these species.<sup>71</sup> The "warranted-but-precluded" category arguably was designed to alleviate problems associated with funding constraints. FWS seems to use the category as a loophole to slow the listing process, however, and many threatened and endangered species have remained on the waiting list for long periods of time.<sup>72</sup>

FWS has been challenged for its failure to make timely findings for species on the waiting list.<sup>73</sup> As part of a settlement agreement, FWS recently established a multi-year work plan to make listing determinations for the 250+ species on the waiting list by 2016.<sup>74</sup> In return, Plaintiff WildEarth Guardians agreed not to file lawsuits against FWS to enforce the statutory deadlines in 16 U.S.C. § 1533(a) and (b) or to challenge any warranted-but-precluded findings.<sup>75</sup> Although less litigation would provide the agency with more resources to address the backlog of species waiting to be listed, it is highly unlikely that these species will be adequately assessed over the next four years. It has been estimated that it would cost over \$150 million to work through the backlog of species on the waiting list, which far surpasses the entire expected listing

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The Endangered Species Act at Thirty, ed. D.D. Goble, J.M. Scott, and F.W. Davis (Washington DC: Island Press, 2006), 1:51-67; Consolidated Appropriations Act, 2012; Listing Work Plan Stipulated Settlement Agreement with Wild Earth Guardians, FWS, *available at* [http://www.fws.gov/endangered/improving\\_ESA/exh\\_1\\_re\\_joint\\_motion\\_FILED.PDF](http://www.fws.gov/endangered/improving_ESA/exh_1_re_joint_motion_FILED.PDF) (last visited March 27, 2013).

<sup>69</sup> 17 percent of rules were promulgated in a timely fashion in 2009; 20 percent in 2010; 0 percent in 2011; 21 percent in 2012. FY 2013 Budget Justification, U.S. Fish and Wildlife Service ES-6.

<sup>70</sup> The Secretary can make a "warranted-but-precluded" finding when he or she determines that (1) the promulgation of a final regulation implementing the petitioned action is precluded by other pending listing proposals; and (2) expeditious progress is being made to add qualified species to or remove unqualified species from the list. 16 U.S.C. § 1533 (b)(3)(B)(iii) (2006).

<sup>71</sup> § 1533(b)(3)(C)(iii).

<sup>72</sup> As of 2010, there was a backlog of 251 warranted-but-precluded species. "2010 COR" 75 Fed. Reg. 69222 (Nov. 10, 2010). Many of these species have been on the list for over 10 years. About 150 have been pending for more than 20 years, and 57 have waited more than 30 years.

<sup>73</sup> *See, e.g.* WildEarth Guardians v. Salazar, Civ. No. 4:10-420 (D. Ariz.); WildEarth Guardians v. Guertin, et al., Civ. No. 1:10-1959 (D. Colo.); WildEarth Guardians v. Salazar, Civ. No. 1:10-2129 (D. Colo.); Biodiversity Conservation Alliance, et al. v. Kempthorne, et al., Civ. No. 04-2026 (D. D.C.); and Western Watersheds Project, et al. v. Salazar, Civ. No. 4:10-229 (D. Idaho).

<sup>74</sup> Listing Work Plan Stipulated Settlement.

<sup>75</sup> In Re Endangered Species Act Section 4 Deadline Litigation, *available at* [http://www.fws.gov/endangered/improving\\_ESA/exh\\_1\\_re\\_joint\\_motion\\_FILED.PDF](http://www.fws.gov/endangered/improving_ESA/exh_1_re_joint_motion_FILED.PDF) (last visited March 3, 2013).

budget for 2013—2016.<sup>76</sup> Perhaps unsurprisingly, the FWS work plan already has been substantially modified and extended to 2018.<sup>77</sup>

Even if other nonprofits were to abstain from litigating against FWS listing delays, FWS inevitably will receive new petitions for listings while it works through the waiting list. Due to FWS policy that processing new proposals is of lower priority than processing emergency listing rules or final determinations on proposed additions,<sup>78</sup> newly imperiled species would often wind up at the bottom of the warranted-but-precluded list. So, FWS is trapped in a never-ending cycle of robbing Peter to pay Polly, where Peter owed Polly to begin with.

Long listing delays are significantly correlated with the extinction of species.<sup>79</sup> Listing delays result in decreases in population sizes of species, which slows the rate of recovery, making the recovery more expensive in the long run.<sup>80</sup> Further, the ESA conservation measures act cumulatively over time, so that the longer a species is listed, the more likely it is to recover.<sup>81</sup> Recovery is hampered by funding insufficiencies that affect many listed species, which suggests that the current list of threatened and endangered species may be too large for agencies to effectively manage.<sup>82</sup>

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<sup>76</sup> See Joe Roman, *Listed: Dispatches from America's Endangered Species Act* (2011), at 182.

<sup>77</sup> See *Improving ESA Implementation: Listing Workplan*, U.S. FWS, available at [http://www.fws.gov/endangered/improving\\_ESA/listing\\_workplan.html](http://www.fws.gov/endangered/improving_ESA/listing_workplan.html) (last visited Jan. 4, 2013). FWS originally agreed to make Proposed Rules or not-warranted findings for no fewer than 130 of the species on the waiting list by FY 2013 and all the remaining species by FY 2016. See Listing Work Plan Stipulated Settlement.

<sup>78</sup> *Endangered and Threatened Wildlife and Plants; Final Listing Priority Guidance for Fiscal Year 2000*, 64 Fed. Reg. 57114, 57115 (Oct. 22, 1999).

<sup>79</sup> Between 1973 and 1995, 108 species in the United States went extinct. This number is alarming because it greatly surpasses the predicted natural extinction rate of four species in that time period. The vast majority of these species were never listed as endangered under the ESA, and only twenty-one percent of listed species went extinct. 108 species went extinct after lengthy and delayed listing processes (including 24 that went extinct after being placed on the waiting list); 29 went extinct without any initiation at all of the listing process. See Kieran Suckling, Rhiwena Slack, and Brian Nowicki, *Extinction and the Endangered Species Act*, CENTER FOR BIOLOGICAL DIVERSITY (May 1, 2004), at 2,8, available at <http://www.biologicaldiversity.org/publications/papers/ExtinctAndESA.pdf> (last visited January 4, 2013).

<sup>80</sup> D.S. Wilcove, M. McMillan, K.C. Winston, *What exactly is an endangered species? An analysis of the U.S. Endangered Species List: 1985-1990*, CONSERVATION BIOLOGY 7: 87-93.

<sup>81</sup> The likelihood of species improving more than doubles with each decade of listing, while the likelihood of decline is halved. Thus, imperiled species should be listed as soon as possible. Martin F.J. Taylor, Kieran F. Suckling, and Jeffrey J. Rachlinski, *The Effectiveness of the Endangered Species Act: a Quantitative Analysis*, 55(4) BIOSCIENCE, 360, 365 (April 2005).

<sup>82</sup> Between 1992 and 1995, 13 listed species did not receive any federal funding for at least a year, despite the fact that population trends for most of the species were decreasing or uncertain. Marco Restani and John M. Marzluff, *Funding Extinction? Biological Needs and Political Realities in the Allocation of Resources to Endangered Species Recovery*, 52(2) BIOSCIENCE 169, 174 (Feb. 2002).

## B. “Science” Is Not the Best Available Science

In addition to litigation over listing delays, FWS may be challenged on the “best available science” requirement of the ESA.<sup>83</sup> Congress was frustratingly vague when it legislated the term but failed to provide a description of what types of data qualify as the best scientific data.<sup>84</sup> FWS representatives have expressed the need for Congress to provide guidance regarding the best science requirement.<sup>85</sup> Prior legislative attempts to establish protocol for the best available science standard have failed, however,<sup>86</sup> perhaps because the general populace believes that scientists, not politicians, should make scientific determinations of species’ extinction risks.<sup>87</sup>

Given the lack of congressional guidance, judicial review of the “best science” requirement in listing decisions is limited to a highly deferential inquiry into the sufficiency of the administrative record.<sup>88</sup> Claims that the science selected by the agency is simply not the best scientific data available are difficult to win,<sup>89</sup> and courts are disinclined to make policy judgments on listing decisions based on conflicting, uncertain, or incomplete data.<sup>90</sup> This judicial

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<sup>83</sup> See, e.g., *Bldg. Indus. Ass’n of Superior Cal. v. Norton*, 247 F.3d 1241, 1246 (D.C. Cir. 2001); *Am. Wildlands v. Norton*, 193 F. Supp. 2d 244, 251 (D.D.C. 2002); *Nat’l Wildlife Fed’n v. Babbitt*, 128 F. Supp. 2d 1274, 1300 (E.D. Cal. 2000).

<sup>84</sup> Although the ESA demands the “best science,” the statutory language does not require that listing determinations be made by scientists. 16 U.S.C. § 1533(b)(1)(A) (2006). “Best available science” remains undefined under the ESA.

<sup>85</sup> See Michael J. Brennan et. al., *Square Pegs and Round Holes: Application of the “Best Scientific Data Available” Standard in the Endangered Species Act*, 16 TUL. ENVTL. L.J. 387, 444 n.243 (2003) (quoting FWS Assistant Secretary Craig Manson: “It is important that the species conservation decisions we make are based on the best available science....”)

<sup>86</sup> See discussion of the Endangered Species Conservation and Management Act of 1995, the ESA Common Sense Act of 2000, the Sound Science for Endangered Species Act of 2002, and the Endangered Species Listing and Delisting Process Reform Act. *Square Pegs* at 433-441.

<sup>87</sup> A 2011 poll commissioned by the Endangered Species Coalition found that the majority (92%) of Americans agree that decisions about wildlife management and which animals need protection should be made by scientists, not politicians. Poll results available at [http://stopextinction.org/media/endangered\\_species\\_act\\_poll.pdf](http://stopextinction.org/media/endangered_species_act_poll.pdf) (last visited March 4, 2013).

<sup>88</sup> See *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989) (stating “The reviewing court must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment.”)

<sup>89</sup> Plaintiffs often instead choose to attack listing decisions by pointing to agency errors, including failure to address contradictory evidence, reliance on incomplete studies, failure to resolve uncertainty or disagreement within the agency, failure to conduct further investigation when data is incomplete or inadequate, and agency manipulation of scientific data so as to result in bias. See *Square Pegs* at 411.

<sup>90</sup> See, e.g., *Southwest Ctr. for Biological Diversity v. Norton*, No. Civ. A. 98-934 (RMU/JMF), 2002 WL 1733618, at 9 (D.D.C. July 29, 2002) (“Another implication of ‘best scientific data available’ requirement is that FWS must rely on even inconclusive or uncertain information if that is the best available at the time of the listing decision.”); *Organized Fishermen of Florida, Inc. v. Franklin*, 846 F. Supp. 1569, 1577 (S.D. Fla. 1994) (stating, “It is the prerogative of the agency board to weigh those opinions and make a policy judgment based on the scientific data. It is not the place of this Court to reweigh the evidence.”); *Marsh v. Or. Nat’l Res. Council*, 490 U.S. 360, 378 (1989) (“When specialists express conflicting views, an agency must have discretion to rely on the reasonable opinions of its own qualified experts even if, as an original matter, a court might find contrary views more persuasive.”).

deference makes sense from a policy standpoint,<sup>91</sup> but the ESA's goals are undermined if agencies are not actually utilizing the best science in listing decisions.

In 1994, FWS and the National Oceanic and Atmospheric Administration ("NOAA") issued interagency policy to "provide criteria, establish procedures, and provide guidance" on the best scientific and commercial data requirement.<sup>92</sup> The preamble of the notice stated that the Services receive *and use* information from a "wide variety of sources" including surveys, unpublished material, tribal governments, contractors, and consulting firms.<sup>93</sup> Although FWS and NOAA conceded that "the reliability of the information contained in these sources can be variable as the sources themselves,"<sup>94</sup> there is no description of the method that distinguishes highly reliable, objective sources (such as peer-reviewed professional journals) from those that are inherently less reliable and/or subject to political influence (such as contractor reports).

The policy states that agency biologists must evaluate all scientific *and other* information and use *primary* and *original* sources of information as the basis for recommendations to promulgate regulations to add a species to the list.<sup>95</sup> The interagency policy does not define "primary and original sources of information," nor is there guidance as to how scientific evidence should be weighed against "other information" that has been received by the Services.<sup>96</sup> In testimony before the Committee on Science, Space and Technology, the Assistant Secretary for FWS revealed that agency fulfillment of the best available science requirement "frequently consists of little more than literature search, especially with respect to listing of species. That's because the Fish and Wildlife Service has virtually no research capacity and few Ph.D. scientists in the field. As a result, many 'scientific' documents rely on the interpretation and policy leanings of their authors."<sup>97</sup>

The two agencies have also released guidelines for peer review of ESA activities, but failed to provide details as to how the specialists are chosen for either of the peer review panels or what these experts use as guidance when making listing recommendations.<sup>98</sup> FWS has no formal procedure to assess peer reviewers' independence, and potential conflicts and prior

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<sup>91</sup> Judges should not look at decisions, "as the chemist, biologist or statistician that [they] are qualified neither by training nor experience to be, but as a reviewing court exercising [their] narrowly defined duty of holding agencies to certain minimal standards of rationality." *Ethyl Corp. v. Env'tl. Prot. Agency*, 541 F.2d 1, 36 (D.C. Cir. 1976).

<sup>92</sup> Notice of Interagency Cooperative Policy on Information Standards Under the Endangered Species Act, 59 Fed. Reg. 34271 (July 1, 1994).

<sup>93</sup> *Ibid.*

<sup>94</sup> *Ibid.*

<sup>95</sup> *Ibid.*

<sup>96</sup> *Ibid.*

<sup>97</sup> Testimony of Craig Manson Before the Committee on Science, Space, and Technology Sub-committee on Investigations & Oversight, U.S. House of Representatives, Oct. 13, 2011.

<sup>98</sup> For all listing decisions, the agencies must solicit the expert opinions of three independent specialists regarding pertinent scientific or commercial data for species under consideration for listing. If there is scientific disagreement to the extent that leads a Service to make a six-month extension of the statutory rulemaking period, the Service must appoint an unspecified number of individuals for a "special" independent peer review process. 59 Fed. Reg. 34270 (July 1, 1994).

involvement by peer reviewers are not publicly disclosed.<sup>99</sup> Perhaps fittingly, peer reviewers generally agree with FWS listing decisions.<sup>100</sup> Lack of transparency and detailed guidance is exacerbated by the terminology invoked in the ESA. Courts have held that the phrase “best scientific and commercial data *available*” means that the agency must utilize the best data available, not the best data *possible*.<sup>101</sup>

Given these problems, it logically follows that the current species lists may be rife with unsupported listings, and some species that are in dire need of protection but have not garnered wide public attention remain unlisted. One way to test this idea, is to compare the mammals that are listed on the Endangered Species list, to those listed under the Red List, and those found on the CITES Appendices.<sup>102</sup> Mammals tend to be well-studied, as they are readily visible, well-preserved in the fossil record, and routinely serve as *flagship* species, or species that are popular with the public and used as symbols and rallying points to stimulate conservation awareness and action.<sup>103</sup> There are much fewer mammal species relative to other classes of animals or genera of flora or fauna, and thus they serve as a conservative proxy for comparison purposes.<sup>104</sup> The following graph summarizes the results.

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<sup>99</sup> U.S. General Accounting Office, GAO-03-803, *Endangered Species: Fish and Wildlife Service Uses Best Available Science to Make Listing Decisions, But Additional Guidance Needed for Critical Habitat Designations*, 15-16 (2003), available at <http://www.gao.gov/new.items/d03803.pdf> (last visited March 4, 2013).

<sup>100</sup> For listing decisions, peer reviewers overwhelmingly supported the science behind the decisions the Service issued between fiscal years 1999 and 2002. *Ibid.*

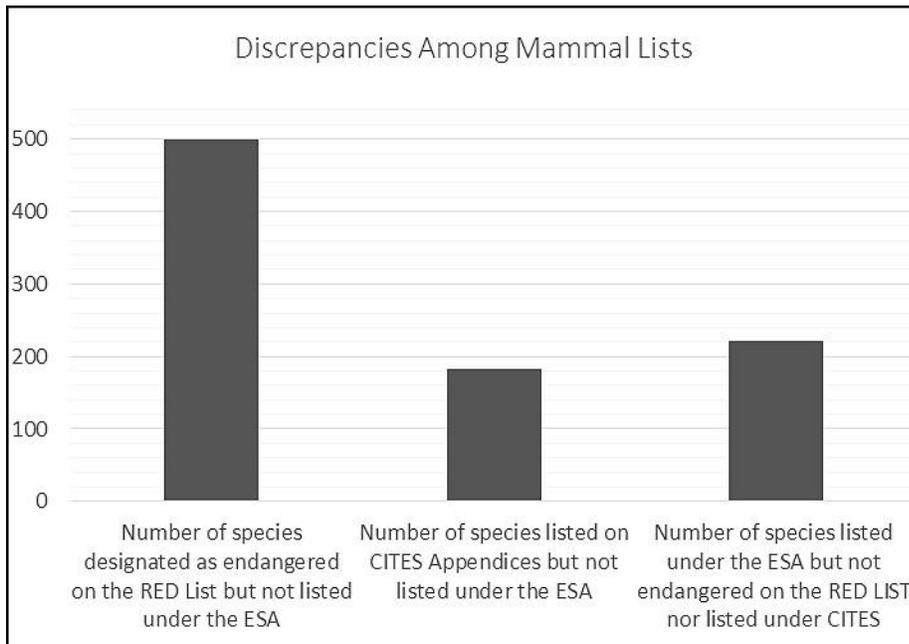
<sup>101</sup> See, e.g., *Bldg. Indus. Ass'n of Superior Cal. v. Norton*, 247 F.3d 1241, 1246 (D.C. Cir. 2001).

<sup>102</sup> See Appendix 1.

<sup>103</sup> See Heywood, V.H. (1995) *Global biodiversity assessment*. Cambridge University Press, Cambridge; John Charles Kunich. *The Fallacy of Deathbed Conservation Under the Endangered Species Act*, 24 ENVTL. L. 501, 515 (1994).

<sup>104</sup> Compare, for example, that there are nearly 450 mammal species in the United States and just over 5,500 mammal species worldwide, but there are over 5,000 species of plants in the state of Maryland alone and 80-100 million species of insects worldwide. Keyword search “Class Mammalia,” IUCN Red List, <http://www.iucnredlist.org>; “Maryland,” USDA State Plant List, <http://plants.usda.gov/checklist.html>.

**Graph 1. Discrepancies Among Mammal Lists**



There are significant discrepancies among the ESA listing and the CITES and Red List listings of mammal species.<sup>105</sup> The differences are most apparent when comparing the statuses of native species. Only twenty-seven percent (23/86) of the ESA-listed native species are listed as Endangered in the Wild, Critically Endangered, or Endangered on the Global Red List.<sup>106</sup> This likely reflects the influences of policy preferences and response to public petition or lawsuits into the species listing process.<sup>107</sup> Thus, the Endangered Species List appears to be both over- and under-inclusive in its listing of species threatened with extinction. These troubling discrepancies concerning the listing of mammals, a list that arguably should be the easiest for the Services to maintain, strongly suggest that the Services collectively are failing both their congressionally mandated duty to list species “in danger of extinction” and its international obligation to protect species listed under CITES.<sup>108</sup> Indeed, similar research has revealed even greater discrepancies

<sup>105</sup> Under the ESA, 350 of the approximately 5,500 species of mammals worldwide are listed as endangered or threatened, 88 of which are native to the United States. 50 C.F.R. § 17.11. A total of 500 species are listed on the Red List as Extinct in the Wild, Critically Endangered, or Endangered but are not listed at all on the Endangered Species List. There are 183 mammal species that are listed on CITES Appendices that are not yet listed under the ESA. 78 are CITES Appendix I species.

<sup>106</sup> Seventy-two percent (62/86) are listed as Least Concern, Near Threatened, or Vulnerable.

<sup>107</sup> Indeed, petitions and lawsuits accounted for over seventy percent of listings from 1973 to 2003. See D.N. Greenwald, K.F. Suckling, and M. Taylor, in *The Listing Record*. In D.D. Goble, J.M. Scott, F.W. Davis, *The Endangered Species Act at Thirty: Renewing the Conservation Promise*, 51-67 (2005).

<sup>108</sup> A cursory analysis of the other species listed under the ESA supports this assertion, although plant listings seem to be much more congruous to Red List status than are wildlife. According to the Red List, there are 322 Critically Endangered plant and animal species in the United States. 93/208 (44.7%) of Red Listed Critically Endangered

among other species. Over forty percent of birds listed as endangered with extinction under IUCN criteria remain unlisted under the ESA, amphibians are under-recognized by some eighty percent, and an upward of ninety-five percent of IUCN endangered invertebrates remains unlisted.<sup>109</sup>

### C. Ambiguous Significant Portions of the Range and Dysfunctional Distinct Population Segments

In addition to scientific inadequacies in assessing a species' risk of extinction, the method by which FWS calculates the "significant portion of [a species'] range" ("SPR") under 16 U.S.C. § 1532(6) when making listing decisions is problematic. The full congressional intent of the SPR phrase is not clear,<sup>110</sup> but Congress may have established the SPR to protect a species' contiguous range within the United States.<sup>111</sup> U.S. courts have uniformly held the SPR term to be ambiguous,<sup>112</sup> however, and the ambiguity results in substantial litigation.<sup>113</sup>

Courts also have rejected FWS attempts to provide a "clarification interpretation" of the SPR phrase.<sup>114</sup> Historically, FWS has interpreted the SPR phrase in a manner that allowed species to gradually decline.<sup>115</sup> Improper interpretation of the SPR phrase may have devastating

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animal species are not on U.S. Endangered Species List. But, note that only 21/114 (18.4%) of Red Listed Critically Endangered plants are not on the ESA list. Perhaps this is due to less general contention and public attention to the listing of plant species.

<sup>109</sup> J. Berton et al, *Conserving Imperiled Species: a Comparison of the IUCN Red List and U.S. Endangered Species Act*, Conservation Letters 1-9 (2011).

<sup>110</sup> The SPR phrase originated in proposed legislation drafted by the U.S. Department of the Interior and was apparently intended to provide FWS with discretion to list "a distinct population . . . without regard to whether it is a recognized subspecies." Draft Policy on Interpretation of the Phrase "Significant Portion of the Range," 76 Fed. Reg. 76,987, 76,989 (Dec. 9, 2011).

<sup>111</sup> See H.R. REP. NO. 93-412, at 118 (1973). By referring to species that also exist in Canada and Mexico, Congress may be indicating that it was particularly concerned with loss of a species' contiguous range. For example, the grizzly bear (*Ursus arctos horribilis*) is currently found in portions of Wyoming, Montana, Idaho, and Washington. The loss of the entire contiguous range of the grizzly bear would be unlikely to put the grizzly bear in danger of extinction in the foreseeable future because, while there are approximately 1,200 grizzly bears in the contiguous United States, there are thought to be over 30,000 grizzly bears in Alaska. Grizzly Bear Recovery, U.S. FWS, available at <http://www.fws.gov/mountain-prairie/species/mammals/grizzly> (last visited Feb. 6, 2013).

<sup>112</sup> See, e.g., *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1141 (9th Cir. 2001) (noting that the SPR phrase is "something of an oxymoron" given the plain meaning of the word "extinct").

<sup>113</sup> For an overview, see Sherry A. Enzler & Jeremy T. Bruskotter, *Contested Definitions of Endangered Species: The Controversy Regarding How to Interpret the Phrase "A Significant Portion of a Species' Range"*, 27 VA. ENVTL. L.J. 1, 2 (2009) (analyzing past FWS interpretations of the SPR phrase and the concomitant litigation).

<sup>114</sup> See, e.g., *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1141 (9th Cir. 2001) (holding that the FWS interpretation of SPR was invalid as a matter of statutory construction because the SPR phrase must be given some independent meaning to avoid being rendered superfluous to the "throughout all" phrase).

<sup>115</sup> For example, in making an SPR determination for the Rio Grande Cutthroat Trout, FWS employed a biological importance interpretation to conclude that the trout were not endangered, despite admitting that the "subspecies now occupies about 13 percent of historic habitat" and "existing populations continue to face adverse impacts in most of the historical range." See 12-Month Finding for a Petition to List the Colorado River Cutthroat Trout as Threatened or Endangered, 72 Fed. Reg. 32,589, 32,600 (June 13, 2007). Likewise, in 2007, twenty-five years after placing the Canada Lynx on the candidate waiting list, FWS concluded that three-fourths of the Canada Lynx's historical range

effects for large mammal species.<sup>116</sup> Without a quantitative standard to determine whether a lost portion of a species' range is significant, it is difficult to accurately estimate the extent of a species' range and its population distribution or other ecological characteristics.<sup>117</sup> Given the lack of such standard or clear congressional guidelines on the definition of an SPR, it is likely that FWS will continue to face listing challenges as to whether a species is endangered throughout a significant portion of its range.

Even if a species is endangered throughout its range, a subsequent decision to delist it can result in litigation as well.<sup>118</sup> In recent years, the FWS has attempted to use the Distinct Population Segment ("DPS") category<sup>119</sup> as a tool to delist a subset(s) of a species that should otherwise be protected as a whole under the ESA.<sup>120</sup> The ESA does not define a DPS, and FWS subsequently has developed its own policy to interpret the term.<sup>121</sup>

Congress has instructed the Secretary to designate DPSs "sparingly and only when the biological evidence indicates that such action is warranted," so as to prevent situations such as a group of common squirrels in the park being given ESA protection.<sup>122</sup> Presumably, the DPS was established to benefit endangered species because it allows the Services to list and protect small populations that are numerous in some areas but endangered in others or populations that retain unique genetic characteristics from the entire species as a whole. The alarming trend, however, is for FWS to attempt to use the DPS as means to delist and split-list species, which ultimately allows for less protection to the endangered species as a whole.<sup>123</sup>

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was not an SPR because it was "naturally marginal" and thus biologically unimportant, notwithstanding the fact that the Canada Lynx could still be found in rare numbers in this historical range, but most lynx already resided in "poor quality habitat." See Clarification of Significant Portion of the Range for the Contiguous United States Distinct Population of the Canada Lynx, 72 Fed. Reg. 1186, 1188 (Jan. 10, 2007).

<sup>116</sup> See Sherry A. Enzler & Jeremy T. Bruskotter, *Contested Definitions of Endangered Species: The Controversy Regarding How to Interpret the Phrase "A Significant Portion of a Species' Range"*, 27 VA. ENVTL. L.J. 1, 49-50 (2009) (using the bison and Florida panther as examples of how a solely biological importance interpretation of the SPR phrase will negatively impact the longterm conservation of mammal species).

<sup>117</sup> See Johan A. Vucetich et al., *The Normative Dimension and Legal Meaning of Endangered and Recovery in the U.S. Endangered Species Act*, 20 CONSERVATION BIOLOGY 1383, 1384 (2006).

<sup>118</sup> See, e.g., *Friends of Blackwater v. Salazar*, 691 F.3d 428 (D.C. Cir. 2012); *Defenders of Wildlife v. Salazar*, 729 F. Supp. 2d 1207 (D. Mont. 2010); *Humane Soc. of U.S. v. Kempthorne*, 579 F. Supp. 2d 7 (D.D.C. 2008); *Wyoming Farm Bureau Federation v. Babbitt*, 199 F.3d 1224 (10th Cir. 2000).

<sup>119</sup> In 1978, the ESA definition of species was amended to include "any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." 16 U.S.C. § 1532(16) (2006).

<sup>120</sup> See, e.g., *Defenders of Wildlife v. Salazar*, 729 F. Supp. 2d 1207 (D. Mont. 2010) (FWS attempted to divide a DPS into a smaller taxonomy to delist the gray wolf throughout the northern Rocky Mountain DPS except for Wyoming); *National Ass'n of Home Builders v. Norton*, 2009 WL 226048 (9th Cir. 2009) (unpublished opinion) (FWS removed the Arizona population of the ferruginous pygmy owl from the endangered species list); *Humane Soc. of U.S. v. Kempthorne*, 579 F. Supp. 2d 7 (D.D.C. 2008) (FWS designated a particular geographic population of gray wolves as DPS, which was removed from the endangered species list).

<sup>121</sup> Interagency policy characterizes the DPS as a population segment that is both discrete and significant in relation to the remainder of the species to which it belongs. Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act, 61 Fed. Reg. 4722 (Feb. 7, 1996).

<sup>122</sup> Senate Report 151, 96th Congress, 1st Session.

<sup>123</sup> See discussion *supra*, Part I and note 129.

#### **IV. Solving the Inherent Problems of the Listing Process under the Endangered Species Act**

To protect our Earth's biodiversity, the decision-makers within the United States must work together to amend the laws designed to save species from extinction, starting with the listing process. Congress should direct the Secretary to establish separate lists that allow agencies to fulfill U.S. international commitments to end the overexploitation of animals while allocating funding priorities to those species most in need of help. While these changes are being formulated, FWS should address the inconsistencies of the current Endangered Species List as compared with the CITES Appendices and the Red List.

##### **A. Better Science Should Form the Base for Better Policy**

Professor Holly Doremus has argued that the best science requirement under the ESA has encouraged agencies to apply a "closed, technocratic" decision-making process that "is inappropriate in the endangered species context because the relevant scientific questions are both intractable and closely intertwined with controversial value choices."<sup>124</sup> Although it is true that the listing process as currently conducted by FWS and NOAA is plagued with problems, stand-alone, quantitative scientific assessments of extinction risks can be formulated in isolation from value-laden choices about how society should choose to act in light of the information. Due to the nature of the scientific process, policy makers would be amiss to start with the presumption that the majority of peer-reviewed ecological research is riddled with subjective bias. There simply aren't the same economic incentives at play in determining the extinction risk of species as there are with drug or medical device research, for example.

The scientific method, as indoctrinated upon students from an early age, requires that a researcher's study methods are published and that her results can be duplicated.<sup>125</sup> When combined with review and oversight from a large, diverse body of ever-critical and, at times, downright argumentative peers, the scientific method has built-in checks against flagrant biases. The closed, technocratic evaluation of scientific data by FWS and NOAA, as alluded to by Professor Doremus, is antithetical to the nature of the scientific method and can lead to inappropriate policy influence over the "best available data" utilized in listing decisions.

Perhaps the real problem with the "best science" requirement under the ESA, however, is that the five listing factors outlined in the ESA are qualitative in nature, and thus inherently do not require purely scientific analysis.<sup>126</sup> It is not surprising that policy intermeshes with science

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<sup>124</sup> Holly Doremus, *Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy*, 75 WASH. U. L.Q. 1029, 1036 (1997).

<sup>125</sup> For a short summary of scientific process, see *Ibid.* at 1058-61.

<sup>126</sup> Quantitative data allows researchers to generalize or make inferences through an objective process. Results are used to determine the probability that the conclusions can be replicated within the larger population. All conclusions made are derived from data collected and measures of statistical analysis. Qualitative data is more likely to be influenced by the theoretical perspective of the researcher. Maura Borrego, Elliot P. Douglas, Catherine T.

when agencies must decide whether existing regulatory mechanisms are sufficient, or whether a species is overutilized. These are not factors that scientists can objectively test. The Red List extinction risk criteria are examples of quantitative extinction risk criteria that can be objectively analyzed by scientists. The following table illustrates the differences between the ESA factors and the Red List Criteria.

**Table 2: Comparison of ESA and Red List**<sup>127</sup>

<b>ESA Factors: qualitative, subjective</b>	<b>Red List Criteria: quantitative, objective</b>
Habitat/range loss	Geographic range size: fragmentation, decline, fluctuations
Overutilization	Declining population (past, present, and/or projected)
Disease/Predation	Small population size: fragmentation, decline, fluctuations
Inadequacy of existing regulatory mechanisms	Population viability analysis
Other natural/manmade factors	Very small population size or restricted distribution

## B. Comprehensive Reform of the Listing Process

The listing criteria must be redesigned so that agencies charged with protecting endangered species can base subsequent management decisions on sound science.<sup>128</sup> Although the ESA has been a powerful conservation tool, there is growing consensus that the time is ripe, if not long overdue, for comprehensive reform.<sup>129</sup> The current financial climate in the United States requires that government officials be highly cognizant of economic implications when undertaking federal action. As FWS funding is highly unlikely to increase in the near future,<sup>130</sup> it is extremely important that all available endangered species conservation funds are utilized as effectively as possible. The amount of money spent on conservation efforts of a particular

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Amelink, *Quantitative, Qualitative, and Mixed Research Methods in Engineering Education*, 98 JOURNAL OF ENGINEERING EDUCATION 53, 54-57 (Jan. 2009).

<sup>127</sup> 16 U.S.C. § 1533(a)(1) (2006); *Guidelines for Using the IUCN Red List Categories and Criteria Version 8.1* (August 2010), available at <http://intranet.iucn.org/webfiles/doc/SSC/RedList/RedListGuidelines.pdf> (last visited Jan. 12, 2013).

<sup>128</sup> Some would also argue that listing should be decoupled from management decisions. See Katrina Miriam Wyman, *Rethinking the Esa to Reflect Human Dominion over Nature*, 17 N.Y.U. ENVTL. L.J. 490, 516-17 (2008) (“[l]isting should no longer trigger the seemingly permanent one-size-fits all consequences that it does now in the form of sections 7 and 9, and the requirements to designate critical habitat and prepare a recovery plan.”)

<sup>129</sup> For a discussion of general background and various proposals for ESA reform, see Jonathan H. Adler, Ed., *Rebuilding the Ark: New Perspectives on Endangered Species Act Reform*, The AEI Press, Washington, D.C. (2011).

<sup>130</sup> E.g., Absent action by lawmakers, all non-defense science programs were recently threatened with an 8.2 percent reduction in FY 2013 because of sequestration. Office of Management and Budget, OMB Report Pursuant to the Sequestration Transparency Act of 2012 (P.L. 112---155).

species impacts its recovery,<sup>131</sup> and it is critical that federal funds are directed to those species most at risk of extinction. Public opinion on the need to preserve endangered species historically has been overwhelmingly positive, and surveys suggest this enthusiasm has not waned in the 40 years since the ESA was passed.<sup>132</sup> A plan for reform that maintains the integrity of the ESA while solving the inherent shortcomings could be capable of achieving significant bipartisan support.

To decrease wasteful litigation and listing delays, federal law could be redesigned so as to establish three different types of lists, each of which reflects different goals.<sup>133</sup> One list would be a Red List of Endangered Species in the United States (“National Red List”), which would be an objective, scientific assessment of the conservation status of all native species of plants and wildlife. This list would be constructed through the implementation of the IUCN Guidelines for Application of IUCN Red List Criteria at Regional and National Levels (“Regional Guidelines”).<sup>134</sup> As with the global Red List, field biologists, academics, and other professionals directly involved with population assessments, genetic studies, etc. would be the main contributors to the list.<sup>135</sup> There should be no direct implications of National Red listing, and modifications to the National Red List would not fall under agency action subject to rulemaking

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<sup>131</sup> Marco Restani and John M. Marzluff, *Funding Extinction? Biological Needs and Political Realities in the Allocation of Resources to Endangered Species Recovery*, 52(2) *Bioscience* 169, 175 (February 2002).

<sup>132</sup> See, e.g. Brian Czech and Paul Krausman, *Public Opinion on Endangered Species Conservation and Policy*, 12(5) *SOCIETY & NATURAL RESOURCES* 469-479 (Jul-Aug 1999) (in a nationwide survey of U.S. residents, species conservation was valued by survey respondents as of the same importance as property rights or economic growth); Melissa H. Koval and Angela G. Merteg, *Michiganders Respond, Endangered Species are Important!*, Michigan Dep’t of Nat Resources (May 2002), available at [http://www.michigan.gov/dnr/0,4570,7-153-10370\\_12141\\_12168-59161--00.html](http://www.michigan.gov/dnr/0,4570,7-153-10370_12141_12168-59161--00.html) (last visited Feb. 4, 2013) (survey found seventy-three percent of the public felt the amount of time and money spent by Michigan DNR on managing endangered species should continue or be increased, and very few people believed that the current level of spending is too much); Melinda Tuhus, *Poll Finds Strong Public Support for Endangered Species Act...and Wolves*, Public News Service (March 11, 2011), available at <http://www.publicnewsservice.org/index.php?/content/article/18928-1> (last visited Feb. 4, 2013)(national poll showed that Americans of all political ideologies support the Endangered Species Act, and wolf conservation, despite recent bad publicity of federal reintroduction efforts).

<sup>133</sup> Paloma C. DeGrammont and Alfredo D. Cuarón, *An Evaluation of Threatened Species Categorization Systems Used on the American Continent*, 20(1) *CONSERVATION BIOLOGY* 14-27 (Feb. 2006) (recommending that governments utilize three lists, one of which based on the IUCN system, one based on species of conservation priority, and one based on normative tools such as hunting calendars or the CITES list).

<sup>134</sup> Provided that the regional population to be assessed is isolated from conspecific populations outside the region, the *IUCN Red List Categories and Criteria* (IUCN 2001, 2012) can be used without modification within any geographically defined area... These Guidelines present methods for adjusting the initial category obtained by evaluating a taxon using the IUCN Red List Criteria to obtain a final Red List Category that adequately reflects a taxon’s risk of extinction within the region. *Guidelines for Application of IUCN Red List Criteria at Regional and National Levels*, Version 4.0, IUCN (Jan. 2010), available at [http://www.iucnredlist.org/documents/reg\\_guidelines\\_en.pdf](http://www.iucnredlist.org/documents/reg_guidelines_en.pdf) (last visited Feb. 5, 2013).

<sup>135</sup> The necessary partnerships are already in place to make this list feasible. For example, FWS currently works with Natureserve, an NGO that conducts biodiversity surveys in the United States., Canada, Latin America, and the Caribbean. Natureserve endorses the use of the Red List, stating “Widely recognized as the most definitive tally of the planet’s threatened wildlife, the Red List is a joint effort led by IUCN and its Species Survival Commission, working with official Red List partners [including Natureserve].” 2009 IUCN Red List Highlights Continued Extinction Threat, NATURESERVE, available at <http://www.natureserve.org/projects/iucn.jsp> (last visited March 5, 2013).

and comment procedure. Just as air chemistry and pollution experts are relied upon to calculate the percentage of particulates in the air, scientific experts, including wildlife biologists and field ecologists, would be relied upon to make extinction risk assessments by conducting population surveys, interpreting published and unpublished studies, and performing population viability analyses. To maintain transparency, however, all data relied upon for assessments as well as the names and affiliations of the scientists involved in the work should be publicly available and easily accessible.<sup>136</sup>

In addition to serving as a transparent, objective appraisal of the status of species within the United States, the list would be valuable to global conservation efforts. Currently, the extinction risk assessments made under the ESA are not subject to the same rigorous standards that govern data collection and processing under the IUCN Red List.<sup>137</sup> Therefore, the listing determinations made by FWS for its threatened and endangered species lists are of little to no utility in terms of contributing to the maintenance of the global Red List.<sup>138</sup> Establishment of a National Red List inevitably would lead to enhancement of the global Red List, better data collection in the United States, increased agency transparency, and more efficient national legislation.<sup>139</sup> Other countries have successfully implemented national Red Lists using the Regional Guidelines,<sup>140</sup> and the United States could be an invaluable contributor to the improvement of globalized species extinction risk assessments.<sup>141</sup>

A second list would replace the current Endangered Species List. This list would be comprised of federally protected, native species deemed nationally significant in terms of conservation priority. FWS and NOAA would be responsible for the management of this list, and public participation would continue as currently exists under the ESA listing procedures. As under the current ESA, listing decisions would be made on generally qualitative criteria,<sup>142</sup> and thus the federally protected native species list would be more subjective than the National Red

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<sup>136</sup> The Red List guidelines allow for scientific inferences where data is lacking, but inferences are documented.

<sup>137</sup> See Ana S.L. Rodrigues et. al, *The Value of the IUCN Red List for Conservation*, 21 *TRENDS in Ecology and Evolution* 71, 74 (Feb. 2006) (discussing need for standardized national red-lists that can feed into the global Red List). Further, the FWS does have the ability to integrate quantitative data into its listing decisions, as recently evidenced in the Five Year Review of the Northern Spotted Owl, where demographic assessments were calculated and quantitative characteristics of vegetation were analyzed. Report available at <http://www.fws.gov/sacramento/es/Five-Year-Reviews/Documents/doc743.pdf> (last visited March 5, 2013).

<sup>138</sup> Rebecca Miller et. al, *National Threatened Species Listing Based on IUCN Criteria and Regional Guidelines: Current Status and Future Perspectives*, 21(3) *CONSERVATION BIOLOGY* 684-696, 685 (June 2007) (“[v]ariation in national listing makes direct international comparisons of status difficult and can hamper efforts to consolidate information from different countries. This can in turn impede species protection on a larger scale, rendering national threatened species lists of limited use as data sources for international policies.”)

<sup>139</sup> See Rodrigues, *supra* note 147, at 74.

<sup>140</sup> For example, South America, Argentina, Brazil, Bolivia, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela utilize National Red Lists. See Paloma *supra* note 143, at 17. In addition, the European Red List utilizes the IUCN Regional Red List Guidelines to list the conservation status of c. 6,000 European species so that appropriate conservation action can be taken to improve their status. See European Red List, available at <http://ec.europa.eu/environment/nature/conservation/species/redlist/> (last visited March 6, 2013).

<sup>141</sup> See Miller, *supra* note 146.

<sup>142</sup> Such as currently described in 16 U.S.C. § 1533(a)(1) (2006).

List. The goal should be to keep the list a manageable size so that all listed species are allocated sufficient funds and critical habitat to support conservation efforts.<sup>143</sup> Decisions to list species for federal protection would become a matter of policy, where Congress would dictate that a species' risk of extinction must weigh as the heaviest factor when the agency considers a listing proposal. To further effectuate this intent, Congress could mandate that FWS must automatically consider for listing any species categorized as "Critically Endangered" on the National Red List, as this preserves the original idea that the United States desires to protect all species at risk of extinction.

Other factors potentially could be considered in an agency's listing decision, however, including the importance of a particular species in the functioning of an ecosystem; the presence or lack of state, foreign, or other federal regulatory mechanisms; the acceptable risk for extinction of a given species given its historical, cultural, scientific, or aesthetic importance to society; the type of threat presented by climate change, and any countervailing interests.<sup>144</sup> Congressional guidance would need to be explicit as to how these factors should be balanced so that agencies can make effective listing decisions and courts could settle any resultant disputes quickly and efficiently.<sup>145</sup>

One important advantage of a policy-driven listing would be that there is no longer a need to delay decisions or litigate over any factor associated with the "best available science," "SPR," or "DPS" terminology. Instead, agencies could list a species or a population of species for federal protection based on weighing policy considerations as directed by Congress. Challenges to these decisions would be uneventful due to *Chevron* deference, so long as the agency adequately supported its listing decision in the administrative record.<sup>146</sup>

To fulfill U.S. international obligations under CITES<sup>147</sup> and to "demonstrate the commitment of the United States to the worldwide protection of endangered species and threatened species,"<sup>148</sup> the third list would be a list of "commercial use-restricted species." Individuals from species on this list should be protected from all instances of take and trade for commercial gain. With proper Congressional guidance, FWS and NOAA would be responsible for managing this list. Species already listed on CITES Appendices I and II could be listed

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<sup>143</sup> Under the current system, funding expenditures fail to protect species in most need of help. Approximately one percent of currently listed species receive almost fifty percent of available recovery funds each year, even though funded species are not necessarily those in greatest danger of extinction. See Restani *supra* note 141.

<sup>144</sup> "A fundamental principle of population biology is that a species may be more or less at risk but not simply at risk or not at risk." Johan A. Vucetich et al., *The Normative Dimension and Legal Meaning of Endangered and Recovery in the U.S. Endangered Species Act*, 20 CONSERVATION BIOLOGY 1383, 1384 (2006). Thus, "the ESA's notion of endangered is *fundamentally normative* inasmuch as it requires specifying acceptable and unacceptable levels of risk [of species extinction] (emphasis added).

<sup>145</sup> Similar to the procedural requirements under the National Environmental Policy Act ("NEPA"), FWS and NOAA would be responsible for their listing decisions and subsequent actions, but only in terms of whether or not Congressional instruction was followed.

<sup>146</sup> *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

<sup>147</sup> See Preamble, Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, D.C. (March 3, 1973), *amended at Bonn* (June 22 1979).

<sup>148</sup> See 16 U.S.C. § 1537(a) (2006).

automatically, but there may be exotic species not listed on CITES that warrant federal protection from commercial exploitation.<sup>149</sup> Agencies should be able to add these exotic species on their own initiative or upon petition from the public after following proper rulemaking and comment procedures. To prohibit over-inclusiveness, however, Congress should mandate that agencies may only consider factors that promote preservation of global biodiversity, such as a species' status on the global Red List or the lack of adequate protection under foreign law. FWS may also need discretion to make "emergency listings" if a threat arises to a species before the species has been added to the CITES Appendices.<sup>150</sup>

Once listed as commercial use-restricted, the species could no longer be used for any purposes relating to commerce, and no grandfathering provisions would be allowed. This strong prohibition against the exploitation of exotic species living captive within its nation's borders is necessary for the United States to regain the ability to positively influence international actors in its mission to protect species globally.<sup>151</sup> In furtherance of this goal, federal law could authorize funding and personnel assistance to foreign programs that benefit any foreign species on the restricted commercial use-restricted list and to foreign species that are not threatened by trade *per se*, but are Critically Endangered or Endangered on the global Red List.

### ***Case examples***

It is worth examining how the proposed changes could work in practice. There are currently over 2,000 plant and animal species listed on the Endangered Species List, but the majority of lawsuits have centered around a relatively few number of species.<sup>152</sup> If the proposed system were in effect (using the global Red List as a proxy for the National Red List), around 200 Critically Endangered Animals and 100 Critically Endangered Plants<sup>153</sup> would likely be immediately listed as federally protected.

This would include the Utah Prairie Dog (*Cynomys parvidens*), whose historical area of occupancy has declined from about 1,800 square kilometers to only about 28 square kilometers.<sup>154</sup> Historically, ranchers and large landowners who view prairie dogs as pest species have strongly opposed placement of the Utah Prairie Dog on the Endangered Species List.<sup>155</sup> Presumably for this reason, the species is currently listed under the ESA as "threatened" despite the continual decline in the extent and quality of its habitat due to ongoing habitat destruction and the instability of its population size due to persecution and outbreaks of the plague.<sup>156</sup> Under

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<sup>149</sup> The United States should strive to maintain a consistent stance among foreign nations to assist in global conservation efforts. *See* discussion *supra* Introduction.

<sup>150</sup> Addition to or deletion from CITES Appendix I or II can only take place at meetings of the Conference of the Parties, which are held every three years. CITES Article XV.

<sup>151</sup> *See* discussion *supra* Introduction.

<sup>152</sup> From the period of 1990-1999, 109 lawsuits were brought against the federal government, half of which involved three groups of animals: Spotted Owls, Sea Turtles, and Grizzly Bears. Restani *supra* note 141, at 174.

<sup>153</sup> *See* Appendix II.

<sup>154</sup> Keyword search, "*Cynomys parvidens*," IUCNredlist.org (last visited March 5, 2013).

<sup>155</sup> *See* Revising the Special Rule for the Utah Prairie Dog, 77 Fed. Reg. 46158 (Aug. 2, 2012).

<sup>156</sup> *Ibid.*

the proposed system, if scientists determined that the Utah Prairie Dog should be listed as Critically Endangered on the National Red List, then the species should be placed on the federally protected native species list unless there are overwhelming reasons not to do so. The economic interests of landowners would not outweigh the need for federal resource support for the protection of the Utah Prairie Dog.

If scientific data supported listing the Utah Prairie Dog as Endangered on the National Red List, then FWS would weigh the listing factors as directed by congressional guidelines. Prairie dogs are considered a keystone species in prairie ecosystems, as they are critical for decreasing vegetation height and increasing landscape heterogeneity.<sup>157</sup> Their burrowing and excavation activities promote uptake of nitrogen by plants and change soil chemistry by allowing deep penetration of precipitation and the incorporation of organic materials into the soil.<sup>158</sup> Many wildlife species such as burrowing owls, rabbits, ground squirrels, weasels, and badgers rely on the habitat conditions created by Utah prairie dog colonies.<sup>159</sup> Climate change resulting in a longer growing season, higher temperatures, changes to fire regimes, and increased variability in weather events may negatively affect prairie dog food sources, predator and competitor ratios, habitat suitability of sites, and risk of plague outbreaks.<sup>160</sup> Finally, prairie dogs are not protected from take under CITES or other federal law. Given these factors, it is highly unlikely that the FWS could fail to list the Utah Prairie Dog on the federally protected native species list.

The listing of the Grizzly Bear (*Ursus arctos horribilis*) has been subject to litigation,<sup>161</sup> and perhaps accordingly, the current listing status of *Ursus arctos* under the ESA is nebulous.<sup>162</sup> The Red List categorizes *Ursus arctos* as a species of “Least Concern” because the global population remains large and relatively stable.<sup>163</sup> It is unlikely that Grizzly Bears would be listed as Critically Endangered or Endangered on the National Red List.<sup>164</sup> Thus, FWS would need to weigh other factors before listing the Grizzly on the federally protected native species list.

The Grizzly is often viewed as a traditional symbol of the heritage of the United States,<sup>165</sup> and there may be strong policy considerations for devoting significant resources and efforts

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<sup>157</sup> See Utah prairie dog (*Cynomys parvidens*) Species Profile, FWS, available at <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A04A> (last visited March 24, 2013).

<sup>158</sup> *Ibid.*

<sup>159</sup> *Ibid.*

<sup>160</sup> Megan Friggens, *Managing for Species Diversity Under Climate Change: Implications of Future Change for Prairie Dogs and Their Cohorts*, U.S. FOREST SERVICE, available at <http://www.fs.fed.us/rmrs/workshops-webinars-conferences/climate-change-webinar/slides/friggens.pdf> (last visited March 24, 2013).

<sup>161</sup> For review, see Mike Kaufman, *Through the Looking Glass: the Delisting of the Yellowstone Grizzly*, 44 IDAHO L. REV. 213 (2007).

<sup>162</sup> The FWS website lists *Ursus arctos* as Endangered; *Ursus arctos arctos* simultaneously as Endangered and Not Listed; *Ursus arctos horribilis* simultaneously as: (1) Experimental Population, Non-Essential, (2) Threatened,” (3) “Under Review in the Candidate or Petition Process,” and (4) “Not Listed;” and *Ursus arctos pruinosus* as Endangered. Species Search, U.S. FWS, [http://ecos.fws.gov/tess\\_public/SpeciesReport.do](http://ecos.fws.gov/tess_public/SpeciesReport.do) (last visited Feb. 6, 2013).

<sup>163</sup> Keyword search, “*Ursos arctos*,” IUCNredlist.org (last visited March 5, 2013).

<sup>164</sup> There are over 30,000 Grizzly Bears in Alaska alone. *Grizzly Bear Recovery*, U.S. FWS, <http://www.fws.gov/mountain-prairie/species/mammals/grizzly/> (last visited Feb. 6, 2013).

<sup>165</sup> In a 2008 public opinion survey of 502 residents of Montana, more than 70% indicated that grizzly bears should be preserved as a symbol of their national heritage. Public Opinion and Knowledge Survey of Grizzly Bears in the

towards restoring its former population levels throughout the contiguous United States. State protections may be in place, but State A may be concerned that bordering State B does not adequately protect the Grizzly, which negatively affects State A's ability to protect its local populations of bears. Public commenting may reveal that the majority of the public is not willing to risk the loss of the Grizzly Bear from particular areas of the nation, or there may be a strong desire to repopulate the Grizzly in areas of its former range.<sup>166</sup> Alternatively, there may be strong public opposition to federally protecting the Grizzly Bear on account of economic or human safety concerns. Further, Grizzly Bears are listed as CITES Appendix II species and would automatically be placed on the "commercial use-restricted species" list, which means they would already be entitled to federal protection from harmful takings. Listing as a commercial use-restricted species would not in itself entitle Grizzlies to resource allocation or critical habitat designation, but it would be one of the factors FWS would weigh before determining whether or not to list the Grizzly Bear on the federally protected native species list.

As discussed above, the Common Chimpanzee (*Pan troglodytes*) is currently split-listed by FWS as "threatened" in captivity and "endangered" in the wild.<sup>167</sup> Although *Pan troglodytes* is the most abundant and widespread of the apes, population reduction over a three-generation period from 1970 to 2030 is suspected to exceed 50%.<sup>168</sup> Thus, the Common Chimpanzee has been listed as Endangered under criterion A4 of the Red List.<sup>169</sup> Because the chimpanzee is not native to the United States, it could not be placed on either the National Red List or the list of federally protected native species. However, the Common Chimpanzee is listed on Appendix I of CITES because the species is significantly affected by the exploitation for the pet and bush meat trades.<sup>170</sup> Thus, the Common Chimpanzee would be listed as a commercial use-restricted species, meaning that it would be unlawful to utilize chimpanzees for entertainment purposes, biomedical research, the pet trade, and other such commercial enterprises.

### C. Agency Level Change Is Not Enough

In the absence of legislative change, FWS and NOAA's hands are tied to the ESA listing criteria, none of which expressly allow for quantitative analyses of population sizes or geographic range size fragmentation and fluctuations. Opening up the listing process to further scrutiny by making the details of the FWS listing process more open to the public solves little. Under the qualitative

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Cabinet Yaak Ecosystem Final Report, *available at*

[http://www.wildlandscpr.org/files/Grizzly%20Bear%20public%20opinion\\_0.pdf](http://www.wildlandscpr.org/files/Grizzly%20Bear%20public%20opinion_0.pdf) (last visited March 24, 2013).

<sup>166</sup> For example, the Grizzly Bear is Montana's state animal. The Grizzly Bear is also California's state animal, but the last grizzly bear in California was killed in 1922. *See* State Symbols, CA.GOV,

<http://www.library.ca.gov/history/symbols.html> (last visited March 24, 2013).

<sup>167</sup> A proposed rule to list all chimpanzees as endangered is currently under review. 78 Fed. Reg. 35201 (June 12, 2013).

<sup>168</sup> Keyword search, "*Pan troglodytes*," IUCNredlist.org (last visited March 5, 2013).

<sup>169</sup> *Ibid.*

<sup>170</sup> CITES Appendices I, II, III, valid from Sep. 25, 2012, available at <http://www.cites.org/eng/app/2012/E-2012-09-25.pdf> (last visited March 5, 2013).

listing factors of the ESA, the Services are still entitled to make subjective listing decisions with little Congressional guidance. FWS does have the authority, however, to prioritize the candidates currently awaiting on the warranted-but-precluded waiting list and to ensure that all species listed under CITES are federally protected.<sup>171</sup>

To ensure that resources are properly allocated to species most in danger of extinction, FWS should prioritize the evaluation of candidates on its waiting list to reflect species' current Red List status.<sup>172</sup> Any species listed as Critically Endangered would be assigned top priority, followed by those listed as Endangered, and so on. To fulfill U.S. international obligations and display a unified front against overutilization of species worldwide, FWS should initiate a rulemaking that would list all CITES Appendix I and II species as Endangered.<sup>173</sup> Once listed, all arguments for split-listing of exotic species for commercial purposes should be nullified.<sup>174</sup>

## V. Conclusion

The introductory tale of the split-listing of chimpanzees illustrates that listings have real consequences, on the lives of individual animals and on the chances of survival for entire species. The first step towards better protection of endangered species is to separate science from policy in the listing process by establishing three separate lists: a National Red List, a list of federally protected native species, and a commercial use- restricted list. The establishment of separate lists based on sound science, solid reasoning, and commitment to preservation of the world's biodiversity would be an impetus towards better realization of the nation's unified goal of protecting species from extinction. It must be noted, however, that even if captive chimpanzees were properly listed under the current ESA, chimpanzees in the United States would not have been fully protected from harm because FWS retains the authority under the ESA to issue permits to authorize take of endangered species.<sup>175</sup> The ESA was intended as a measure to save species from extinction, but new protective amendments are necessary to guarantee that species at risk of extinction are adequately protected from harm that threatens their survival.

U.S. policy makers must better define the goals of protective legislation for both native and exotic plant and animal species. Redesigning U.S. law to allow agencies to consider overall

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<sup>171</sup> See 50 C.F.R. § 424.11(e).

<sup>172</sup> As discussed above, the FWS is only required to assess "available data" and not required to go out and collect its own. However, it is not prohibited from doing so, and reliance on the global Red List when listing species falls within its discretionary authority to use the "best available" data.

<sup>173</sup> Amending federal policy to adequately protect CITES-listed species would be a significant step towards improving federal efficiency at protecting species and is within FWS's authority.

<sup>174</sup> See discussion *supra* Introduction.

<sup>175</sup> 16 U.S.C. § 1539 (2006). The process would have been more arduous for industry, however, and potentially subject to much more public scrutiny. Now that expert opinion on the necessity of chimpanzees for medical research has shifted, these permits will likely be much harder to obtain, but more is needed to prevent similar situations from arising in the future.

biodiversity instead of single species extinction risks when designating critical habitat may go a long way towards improving the chances that the nation's living resources receive the full benefits of federal protection. If the United States collectively decides that the primary objective is to save species at the greatest risk of imminent extinction, however, then federal funds must be allocated to species that are actually facing the greatest extinction risks. Additional policy reasons to protect a particular species facing a lower risk of extinction may be justifiable, but this is a determination that must be made outside the scientific discussion of the relative risk a given species has of going extinct in the near future.

**Appendix I. Comparison of Listing Status of Mammals on the Endangered Species List:  
Arranged by Species**

**Appendix II: Native Species Listed as Critically Endangered on the Red List: Arranged by  
Kingdom then Species**