

STUDENT ARTICLE

MAKING SENSE OF THE ENDANGERED SPECIES ACT: A HUMAN-CENTERED JUSTIFICATION

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INTRODUCTION

The Endangered Species Act of 1973 (ESA),¹ which offers substantial protection to our nation's plant and animal species, is currently up for revision and re-authorization in both the House² and Senate.³ At such decision points, one may naturally be inclined to ask why we have an ESA at all and, further, whether the statute's current regulatory structure makes any sense in light of its stated goals. Some proponents of the ESA seek to justify the Act's broad mandate in terms of an environmental ethic that gives nonhuman species their own special place within the policy-prioritization calculus. According to this view, the purpose of the ESA is to establish legal rights for plant and animal species that obtain independently of any value that humankind may place on the conservation of these species.⁴ Thus, when a government entity, private individual, or corporation engages in an action inimical to the continued existence of a threatened or endangered species, the ESA intervenes *on behalf of that species* to enjoin the action and/or assess penalties. This position has been elevated to quasi-constitutional proportions by some "green" thinkers, who proclaim that the ESA embodies "[t]he legal idea that a listed

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¹ 16 U.S.C. §§ 1531-1544 (1994).

² See, e.g., H.R. 2351, 105th Cong. (1997).

³ See, e.g., S. 1180, 105th Cong. (1997).

⁴ See, e.g., RODERICK FRAZIER NASH, *THE RIGHTS OF NATURE* 175-76 (1989).

nonhuman resident of the United States is guaranteed, in a special sense, life and liberty.”⁵

Unsurprisingly, this “nature-centered” perspective on the ESA alarms and outrages many federal legislators, agency officials, and affected citizens. On their view, the ESA is a regulatory abomination that systematically subverts human needs to those of lesser creatures. Congresswoman Helen Chenoweth, Chair of the House Subcommittee on Forests and Forest Health, has criticized the ESA for creating binary policy choices that “pit the interests of wildlife against those of landowners.”⁶ Property-rights advocate Ike Sugg claims that “constitutionally protected human rights are being relegated to a secondary status behind legislatively contrived rights for non-human beings” under the ESA.⁷ Congressman Don Young, Chair of the Senate Resources Committee, warned that “if we do not change [the ESA] to consider the human factor, we will have a revolution in this country.”⁸ Radio commentator Rush Limbaugh framed the dispute most pointedly in his remarks concerning the preservation of the northern spotted owl: “If the owl can’t adapt to the superiority of humans, screw it.”⁹

But all of this talk about the “true” policy values behind the ESA may amount to mere subterfuge for a deeper political battle. In the furtherance of their own substantive agendas, both sides of the argument seem to have grossly mischaracterized the issue. For the environmental ethicists, the nature-centered justification for the ESA is a convenient metaphysical springboard from which to launch their grander proposition that all individual animals and plants should be granted moral, if not legal, status.¹⁰ For the pro-development crowd, the nature-centered justification is a rhetorical straw man set up to marginalize the amorphous value of species preservation relative to the more tangible benefits of economic enterprise and, thereby, to facilitate a business-

⁵ JOSEPH PETULLA, *AMERICAN ENVIRONMENTALISM* 51 (1980).

⁶ 143 CONG. REC. E1116 (daily ed. June 4, 1997) (quoting former Sen. Malcolm Wallop).

⁷ Ike C. Sugg, *Caught in the Act: Evaluating the Endangered Species Act, Its Effects on Man and Prospects for Reform*, 24 *CUMB. L. REV.* 1, 5 (1994).

⁸ 138 CONG. REC. H6418 (daily ed. July 22, 1992).

⁹ RUSH H. LIMBAUGH, *THE WAY THINGS OUGHT TO BE* 160 (1992).

¹⁰ See generally CHRISTOPHER D. STONE, *EARTH AND OTHER ETHICS* (1987) (advocating a moral system in which humans and nonhumans have equivalent standing).

friendly relaxation of the ESA's tough language.¹¹ In truth, the legislators who passed the ESA in 1973¹² and its three major amendments in 1978,¹³ 1982,¹⁴ and 1988¹⁵ do not appear to have embraced the nature-centered perspective at all. Nor does this perspective seem to guide the present actions of the administrative officials who have been granted extensive powers of enforcement under the Act. Rather, the relevant legislative and administrative materials conclusively show that the values behind the ESA are strictly human-centered: we preserve species because, in many ways, it is in *our* best interest.¹⁶ But if this is true, then why is the ESA so overwhelmingly restrictive of human activity?

The ESA seems uniquely draconian in its proscriptions when compared to other federal environmental statutes. The National Environmental Policy Act (NEPA)¹⁷ places a limited, procedural obligation on federal agencies to prepare environmental impact statements only when contemplating major action with significant effects.¹⁸ The ESA, on the other hand, confers a positive, substantive duty on every federal agency to conserve endangered and threatened species in all of its activities no matter how attenuated the impacts on these species.¹⁹ The Clean Air Act

¹¹ For instance, in 1992, then-President George Bush told a throng of logging workers: "The Endangered Species Act was intended as a shield for species against the effects of major construction projects like highways and dams, not a sword aimed at the jobs, families and communities of entire regions like the Northwest. . . . It's time to put people ahead of owls." Michael Wines, *Bush, in Far West, Sides with Loggers*, N.Y. TIMES, Sept. 15, 1992, at A25.

¹² See Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (1973).

¹³ See Endangered Species Act Amendments of 1978, Pub. L. No. 95-632, 92 Stat. 3751 (1978).

¹⁴ See Endangered Species Act Amendments of 1982, Pub. L. No. 97-304, 96 Stat. 1411 (1982).

¹⁵ See Endangered Species Act Amendments of 1988, Pub. L. No. 100-478, 102 Stat. 2306 (1988).

¹⁶ *But see* Andrew Wetzler, Note, *The Ethical Underpinnings of the Endangered Species Act*, 13 VA. ENVTL. L.J. 145, 170-74 (1993) (arguing that the ESA cannot be justified solely in terms of human utility).

¹⁷ 42 U.S.C. §§ 4321-4370d (1994 & Supp. II 1996).

¹⁸ See *id.* § 4332(2)(C). This lax interpretation of NEPA's mandate was affirmed by the Supreme Court in *Strycker's Bay Neighborhood Council, Inc. v. Karlen*, 444 U.S. 223 (1980).

¹⁹ See 16 U.S.C. §§ 1531(c)(1), 1536(a) (1994). This positive duty applies even when the federal agency takes no direct "action" that would invoke the ESA's prohibition on jeopardizing listed species. See *Carson-Truckee Water Conservancy Dist. v. Clark*, 741 F.2d 257 (9th Cir. 1984), *cert. denied*, 470 U.S.

(CAA)²⁰ and Clean Water Act (CWA)²¹ allow specified levels of degradation for companies or industries that utilize the best available or practicable technologies.²² The ESA, in contrast, automatically comes into play any time a private individual or corporation engages in any activity that constitutes a “take” of an endangered animal species.²³ The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)²⁴ permits an “innocent landowner defense” for defendants who non-negligently violate the statute.²⁵ The ESA empowers administrative agencies to assess penalties on offenders who do not even know that they have broken the law.²⁶ Resisting a growing

1083 (1985) (holding that the Secretary of the Interior’s refusal to honor a claim for water was supported by his superseding duty to conserve endangered and threatened species).

²⁰ 42 U.S.C. §§ 7401-7671q (1994 & Supp. II 1996).

²¹ 33 U.S.C. §§ 1251-1387 (1994 & Supp. II 1996).

²² Under the CAA, existing sources must abide by whatever emission limitations and regulatory tools (including marketable permits and effluent fees) are designated in the applicable state implementation plan. *See* 42 U.S.C. § 7410(a)(2)(A). New and modified sources must meet a national performance standard that takes into account the cost of achieving such a reduction. *See id.* § 7411(a)(1), (f). Under the CWA, existing point sources must obtain effluent permits based on a comparison of the cost-benefit tradeoff and other facility-specific consideration factors, *see* 33 U.S.C. § 1314(b), but may apply for less-stringent standards in the form of variances, *see id.* § 1311(n). New point sources must employ the best demonstrated technology to reduce emissions and are not eligible for variances. *See id.* § 1316. Both statutes ultimately require the attainment of minimum ambient quality standards. *See* 42 U.S.C. § 7409 (ambient standards for the CAA); 33 U.S.C. § 1313 (ambient standards for the CWA).

²³ *See* 16 U.S.C. § 1538(a)(1)(B). For the purposes of the statute, to “take” means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” any endangered animal species, or “to attempt to engage in such conduct.” *Id.* § 1532(19). Incidental takings of such species are permissible, but only upon the submission of a Habitat Conservation Plan (HCP) that specifies the impact on the species, what steps the applicant has taken to minimize this impact, what alternatives to the action exist, and why these alternatives are not being pursued. *See id.* § 1539(a). For plant species, it is forbidden to “maliciously damage or destroy any such species.” *Id.* § 1538(a)(2)(B).

²⁴ 42 U.S.C. §§ 9601-9675 (1994 & Supp. II 1996).

²⁵ To invoke this defense, the defendant must prove that the release or threatened release was caused solely by a third party through an act or omission not in connection with a contractual relationship with the defendant. *See id.* § 9607(b)(3). A transfer of land does not count as a “contractual relationship” if the land was acquired after the disposal of the hazardous substance and the current owner did not know or have reason to know about this disposal. *See id.* § 9601(35).

²⁶ *See* 16 U.S.C. § 1540(a)(1).

tide of regulatory reform grounded in cost-benefit analysis,²⁷ the ESA rarely looks to efficiency-based trade-offs in determining whether a particular activity may be exempted from the Act's provisions. As the Supreme Court pronounced in *Tennessee Valley Authority v. Hill*²⁸ (the infamous "snail darter" case),²⁹ even the wasted expenditure of \$100 million on the Tellico Dam could not outweigh the "incalculable" value that Congress had explicitly placed upon species protection in enacting the statute.³⁰ Congress did soften this stance with the establishment of an exemption process in 1978,³¹ but this process has been used only three times since, and even then, it has never yielded a complete exemption.³²

In all of American environmental law, one would be hard-pressed to find another piece of legislation that establishes such an inflexible prioritization scheme as the ESA. If there is no other-regarding moral value to saving endangered species, then what could possibly justify such a severely prohibitive law?

This Article attempts to provide such a justification. By looking at the ESA through the lens of a rational policymaker trying to save humanity from its own tragically myopic focus, one can start to appreciate why drastic measures were required to adequately halt the advancing wave of species extinction. Part I sets out the empirical evidence from the legislative history supporting either a human-centered or a nature-centered interpretation of the values underlying the ESA. A closer analysis will reveal that only the human-centered view adequately reflects the legislative intent behind the ESA, while the nature-centered option can be ruled out altogether as a legitimate contender. This inquiry is not meant to serve as a speculative enumeration of all the possible reasons for protecting species, nor even as an evalu-

²⁷ See, e.g., Exec. Order No. 12,866, 3 C.F.R. 638 (1994), reprinted in 5 U.S.C. § 601 (1994) (adopting an explicit cost-benefit regulatory approach for all federal agencies).

²⁸ 437 U.S. 153 (1978).

²⁹ The snail darter, a three-inch fish belonging to the perch family, was first discovered in the Little Tennessee River just a few miles from the construction site of the Tellico Dam, a massive water reclamation structure. See *id.* at 157-59. The impending commencement of operations at the dam was expected to completely destroy the endangered fish's sole habitat. See *id.* at 161-63.

³⁰ See *id.* at 187-88.

³¹ See *infra* text accompanying notes 69-79.

³² See Robin L. Rivett, *Why There Are So Few Takings Cases Under the Endangered Species Act*, SC43 A.L.I.-A.B.A. 383, 393 (1998).

ation of which ones are the most compelling;³³ instead, the goal is to determine which factors the legislators *actually considered* in making their momentous decision. Building on this historical investigation, Part II upholds the ESA as a prudent policy choice made by reasonable lawmakers in light of the peculiar nature of the problems presented by species extinction. Part II utilizes a structured model of the standard policymaking process to demonstrate that the ESA makes good sense even in the absence of a nature-centered moral underpinning. This model includes a comparative discussion of governmental and private sector solutions, risk assessment and management strategies, and pragmatic political concerns. The Article concludes with an examination of two currently-pending amendments to the ESA. This assessment reveals that the nature-centered perspective has no greater purchase among today's legislators than it did among those who originally drafted the statute.

Nothing in this Article is intended to disparage the nature-centered perspective as a general ethical paradigm. The contention at hand is merely that this perspective does not shed any light on the policy considerations that actually led Congress to enact the ESA, and that no further appeal to this point of view is required in order to legitimize the Act's austere mandate. It may or may not be true that the world would be a better place if we granted legal rights to nonhuman groups or individuals. The fact of the matter is that we *do not*, or, at least, not in the ESA. The resolution of the larger philosophical dispute, important as it may be, is beyond the scope of this Article.

³³ This particular topic has already been covered by a host of legal scholars and thus requires no further elaboration at present. *See, e.g.*, Cathryn Campbell, *Federal Protection of Endangered Species: A Policy of Overkill?*, 3 UCLA J. ENVTL. L. & POL'Y 247, 263-70 (1983); Laura Spitzberg, *The Reauthorization of the Endangered Species Act*, 13 TEMP. ENVTL. L. & TECH. J. 193, 196-98 (1994); James Drozdowski, Note, *Saving an Endangered Act: The Case for a Biodiversity Approach to ESA Conservation Efforts*, 45 CASE W. RES. L. REV. 553, 556-63 (1995); Jared des Rosiers, Note, *The Exemption Process Under the Endangered Species Act: How the "God Squad" Works and Why*, 66 NOTRE DAME L. REV. 825, 827-34 (1991); Wetzler, *supra* note 16, at 167-74. While this sort of conjectural inquiry has generated many interesting policy discussions as to the appropriate scope of the ESA, it does not reveal which reasons the policymakers themselves found to be the most persuasive in adopting the Act as it stands. The latter question, which is essentially an interpretive matter, will be more satisfactorily resolved by looking strictly at empirical data on the formulation and enforcement of the ESA.

I.

THE EMPIRICAL ARGUMENT FOR THE
HUMAN-CENTERED PERSPECTIVE

In asking why the ESA exists, one should recognize qualitative differences between the kinds of reasons that might serve to legitimate its commands. As the ongoing dispute between industry and environmental groups suggests, one can draw a relevant distinction between human-centered and nature-centered values: do we preserve nonhuman species because their continued survival is important to the human race, or do we independently acknowledge the inviolable right of every species to exist? Within the human-centered perspective, one can make a further division between “instrumental” and “intrinsic” reasons: is species preservation important because of some further benefit we expect to receive, or is it a practice that has moral value in and of itself?³⁴ This Part will test the legitimacy of human-centered and nature-centered explanations for the ESA by looking at the Act’s legislative history, the statutory structure itself, and subsequent administrative decisions. Based on this examination, the human-centered perspective (in both an “instrumental” and, to a lesser degree, an “intrinsic” sense) will emerge as the only plausible explanation of why the ESA was initially ratified and why it endures.

A. *Human-centered Reasons*1. *Instrumental Reasons*

A person acts for an “instrumental” reason when she seeks to gain an actual or potential benefit. An instrumental act is a means to a further end.³⁵ In the policymaking context, legislators seeking to further instrumental reasons will choose the option that promotes the greatest net good for their constituents.³⁶ This

³⁴ For the purposes of this Article, it will not be necessary to bifurcate the nature-centered perspective into instrumental and intrinsic branches. Policy choices (such as the enactment of the ESA) must be made by *human* legislators. Thus, it adds nothing to the discussion to ask whether *nonhumans* would see such actions as either “net-beneficial” or “good-in-themselves.”

³⁵ See RONALD DWORKIN, *LIFE’S DOMINION* 71 (1993) (“Something is *instrumentally* important if its value depends on its usefulness, its capacity to help people get something else they want.”).

³⁶ It bears noting that the benefit to be gained need not be confined to those persons now in existence. An instrumental scheme could also incorporate the anticipated interests of future generations into its operational scope.

perspective does not demand any particular reference to maximizing happiness or any other tenets of "classical utilitarianism,"³⁷ although such a system obviously counts as an example of instrumental reasoning. Similarly, this category includes all normative economic theories that promote the highest level of aggregate social welfare.³⁸

The most compelling human-centered justification for the ESA, based upon overwhelming evidence from the statute's legislative history, is essentially instrumental in character: saving species confers many benefits to humanity that far outweigh the disadvantages of implementing such legislation. Shortly before the enactment of the ESA, our nation's policymakers began to realize that plant and animal species were disappearing at a rate unprecedented in human history.³⁹ Moreover, the primary cause behind this escalation in the extinction rate was known to be human modifications of the natural environment,⁴⁰ spurred on by

³⁷ See, e.g., JOHN STUART MILL, *UTILITARIANISM* 9-38, 57-83 (Prometheus Books 1987) (1863).

³⁸ See generally Richard A. Posner, *Utilitarianism, Economics, and Legal Theory*, 8 J. LEGAL STUD. 103, 111-35 (1979) (distinguishing normative economic principles from utilitarian principles).

³⁹ As Representative G. William Whitehurst stated before a House Subcommittee in 1973:

One of every ten species of wildlife in the world is subject to serious threat. In the United States, 15 percent of the wildlife species are endangered. Of the recorded extinctions of mammals over the last 2,000 years, fully half have occurred within the last 60 years. But this is not merely a century-old problem; in the last 10 years, 8 percent of all mammal extinctions have taken place.

Endangered Species: Hearings on H.R. 37 Before the Subcomm. on Fisheries and Wildlife Conservation and the Env't of the House Comm. on Merchant Marine and Fisheries, 93d Cong. 281 (1973) [hereinafter *Endangered Species*]. Speaking before a Senate Subcommittee in 1972, Assistant Secretary for Fish and Wildlife and Parks Nathaniel Reed expressed his concern:

Of the species and subspecies of wildlife known to have become extinct since initial settlement of the United States, over half the losses have occurred during the past 50 years. During the next quarter century, a total of at least 40 additional mammals and birds, and 25 different fishes may be expected to disappear if positive preventative action is not undertaken.

Endangered Species Conservation Act of 1972: Hearings on S. 3199 Before the Subcomm. on the Env't of the Senate Comm. on Commerce, 92d Cong. 67 (1972) [hereinafter *Endangered Species Conservation Act of 1972*].

⁴⁰ See *Predatory Mammals and Endangered Species: Hearings on H.R. 13081 Before the Subcomm. on Fisheries and Wildlife Conservation of the House Comm. on Merchant Marine and Fisheries*, 92d Cong. 480 (1972) [hereinafter *Predatory Mammals and Endangered Species*] (statement of Sen. Cranston) ("The primary reason for the threat of extinction of so many species on earth is direct human alteration of the environment.").

the drive towards “economic growth and development untempered by adequate concern and conservation.”⁴¹ Recognizing that “these species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people,”⁴² the ESA purports “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.”⁴³ This list of values goes a long way towards encapsulating the sorts of considerations that were, and still are, the strongest instrumental foundations of the ESA.

First and foremost, the drafters of the ESA were concerned about protecting the earth’s genetic resources for the benefit of present and future generations. As an essential part of the evolutionary process, the individual members of each species function as storage vessels for a set of genetic materials unique to that species.⁴⁴ The report on House Bill 37⁴⁵ (a bill containing all of the substantive elements of the subsequently-enacted ESA) explains the grave policy implications of this biological fact:

As we homogenize the habitats in which these plants and animals evolved, and as we increase the pressure for products that they are in a position to supply (usually unwillingly) we threaten their—and our own—genetic heritage.

The value of this genetic heritage is, quite literally, incalculable

. . . .

From the most narrow possible point of view, it is in the best interests of mankind to minimize the losses of genetic variations. The reason is simple: they are potential resources. They are keys to puzzles which we cannot solve, and may provide answers to questions which we have not yet learned to ask⁴⁶

The appeal to the “best interests of mankind” is obviously a human-centered one. Furthermore, the characterization of ge-

⁴¹ 16 U.S.C. § 1531(a)(1) (1994).

⁴² *Id.* § 1531(a)(3).

⁴³ *Id.* § 1531(b).

⁴⁴ See generally *Endangered Species Act Oversight: Hearings Before the Subcomm. on Envtl. Pollution of the Senate Comm. on Env't and Pub. Works*, 97th Cong. 366 (1981) (statement of Prof. Edward O. Wilson); RICHARD DAWKINS, *THE SELFISH GENE* 21-65 (1989).

⁴⁵ H.R. 37, 93d Cong. (1973).

⁴⁶ H.R. REP. NO. 93-412, at 4-5 (1973). This excerpt was also quoted by the majority opinion in *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 178 (1978).

netic material as a “potential resource” fits squarely within an instrumental decision-making scheme: only by protecting plant and animal species (as a means) can we realize the “literally incalculable” benefits of genetic diversity (as an end).

The legislative history is rife with similar sentiments. Representative Robert Roe, speaking before a House Subcommittee in support of H.R. 37, exhorted: “If we have learned one lesson over the past few decades it is that mankind carries the enormous obligation and responsibility to preserve, if but for himself, that delicate balance of nature that insures his very own survival as a species.”⁴⁷ In the same hearings, Representative Henry Helstoski claimed: “This legislation reflects our growing awareness that the continued existence of flora and fauna on our spaceship Earth have a direct bearing on the continued existence of man.”⁴⁸ Representative Leonor Sullivan offered a strongly instrumental rationale in support of H.R. 37 shortly before its ratification on the House floor:

When we threaten endangered species, we tinker with our own futures. We run risks whose magnitude we understand dimly, if at all. And we do so, for the most part, for reasons that can be described most charitably as trivial. The purpose and intent of the bill before you is to bring into focus the costs of further endangering the plants and animals of this world.⁴⁹

Under this conception, the wanton destruction of other species has a net negative utility to humankind since we cannot readily identify which species may hold genetic material beneficial to us.

One of the greatest advantages to be gained through the preservation of genetic diversity is the vast potential for medical discovery. During the hearings leading up to the ESA, several legislators stressed the fact that many of the cures to our deadliest diseases have come through research done on plants and animals that otherwise would have been deemed completely worthless.⁵⁰ The House Report on H.R. 37 proposed such medi-

⁴⁷ *Endangered Species*, *supra* note 39, at 280.

⁴⁸ *Id.* at 277.

⁴⁹ 119 CONG. REC. 30,162 (1973).

⁵⁰ For instance, Senator Mark Hatfield, speaking before the Senate Subcommittee on the Environment in 1972, noted: “Each species is a perishable resource of unpredictable value. Fifty years ago, few would have seen the value of the fruit fly for research in genetics or the value of primates to advance the biometrical and pharmaceutical sciences.” *Endangered Species Conservation Act of 1972*, *supra* note 39, at 65.

cal benefits as the primary instrumental justification to species preservation:

Who knows, or can say, what potential cures for cancer or other scourges, present or future, may lie locked up in the structures of plants which may yet be undiscovered, much less analyzed? More to the point, who is prepared to risk [losing] those potential cures by eliminating those plants for all time? Sheer self-interest impels us to be cautious.

The institutionalization of that caution lies at the heart of H.R. 37⁵¹

Oft-cited examples of such hidden cures found in nature include the Pacific yew (cancer),⁵² the sea squirt (cancer),⁵³ the rosy periwinkle (Hodgkin's disease and leukemia),⁵⁴ the Indian serpentine root (schizophrenia and hypertension),⁵⁵ and the cryptothetia crypta sponge (viral disease).⁵⁶ In addition to medical advances, the report accompanying Senate Bill 1983⁵⁷ (which was ultimately ratified as the ESA) mentions the importance of biological diversity for general scientific innovation.⁵⁸ Senator John Tunney, speaking on the Senate floor in support of the bill's passage, emphasized this benefit: "Diversity of genetic types is necessary for thorough scientific knowledge. There is a yet unknown potential for investigation into these species' genetic structure which must remain unhindered if we wish to probe for further knowledge and the transfer of that knowledge into beneficial uses for man."⁵⁹ Lastly, Congress recognized the importance of genetic diversity in the maintenance of our food supply. As Representative Michael Harrington claimed in support of

⁵¹ H.R. REP. NO. 93-412, at 5.

⁵² See, e.g., *Reauthorization of the Endangered Species Act: Hearings Before the Subcomm. on Envtl. Pollution of the Senate Comm. on Env't and Pub. Works*, 102d Cong. 15-16 (1992) (statement of Prof. Thomas Eisner).

⁵³ See, e.g., William Booth, *Combing the Earth for Cures to Cancer, AIDS*, 237 SCIENCE 969, 969 (1987).

⁵⁴ See, e.g., Thomas Eisner, *Prospecting for Nature's Chemical Riches*, ISSUES SCI. & TECH., Winter 1989-1990, at 31-32.

⁵⁵ See, e.g., EDWARD O. WILSON, BIOPHILIA 134 (1984).

⁵⁶ See, e.g., *Endangered Species Oversight: Hearings Before the Subcomm. on Fisheries and Wildlife Conservation and the Env't of the House Comm. on Merchant Marine and Fisheries*, 95th Cong. 262-63 (1978) (statement of Rep. Ottinger).

⁵⁷ S. 1983, 93d Cong. (1973).

⁵⁸ See S. REP. NO. 93-307, at 2 (1973), reprinted in 1973 U.S.C.C.A.N. 2989, 2990.

⁵⁹ 119 CONG. REC. 25,668 (1973).

H.R. 37: “If man is going to grow sufficient food for himself, find cures for the diseases that plague him, and expand his understanding of how his own body functions, he will have to derive much of the needed knowledge from his fellow species.”⁶⁰ Judging by these comments, the “educational” and “scientific” values weighed heavily into Congress’s instrumental rationale for preventing species loss.

Another instrumental justification for the enactment of the ESA was the benefit to be gained by humans from maintaining the health of the nation’s ecosystems. By 1973, Congress clearly understood the interrelation between various species and the optimal functioning of the ecosystems in which they dwell, and in particular, the mutually reinforcing effects of habitat degradation and species loss.⁶¹ As Senator Tunney explained:

Each species provides a service to its environment; each species is a part of an immensely complicated ecological organization the stability of which rests on the health of its components To permit the extinction of any species which contributes to the support of this structure without knowledge of the cost or benefits of such extinction is to carelessly tamper with the health of the structure itself.⁶²

The process is entirely cyclical: maintaining a rich variety of species within an ecosystem helps to keep that ecosystem stable and productive, thus preventing further losses to other species. During the hearings for the Endangered Species Conservation Act of 1972 (a precursor to the ESA), Senator Alan Cranston stressed the significance of ecosystem health:

[C]omplex and diversified ecosystems are generally more stable and have more compensatory resources to resist the invasion of outside plants, animals, or diseases

Preserving a diversity of flora and fauna is thus of the highest priority. If we fail to maintain our native fish and wildlife as viable life forms, then we will close the door on the possibility of restoring the natural and complex ecosystems

⁶⁰ *Id.* at 30,166; *see also id.* at 30,162 (statement of Rep. Sullivan) (“In a protein-hungry world, the loss of huge potential sources of food is not an occasion which can be lightly considered.”). *See generally* Harold J. Morowitz, *Balancing Species Preservation and Economic Considerations*, 253 *SCIENCE* 752, 753 (1991) (explaining how the vulnerability of monocultural crops to disease and pests can lead to massive starvation).

⁶¹ *See* H.R. REP. NO. 93-412, at 6 (1973); S. REP. NO. 93-307, at 2, *reprinted in* 1973 U.S.C.C.A.N. at 2990.

⁶² 119 CONG. REC. 25,668.

which future knowledge may dictate as essential for human survival.⁶³

This statement is not merely rhetorical. Healthy and stable ecosystems are vital to the preservation of atmospheric quality, amelioration of climatic conditions, maintenance of freshwater supplies, replenishment of fertile soil, disposal of waste material, and control of disease-spreading pests.⁶⁴ In securing these important human benefits, the preservation of robust ecosystems provided another clear instrumental reason for congressional support of the ESA.

A third instrumental rationale behind the ESA was the importance of species preservation as a means of securing aesthetic benefits.⁶⁵ As Senator Tunney explained: “[M]any of these animals simply give us esthetic pleasure. We like to view them in zoos and in their natural habitats.”⁶⁶ We prevent the extinction of certain species, then, for many of the same reasons that we might prevent the destruction of a treasured work of art.⁶⁷ In

⁶³ *Predatory Mammals and Endangered Species*, *supra* note 40, at 482.

⁶⁴ See generally PAUL EHRLICH & ANNE EHRLICH, *EXTINCTION* 77-100 (1981) (listing the numerous “free public services” provided to humans by well-functioning ecosystems).

⁶⁵ The comments of several legislators suggest that aesthetic considerations provided only subsidiary reasons for passing the ESA. See S. REP. NO. 93-307, at 2, *reprinted in* 1973 U.S.C.C.A.N. at 2990 (“Consideration of this need to protect endangered species goes beyond the aesthetic.”); 119 CONG. REC. 30,166 (statement of Rep. Harrington) (“A particular animal or plant species contributes much more to the world than general esthetic pleasure . . .”). To further emphasize the lesser role of aesthetics, several scholars have pointed out that many endangered species protected by the ESA have little or no aesthetic value at all. See, e.g., Wetzler, *supra* note 16, at 174. Still, it seems evident that the policymakers who ratified the statute did attribute at least *some* instrumental value to those species of plants and animals that were perceived as beautiful.

Misleadingly, some scholars writing on this topic have classified these aesthetic benefits as falling outside of the standard policy debate. See, e.g., Campbell, *supra* note 33, at 265. Perhaps this is due to the inherently subjective nature of most aesthetic judgments. But even the most idiosyncratic aesthetic value can count as an end to be weighed alongside other instrumental policy objectives. For instance, one could readily treasure a tiger as “beautiful” and yet also find that this benefit can be trumped by the cost of letting the tiger roam free in one’s backyard. Moreover, aesthetic values certainly fit within this Article’s broader conception of “instrumental,” regardless of the extent to which one can or cannot assign a certifiable dollar amount to them.

⁶⁶ 119 CONG. REC. 25,668.

⁶⁷ Moral philosopher Ronald Dworkin characterizes art as intrinsically valuable, see DWORKIN, *supra* note 35, at 71-72, but his reasoning seems somewhat unclear on this point. For example, he claims that the thought of destroying one

addition to the sensory appreciation of natural resources, at least one legislator pointed out the value derived from the mere *knowledge* that wild species exist, regardless of the aesthetic “use” of these species. During the floor debate on S. 1983, Senator Pete Domenici noted that many citizens “want to be assured that there exists abundance of wildlife ‘somewhere’ in our Nation, as well as to be assured of its continued existence.”⁶⁸ The use and existence values attached by humans to living plants and animals seem to capture the sorts of “aesthetic,” “historical,” and “recreational” interests that Congress had in mind when adopting the ESA.

Subsequent legislative action also lends strong support to the instrumental view of the ESA. In 1978, Congress amended the ESA to include an exemption process for certain federal actions that are determined to irresolvably conflict with the preservation of endangered and threatened species.⁶⁹ This new process was enacted in direct response to the Supreme Court’s interpretation of the ESA in *Tennessee Valley Authority v. Hill*, in which the Court ruled that “[t]he plain intent of Congress in enacting the statute was to halt and reverse the trend toward species extinction, *whatever the cost*.”⁷⁰ Both the House Report⁷¹ and Senate Report⁷² supporting the 1978 Amendments refer to the necessity of introducing an element of flexibility to the ESA in instances where a federal action cannot be completed without directly violating the Act’s prohibition on jeopardizing protected species.⁷³

of Rembrandt’s self-portraits is discomfiting, even if we never expect (or want) to see the painting, because art has an inherent value. *See id.* at 72. But the power of this example seems to rest upon certain assumptions regarding the perceived aesthetic quality of the art, the time and effort that went into producing it, the culturally-recognized prestige of the artist, etc., all of which would be *instrumentally* factored into a decision whether or not to destroy the work. As a counter-example, one could produce “art” by blowing one’s nose onto a canvas and framing it, but it is doubtful that any great sense of intrinsic wrongdoing would attach to that particular work’s destruction. If Dworkin means, however, that the painting is valuable because it is *irreplaceable* (especially given its long history), then artistic preservation and species preservation may indeed share a common intrinsic rationale. *See infra* text accompanying notes 86-87.

⁶⁸ 119 CONG. REC. 25,693.

⁶⁹ *See* Endangered Species Act Amendments of 1978, Pub. L. No. 95-632, 92 Stat. 3751 (1978).

⁷⁰ 437 U.S. 153, 184 (1978) (emphasis added).

⁷¹ *See* H.R. REP. NO. 95-1625, at 13 (1978).

⁷² *See* S. REP. NO. 95-874, at 3 (1978).

⁷³ *See* 16 U.S.C. § 1536(a)(2) (1994).

The ultimate administrative mechanism for obtaining this needed flexibility was the designation of an oversight group called the Endangered Species Committee (ESC).⁷⁴ The ESC consists of six Secretary-level officials,⁷⁵ plus an aggregated “seventh” position comprised of one individual from each affected state,⁷⁶ deliberately selected by Congress for their collective ability “to take advantage of a broad array of experience and expertise and to balance all possible points of view.”⁷⁷ The ESC has the power to grant exemptions to federal actions based upon a showing that the benefits of the proposed action clearly outweigh the benefits of alternative actions that would conserve the species.⁷⁸ If the ESC decides that a certain federal project will confer more benefits to humanity than will preserving a certain species, then that species may permissibly be threatened or even exterminated.⁷⁹ This statutory language strongly suggests that nonhuman species have only an instrumental value (albeit a very high one) under the ESA. Any other competing justification for the ESA, then, must surmount the formidable obstacle of explaining how the ESC fits into the conceptual picture.

2. *Intrinsic Reasons*

A reason for action is “intrinsic” when a person acts not in anticipation of some perceived benefit but because the person

⁷⁴ See *id.* § 1536(e). Due to its power to determine the fate of an entire species for all time, the ESC has been facetiously labeled the “God Squad.” See ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION 1197 (2d ed. 1996).

⁷⁵ The six standing members of the ESA are the Secretary of Agriculture, the Secretary of the Army, the Chairman of the Council of Economic Advisors, the Administrator of the Environmental Protection Agency, the Secretary of the Interior, and the Administrator of the National Oceanic and Atmospheric Administration. See 16 U.S.C. § 1536(e)(3).

⁷⁶ See *id.*

⁷⁷ H.R. REP. NO. 95-1625, at 15 (1978). The Senate Report contains nearly identical language on this point. See S. REP. NO. 95-874, at 4.

⁷⁸ See 16 U.S.C. § 1536(h)(1).

⁷⁹ Since the inception of the ESC, however, no listed species has ever been completely eradicated by an adverse decision. See Sugg, *supra* note 7, at 37 n.222 (reporting that the ESC has made exemption decisions relating to three species: the snail darter, the whooping crane, and the northern spotted owl); Fish & Wildlife Serv., U.S. Dep’t of Interior, *U.S. Listed Vertebrate Animal Species Index By Lead Region and Status* (last modified Feb. 28, 1999) <<http://www.fws.gov/r9endspp/vertdata.html>> (indicating that these three species are still listed as “endangered” or “threatened”).

believes that the act is valuable in and of itself.⁸⁰ A policymaker compelled by intrinsic human-centered reasons will eschew the option leading to the greatest net good for his constituents in favor of the course of action that squares best with his moral convictions regarding right behavior. On the intrinsic view, acts are seen as right or wrong regardless of consequence; thus, intrinsic reasons cannot be directly weighed within an instrumental calculus.⁸¹ Certain kinds of acts (such as lying, cheating, or killing) are just seen as categorically wrong, that is, they reflect badly on a person notwithstanding any benefit that might be gained. This is not to say, however, that every intrinsic reason is absolute, for any intrinsic reason can be trumped by another, more preemptory reason (intrinsic or otherwise).

If the distinction between instrumental and intrinsic reasons still seems somewhat fuzzy, it is probably because we tend to adopt either perspective interchangeably in making our daily choices. In deliberating about what to do, we look sometimes at the anticipated results of an action, sometimes at how the act reflects upon us as moral agents, and sometimes at both (or neither). In the context of the ESA, the instrumental/intrinsic distinction is meaningful in that it helps to differentiate between pragmatic policy choices and symbolic moral statements.

⁸⁰ This usage of the term “intrinsic” is akin to that employed by Ronald Dworkin in the context of the moral debate on abortion. See DWORKIN, *supra* note 35, at 71 (“Something is intrinsically valuable, on the contrary, if its value is *independent* of what people happen to enjoy or want or need or what is good for them.”). Dworkin’s broad usage of the term, however, could apply equally well to intrinsic human-centered reasons or to nature-centered reasons. For the purposes of this Article, an “intrinsic” reason for action—that the action is right in itself—is distinguishable from a nature-centered reason in that the former emphasizes the *self*-regarding nature of the moral judgment whereas the latter emphasizes the *other*-regarding quality of the judgment.

⁸¹ A clever “consequentialist” might dispute this claim on the grounds that there will always be some indirectly imputable instrumental value to every seemingly intrinsic value. For instance, one can reduce the intrinsic moral value of species preservation to instrumental terms by framing the issue as just a means of avoiding the psychological discomfort associated with the commission of an immoral act. But this argument cuts both ways since any instrumental act can also be recast in intrinsic terms (e.g., one can retort that it is a feature of inherently right actions that they minimize psychological discomfort). Like looking at a Necker cube, there is no “correct” way of characterizing a human-centered reason for action. This Article does not attempt to subsume one of the perspectives under the other; rather, it merely points out the qualitative differences between them.

In passing the ESA, Congress seems to have been making a commitment to species preservation founded at least partially upon an intrinsic moral duty in humans to prevent widespread species extinction. More than just condemning the instrumentally relevant effects of environmental degradation, several legislators expressed a sense of moral disdain towards the wastefulness and recklessness of the action itself. One possible intrinsic interpretation of this reaction is that the human species, as the most cognitively advanced and influential form of life on the planet, has a duty of stewardship towards more poorly privileged species.⁸² The House Report on H.R. 37 offers a situational comparison that clarifies this ideal:

One might analogize the case to one in which one copy of all the books ever printed were gathered together in one huge building. The position in which we find ourselves today is that of custodians of this building, and our choice is between exercising our responsibilities or ignoring them . . . Like it or not, we are our brothers' keepers, and we are also keepers of the rest of the house.⁸³

In the context of species preservation, humans may find inherent moral satisfaction in not despoiling or impoverishing those who are not in a position to prevent the onslaught—in acting with caution and care, we view ourselves as better persons. Secretary of the Interior Bruce Babbitt, the administrator authorized by the ESA to oversee the preservation of all land-based species,⁸⁴ recently framed the importance of species protection in a similar fashion:

It has to do with the concept of spiritual dominion. It questions whether something is badly wrong in our own philosophy and perception of the world when we recklessly shred the biological fabric of the planet without any regard for the consequences.

Consider the image of Noah and the Ark in Judeo-Christian tradition. My view of that story is that it is an argument for preservation of God's creation, for it says that even in the time of a deluge there is a mandate to preserve every species

⁸² This interpretation is akin to the ethical theory put forth by conservationist Aldo Leopold, who argued that humans have inherent duties to protect nonhumans based in part on humanity's superior rational capacities to plan and manage resources. See ALDO LEOPOLD, *A SAND COUNTY ALMANAC* 201-26 (1949).

⁸³ H.R. REP. NO. 93-412, at 4-5 (1973).

⁸⁴ See 16 U.S.C. § 1532(15) (1994).

on earth. Ultimately there is a spiritual or ethical implication in this question: Is it really possible for the human race to live lightly on the land? Or are we simply going to continue to metastasize with our industrial civilization, to the point where we have shredded the tapestry and made ourselves poorer and more lonely in the process?⁸⁵

This perspective qualifies as intrinsic rather than instrumental insofar as the emphasis rests on the fulfillment of a certain metaphysical self-conception rather than any explicit weighing of fungible policy goals. The extinction of a species, then, becomes a threshold test of our basic moral integrity: are we the sort of people who could let this happen?

Another aspect to the intrinsic value of species preservation is the moral significance attributed by legislators to the idea that "extinction is forever." Speaking before a House Subcommittee in 1973, Representative Frank D'Annunzio noted:

Once the great cats, the American alligator, the soaring California condors and southern bald eagles are gone, nothing can bring them back. Once the proud eastern timber wolf and the red wolf are destroyed, we will not have them again. No force on earth could ever recreate the whooping crane or the brown pelican.⁸⁶

Irrespective of any instrumental benefit, many policymakers seemed to cringe at the thought of irrevocably erasing another form of life for all time. The additional fact that it has taken millions of years for the evolutionary process to create the species presently in existence seems to have sharpened this sense of moral responsibility. As Nathaniel Reed, Assistant Secretary for Fish and Wildlife and Parks, proclaimed:

Man is but a single element of our natural environment and, despite our advanced technology, we can never replace an animal allowed to become extinct

I believe that mankind has matured to the point that we are no longer willing to participate in the unnatural destruction of the end product of eons of evolution.⁸⁷

⁸⁵ Bruce Babbitt, *The Future Environmental Agenda for the United States*, 64 U. COLO. L. REV. 513, 517 (1993). Although Secretary Babbitt was not among the legislators who ratified the ESA, his eloquent appeal seems to capture the same sort of moral sentiment attributable to many of the Act's original sponsors.

⁸⁶ *Endangered Species*, *supra* note 39, at 276.

⁸⁷ *Id.* at 202.

Thus, in part, we are led to protect nonhuman species because we appreciate the sheer duration of the monumental struggle that got them this far. Although this sentiment is perhaps overly anthropomorphic, several of the ESA's supporters do appear to have shared it.

But does this intrinsic human-centered perspective make any sense in light of the 1978 Amendments introducing the ESC exemption process for federal actions? To some degree, yes. Prior to the initial enactment of the ESA in 1973, the legislators were concerned that humans were not taking seriously their duties as planet managers. Specifically, there was little effort being made to curtail actions that might harm endangered species and no culpability for such harmful actions after the fact. Under the *Tennessee Valley Authority v. Hill* regime, the requisite level of care owed by humans to other species was all but absolute.⁸⁸ With the implementation of the ESC, this standard of care was undeniably lowered. Just the same, it can be persuasively argued that our moral self-conception has not been compromised insofar as the ESC will only grant exemptions in furtherance of *other intrinsic reasons*, i.e., reasons that confirm *what we stand for* as a nation.⁸⁹

The argument finds support in several key statutory provisions. First of all, the high-ranking membership of the ESC—culled from a broad scope of national interests (such as commerce, defense, and environment)—gives symbolic representation to many of the sorts of values that play into our moral self-conception.⁹⁰ Second, the exemption criteria themselves demand that any federal action that will likely lead to species loss must

⁸⁸ See *supra* text accompanying notes 28-30.

⁸⁹ In many senses, this conception of intrinsic human-centered values is similar to Mark Sagoff's characterization of "public values" in policymaking as an idealized pronouncement of our moral identity. See MARK SAGOFF, *THE ECONOMY OF THE EARTH* 9-17 (1988). Sagoff claims:

Social regulation most fundamentally has to do with the identity of a nation—a nation committed historically, for example, to appreciate and preserve a fabulous natural heritage and to pass it on reasonably undisturbed to future generations. This is not a question of what we *want*; it is not exactly a question of what we *believe in*; it is a question of what we *are*. There is no theoretical way to answer such a question; the answer has to do with our history, or destiny, and our self-perception as a people. And there is no methodology for making "hard decisions" and "trade-offs." We have to rely on the virtues of deliberation

Id. at 17.

⁹⁰ See *supra* text accompanying notes 75-77.

itself be “in the public interest”⁹¹ and “of regional or national significance.”⁹² This qualification ensures that, at the very least, whole communities must benefit whenever a different course of action is allowed by the ESC.⁹³ Finally, even if the ESC grants an exemption to a certain agency action, that agency has a statutory duty to effectuate mitigation and enhancement procedures.⁹⁴ In any event, Congress did not “ignore its responsibilities” as the earth’s steward, nor did it “shred the tapestry” of the planet’s biological integrity, by creating this exemption process.

Thus, while the intrinsic perspective may require a more probing extrapolation from the legislative sources, it is clearly defensible in its own right. Nevertheless, of the two human-centered readings of the ESA, the instrumental perspective is undoubtedly the more salient.

B. *Nature-centered Reasons*

Having established the legitimacy of the human-centered perspective on the ESA, the analysis now turns to the nature-centered perspective. A reason for action is nature-centered when one refrains from harming a nonhuman entity on the belief that the entity has an independent right to exist free from human interference. This view flatly rejects the instrumental conception of plants and animals as resources to be utilized for the benefit of humans, much in the same way that one might reject the employment of human slaves for the benefit of their masters.⁹⁵ The nature-centered perspective is somewhat similar to the intrinsic human-centered view in that both yield a sense of *moral* condemnation at the human degradation of nonhuman species and their habitats. The source of this reprehension, however, is totally different for the two views. Within the intrinsic human-cen-

⁹¹ 16 U.S.C. § 1536(h)(1)(A)(ii) (1994).

⁹² *Id.* § 1536(h)(1)(A)(iii).

⁹³ In a 1992 decision to exempt 13 of 44 Bureau of Land Management timber sales from the provisions of the ESA, the ESC used a standard of “county-wide impact” in determining the federal action’s “regional significance.” Decision, 57 Fed. Reg. 23,405, 23,407 (Endangered Species Comm. 1992).

⁹⁴ See 16 U.S.C. § 1536(h)(1)(B).

⁹⁵ A similar attitude is espoused by environmental ethicists who take a “biocentric” outlook on nature. See, e.g., PAUL W. TAYLOR, RESPECT FOR NATURE 99-100 (1986) (“Humans are members of the Earth’s Community of Life in the same sense and on the same terms in which other living things are members of that Community. . . . [H]umans are not inherently superior to other living things . . .”).

tered perspective, we protect nonhuman species because it comports with our self-obligating duty not to engage in acts of a disruptive or reckless nature. Within the nature-centered perspective, we protect nonhuman species as an explicit acknowledgment of a pre-existing right possessed *by that species*. Correspondingly, this perspective might involve quite a revolutionary re-interpretation of our legal system: if animals and plants have a right to exist for their own sake, then perhaps they should be granted legally recognized rights coextensive with our own.⁹⁶

In conjunction with a nascent ecological consciousness, a groundswell of public support arose in the 1960s urging Congress to pass national laws protecting endangered species.⁹⁷ By the early 1970s, the clarion call of this new environmental movement had reached the ears of the nation's lawmakers. Senator Cranston, speaking before a House Subcommittee in 1972, made a powerful statement championing the nature-centered view on species preservation:

In closing, Mr. Chairman, I would like to suggest that in addition to his concern about his own survival, man has an ethical and moral responsibility to protect other life forms.

Dr. Albert Schweitzer said of this question:

"The great fault of all ethics hitherto has seen that they believed themselves to have to deal only with the relations of man to man. In reality, however, the question is what is his attitude to the world and all life that comes within his reach. A man is ethical only when life, as such, is sacred to him, that of plants and animals as that of his fellow man Only the universal ethic of the feeling of responsibility in an ever-widening sphere for all that lives—only that ethic can be founded in thought. The ethic of the relation of man to man is not something apart by itself: it is only a particular relation which results from the universal one."

. . . .

⁹⁶ Christopher Stone has made the related argument that animals and plants should be granted standing to sue in court. See CHRISTOPHER D. STONE, *SHOULD TREES HAVE STANDING?* 7-33 (25th anniversary ed. 1996). Stone notes that several nonhumans have been named as lead plaintiffs in civil suits brought under the ESA, although never yet has a nonhuman party been allowed as the *sole* plaintiff. See *id.* at 160.

⁹⁷ See NASH, *supra* note 4, at 172-74; STEPHEN LEWIS YAFFEE, *PROHIBITIVE POLICY* 36-39 (1982).

Thus, the prevention of this extinction must be among man's basic moral tenets. Indeed, I can think of nothing more appropriate to solving the ills of modern man than the ethic of reverence for all life.⁹⁸

Undoubtedly, there seems to be something in Senator Cranston's admonition to treat other species with respect that accords with our commonly held notions of ethical responsibility. His statement is often cited as the most persuasive evidence of legislative support for a nature-centered reading of the statute.⁹⁹ The pertinent inquiry, however, is whether Senator Cranston's worldview was shared by the other members of Congress who ratified the ESA.

As a matter of interpretation, one would expect that any statute adopting a legally novel value structure would loudly proclaim, or at least affirmatively note, such a shift in paradigm. Significantly, the text of the ESA does not mention nature-centered considerations of any sort.¹⁰⁰ Neither do the House Report for H.R. 37,¹⁰¹ the Senate Report for S. 1983,¹⁰² nor the congressional debates on either of these bills¹⁰³ explicitly indicate that the final passage of the ESA was motivated by such factors.¹⁰⁴ Throughout the entirety of the committee hearings, no other member of Congress made any reference to the nature-centered perspective as a driving force behind the ESA.¹⁰⁵ This absence is all the more conspicuous in contrast with the huge amount of available evidence in support of the human-centered view. Judg-

⁹⁸ *Predatory Mammals and Endangered Species*, *supra* note 40, at 484.

⁹⁹ *See, e.g.*, NASH, *supra* note 4, at 175-76; Wetzler, *supra* note 16, at 171-72.

¹⁰⁰ *See supra* text accompanying note 42.

¹⁰¹ *See* H.R. REP. NO. 93-412 (1973).

¹⁰² *See* S. REP. NO. 93-307 (1973).

¹⁰³ *See* 119 CONG. REC. 30,162-67 (1973) (debate in the House on H.R. 37); *id.* at 25,668-93 (debate in the Senate on S. 1983).

¹⁰⁴ In the discussion of S. 1983 on the Senate floor, Senator Tunney claimed that "[t]o allow the extinction of animal species is ecologically, economically, and *ethically* unsound." *Id.* at 25,668 (emphasis added). But judging by the further context of his comments, it appears that the factors he views as "ethical" are, in fact, *aesthetic* (i.e., human-centered) values. *See id.*

¹⁰⁵ In fact, even those legislators most sympathetic to Senator Cranston's view specifically rejected the nature-centered ideal of moral equivalence among species. Representative G. William Whitehurst, quoting naturalist Aldo Leopold on the extinction of the carrier pigeon, noted: "For one species to mourn the death of another is a new thing under the sun. We who have lost our pigeons, mourn the loss. Had the funeral been ours, the pigeons would hardly have mourned us. In this fact, lies evidence of our superiority over the beasts." *Endangered Species*, *supra* note 39, at 281.

ing by Senator Cranston's impassioned plea, these legislators were evidently aware of the nature-centered perspective as a potential justification for the ESA. If the Act was supposed to be the bellwether of a new legislative ethic, then why did Congress not come right out and say so?

Furthermore, the nature-centered perspective cannot give a convincing explanation for statutory features within the ESA that blatantly favor human interests. One example already mentioned is the operation of the ESC. The balancing test performed by the ESC clearly treats nonhuman species as resources to be weighed against other human-centered needs. For example, in a 1992 exemption of thirteen federal timber sales from the ESA's provisions, the ESC allowed economic factors like anticipated job losses and expected sales revenues to enter directly into their calculus alongside impacts on the endangered spotted owl and its dispersal habitat.¹⁰⁶ It is striking that the human interests articulated in this decision do not even rise to the level of what might be deemed paramount values, such as the protection of human life. Once the threshold requirements for convening the ESC have been met, the Committee appears to treat species preservation and non-essential human interests as "in-kind" goods within its balancing scheme. For someone claiming that nonhumans should not be objectified in this manner, this decision-making process does not offer a promising value paradigm.

Another statutory provision cutting against the nature-centered theory is the exclusion of certain "undesirable" classes of nonhuman species. For instance, all species of insect pests that are determined to be dangerous to humans are explicitly left unprotected by the ESA.¹⁰⁷ On a nature-centered viewpoint, even insects with the capacity to invoke devastating harm on humans (such as the malaria-carrying mosquito or the cotton-destroying boll weevil) must be admitted to have a rightful place within the ecosystem. In categorically denying protection to these insects, the ESA proclaims that human interests occupy a privileged position over the interests of nonhuman species.

The scope of the statutory prohibition itself also reveals a great deal about the dubious degree of influence commanded by

¹⁰⁶ See Decision, 57 Fed. Reg. 23,405, 23,407 (Endangered Species Comm. 1992).

¹⁰⁷ Under the definitions section, such insects are excluded from the meaning of the term "endangered species." See 16 U.S.C. § 1532(6) (1994).

the nature-centered perspective. The major problem with the nature-centered view is that it does not explain why the ESA protects only entire *species* when the *individuals* within those species receive no protection whatsoever.¹⁰⁸ It does seem rather odd that humans concerned with taking nonhuman rights seriously would see no moral incongruity in slaughtering individual animals and harvesting individual plants *at will* until the numbers within a species have dwindled to the point where species viability is threatened.¹⁰⁹ To be sure, the idea of ascribing rights to a group of individuals is not alien to moral philosophy, but the justification for such rights is characteristically seen as stemming from rights possessed *by the individuals themselves*. Take as an example the particular moral evil associated with racial or cultural genocide, which is normally held as separable from lesser-included offenses such as murder. In condemning genocidal practices, one might say that the moral worth of the persecuted group is more than the sum of its parts, but one would not say that the individual members of this group have no worth at all. Indeed, the Western philosophical tradition is quite firmly entrenched in its conception of the individual as the basic moral unit.¹¹⁰ That this moral tradition was shared by most, if not all, members of Congress at the time of the ESA's adoption seems beyond dispute. In this light, the existence of a legal sanction against violating species rights without a corresponding sanction against violating individual rights strongly contraindicates the acceptance of the nature-centered theory behind the ESA.

But perhaps this argument moves too quickly. Senator Cranston addressed the very issue at hand during the House hearings:

¹⁰⁸ The ESA's definition of "species" includes subspecies and distinct population segments but not individual plants or animals. *See id.* § 1532(16).

¹⁰⁹ This moral contradiction has been noted even by proponents of the nature-centered perspective. Gary Francione, Co-Director of the Animal Rights Law Center at Rutgers University School of Law, rejects the argument that the ESA recognizes nonhuman rights on the grounds that the Act only protects plants and animals on a conditional, temporary basis. *See* Gary L. Francione, *A Response to Adam Roberts*, 19 *HOUS. J. INT'L L.* 317, 322 (1996). As soon as the crisis passes and a particular species is delisted, Francione notes, human beings once again have the same power to exploit the members of that species as with any other natural resource. *See id.*

¹¹⁰ For an application of utilitarian, deontological, and contractual moral paradigms to the problem of species preservation, see Wetzler, *supra* note 16, at 176-80.

In pondering this ethic, it is important to distinguish between the death of an individual animal and the death of an entire species. Nature undergoes no basic change when an individual animal dies, and, in fact, when a wolf kills, he is but an agent in the continuous cycle of life and death. But the death of an entire species is profound. It means that nature has lost one of its components, which played a role in the interrelationship of life on earth. It creates a void which fundamentally alters the relationships of other life forms.¹¹¹

This statement introduces a new twist to the argument. Given our knowledge of ecological processes, the destruction of individuals may be morally permissible because it does not upset nature's delicate equilibrium; it is only when the death toll becomes so great as to affect the larger scheme does any sense of ethical wrongdoing come into play.

This argument has two flaws. First, if the moral catalyst is the "creation of a void which alters relations between life forms," then one would expect our environmental laws to forbid any human acts which substantially rearrange these natural patterns, above and beyond the protection of endangered species. Two common (and legally permissible) human practices that come to mind are the domestication of animals and the utilization of herbicides on crops, both of which remove an otherwise active biological "component" from the natural environment. Second, this species-specific conception does not comport with the standard moral phenomenon described by advocates of the nature-centered perspective.¹¹² An individual human is supposed to care about other life forms because that person feels some compassionate sense of relation to other individual entities. On an empathic level, it is difficult to imagine one experiencing this same moral or emotional connection with the abstract *idea* of another species, especially when the underlying concern for singular members of that species is lacking.

Another potential reply to this species/individual critique is that Congress truly meant to protect individual plants and ani-

¹¹¹ *Predatory Mammals and Endangered Species*, *supra* note 40, at 484.

¹¹² Looking back to Senator Cranston's own comments regarding "the ethic of reverence for all life," an advocate of the nature-centered perspective could not plausibly argue that humanity's far-flung manipulation of the natural environment, even when whole species are not threatened by such actions, is at all analogous to the wolf's role as an innocuous "agent in the continuous cycle of life and death." See *supra* text accompanying note 111.

imals for their own sake, but that this concern is found in federal statutes *other* than the ESA. For instance, some animal rights advocates have pointed to the existence of federal anti-cruelty laws like the Animal Welfare Act (AWA)¹¹³ and the Humane Slaughter Act (HSA)¹¹⁴ as evidence of a Congressional concern for the well-being of individual nonhumans.¹¹⁵ Others note the passage of highly protective laws, such as the Fur Seal Act (FSA)¹¹⁶ and the Bald and Golden Eagle Protection Act (BGEPA),¹¹⁷ that appear to “maintain[] the welfare of animals for the sake of the animals.”¹¹⁸ The FSA and the BGEPA prohibit the “take” of even a single member of these animal species regardless of that species’ status under the ESA.¹¹⁹ This statutory “division of labor” argument, if valid, might carry the day for the nature-centered perspective: the ESA protects nonhuman groups with its broad, over-arching mandate but leaves the protection of individual nonhumans to statutes more specifically tailored to that purpose.

Upon closer scrutiny, however, the argument crumbles. For if it were true, one would have expected Congress to enact a host of laws protecting individual nonhumans to fill in the enormous gaps left by the ESA. As it stands, Congress has passed only a handful of statutes offering blanket protection to individual

¹¹³ 7 U.S.C. §§ 2131-2157 (1994). The AWA requires the promulgation of standards for “the humane handling, care, treatment, and transportation of animals,” *id.* § 2143(a)(1), and provides that experiments on animals be conducted so as “to ensure that animal pain and distress are minimized,” *id.* § 2143(a)(3)(A). The statute applies generally to animals intended for use in scientific research or as pets, but it specifically excludes livestock. *See id.* § 2132(g). The AWA also criminalizes the sponsorship or exhibition of animal-fighting ventures (such as cockfights or dogfights). *See id.* § 2156.

¹¹⁴ 7 U.S.C. §§ 1901-1906 (1994). The HSA specifies two acceptable means by which livestock may be slaughtered: (1) by any practice that quickly and effectively renders the animal insensible to pain, *see id.* § 1902(a), or (2) by certain forms of ritual slaughter, *see id.* § 1902(b).

¹¹⁵ *See* STONE, *supra* note 96, at 40 (discussing the AWA); Tali H. Shaddow, Note, *Religious Ritual Exemptions: Sacrificing Animal Rights for Ideology*, 24 LOY. L.A. L. REV. 1367, 1393-94 (1991) (discussing the HSA). *But see* Gary L. Francione, *Animals, Property and Legal Welfarism: ‘Unnecessary’ Suffering and the ‘Humane’ Treatment of Animals*, 46 RUTGERS L. REV. 721, 723 (1994).

¹¹⁶ 16 U.S.C. §§ 1151-1175 (1994).

¹¹⁷ 16 U.S.C. § 668 (1994).

¹¹⁸ Thomas G. Kelch, *Toward a Non-Property Status for Animals*, 6 N.Y.U. ENVTL. L.J. 531, 544 (1998).

¹¹⁹ The definition of “take” within the FSA, *see* 16 U.S.C. § 1151(m), and the BGEPA, *see* 16 U.S.C. § 668(c), is substantially the same as that employed in the ESA, *see supra* text accompanying note 23.

nonhumans,¹²⁰ which hardly constitutes an effective shield against widespread human encroachment into the sphere of non-human autonomy. Humans enjoy absolute dominion over the unlucky majority of unprotected plants and animals within the current legal regime—a situation that would seem morally intolerable if the legislators were genuinely compelled by nature-centered reasons.

Moreover, the Congressional motives for prohibiting certain forms of inhumane treatment or singling out certain species for heightened protection were clearly driven by the human-centered perspective over the nature-centered perspective. Looking at the legislative history of statutes like the AWA and the HSA, Congress plainly saw themselves as balancing the *instrumental* needs of humankind (e.g., the scientific gains from animal experimentation, the provision of meat for human consumption) against the *intrinsic*, self-regarding imperative to avoid the infliction of unnecessary suffering.¹²¹ The human-centered perspec-

¹²⁰ See, e.g., Wild Free-Roaming Horses and Burros Act, 16 U.S.C. §§ 1331-1340 (1994) (protecting wild horses and burros); Marine Mammal Protection Act, 16 U.S.C. §§ 1361-1407 (1994) (protecting marine mammals); Antarctic Conservation Act, 16 U.S.C. §§ 2401-2412 (1994) (protecting mammals, birds, and plants native to Antarctica); Lacey Act, 18 U.S.C. §§ 41-47 (1994) (protecting animal wildlife on federal lands and waters).

¹²¹ For instance, the Conference Report on H.R. 13881 (ultimately ratified as the AWA) claims:

We have diligently tried to bring back to the House an effective bill which will codify the noblest and most compassionate concern that the human heart holds for those small animals whose very existence is dedicated to the advancement of medical skill and knowledge while at the same time still preserving for the medical and research professions an unfettered opportunity to carry forward their vital work on behalf of all mankind.

H.R. CONF. REP. NO. 89-1848, at 6 (1966), *reprinted in* 1966 U.S.C.C.A.N. 2635, 2649. In a similar vein, the House Report on the 1970 AWA Amendments speaks of “a continuing commitment by Congress to the ethic of kindness to dumb animals” and purports “to demonstrate America’s humanity to lesser creatures while maintaining and promoting the national enlightenment in medicine for the care of all mankind.” H.R. REP. NO. 91-1651, at 1-2 (1970), *reprinted in* 1970 U.S.C.C.A.N. 5103, 5104.

The legislative history of the HSA raises a host of instrumental and intrinsic concerns as well. The House Report on the 1978 HSA Amendments explains:

While the Humane Slaughter Act had its genesis in concern for the humane treatment of animals, meat packers and processors soon found an economic incentive to adopt humane methods of slaughter and of handling in connection with slaughter. Humane methods proved to be more efficient and less hazardous to plant personnel and such methods also

tive was the cornerstone of seemingly magnanimous statutes like the FSA and the BGEPA as well. On a strictly instrumental rationale, the FSA was enacted "to conserve and manage the fur seal herd" in the face of international sealing pressures, thus ensuring a profitable "annual harvest of sealskins" for the United States, Canada, Russia, and Japan.¹²² Employing a more intrinsic rationale, Congress cited the status of the bald eagle as "a symbol of the American ideals of freedom" as the primary justification for the passage of the BGEPA,¹²³ much as these legislators would later project certain anthropomorphic values upon the preservation of other majestic endangered species.¹²⁴ Far from providing compelling evidence of any legislative intent to protect these animals for their own sake, these statutes fall squarely within the purview of the bipartite (instrumental/intrinsic) human-centered perspective.

Of course, a proponent of the nature-centered perspective on the ESA might counter that this species/individual critique applies with equal force to the intrinsic human-centered perspective. After all, if humans attach importance to the saving of endangered species within their moral self-conception, then why would the massacre of countless "unendangered" plants and animals fail to raise a red flag? Despite its rhetorical force, this argument does not cut to the heart of the intrinsic human-centered perspective. Within this perspective, the ethical significance of species extinction is linked to the irreversible and premature termination of a natural evolutionary progression.¹²⁵ When one

eliminated much of the bruising and other damage to meat which had been the occasion of significant financial loss to the industry.

H.R. REP. NO. 95-1336, at 3 (1978), *reprinted in* 1978 U.S.C.C.A.N. 2650, 2651. In an interesting aside, the Committee on Agriculture even lamented the *instrumental* harm that could result from the *intrinsically* wrong act of mistreating animals:

Witnesses have testified to having been sickened, physically as well as emotionally, upon learning of cruel abuses to livestock from which food they were eating or had eaten was derived. Some changed diet and now needlessly forego a valuable source of protein out of revulsion at the inhumane manner in which some livestock are handled. The committee believes that this bears directly on the health of American consumers.

Id. at 5, *reprinted in* 1978 U.S.C.C.A.N. at 2653.

¹²² H.R. REP. NO. 89-2154, at 4 (1966), *reprinted in* 1966 U.S.C.C.A.N. 3628, 3629-30.

¹²³ Bald and Golden Eagle Protection Act, Ch. 278, 54 Stat. 250 (1940) (enacting clause).

¹²⁴ *See, e.g., supra* text accompanying note 86.

¹²⁵ *See supra* text accompanying notes 86-87.

kills a cow for food or cuts down a tree to build a house, however, one can always take steps to ensure that another cow or tree is created in its place. This level of care is all that is morally required from humans (*qua* ecological managers) within the human-centered perspective. A distinct sense of moral opprobrium takes hold only when one injudiciously and irrevocably obliterates all of the extant representative members of a group that has endured for ages. Proponents of the nature-centered perspective, on the other hand, cannot circumvent the species/individual problem through the same appeal. For these persons, the morality of the act is conditioned upon an assessment of what is right from the individual cow or tree's point of view, regardless of that entity's association with members of the same species in the larger evolutionary scheme. The transgression against the individual itself is the basis of the moral harm.

On the available evidence, only the human-centered paradigm can realistically be made congruous with the statutory mandate of the ESA. Thus, much of the contemporary dispute between environmentalists and industrialists about the propriety of weighing nonhuman interests against human interests completely misses the mark. In passing the ESA, Congress was concerned solely with *human* interests, some of which were simply more important than others. Looking to the worldly consequences, the policymakers balanced the substantive impacts of species extinction against the benefits of unchecked economic expansion and found the former to provide a stronger instrumental need for species regulation. Looking into their own hearts, the legislators determined that the duties of stewardship provided an intrinsic need for species regulation. The nature-centered perspective, despite all the current controversy, had no controlling influence in the deliberative process leading up to the ratification of the ESA.

Of course, if this is to be accepted as true, then the austere tone of the ESA must still be explained. If we do not save plant and animal species for their *own* sake, then why do we demand so much sacrifice from humans? The nature-centered perspective, at the very least, has an easy answer: the ESA is so restrictive of human activity because it recognizes that human interests are not dispositive in assigning priorities to competing policy options. This concession, however, does not undermine the project of justifying the ESA within a human-centered value structure.

The instrumental perspective is obviously well-suited to the task of balancing species preservation against other human-centered objectives. A policymaker deliberating within the instrumental framework would just say that the human good to be obtained through species preservation outweighed the human good of allowing unfettered development to jeopardize these species. The mere fact that the stakes are high on *either* side of the equation does not provide any independent ground for criticizing the result obtained through an instrumental analysis.

The intrinsic perspective, on the other hand, cannot offer much help in defending the existing regulatory structure of the ESA on an exclusively human-centered rationale. This is not to say that this perspective carried no weight among the legislators who drafted the ESA—the legislative history clearly shows the opposite. The problem is that the intrinsic view does not establish any consistent method by which to rank the relative importance of policy goals. Based solely on an intrinsic view of the ESA, one knows that species preservation reflects upon humanity's moral self-conception, but one cannot say for certain just how strict the law should be. Given the numerous and varied policy objectives on the Congressional agenda, the process of federal lawmaking will necessarily be hallmarked by tradeoffs and compromises. This sort of balancing is precisely what the intrinsic view cannot accomplish in a methodical fashion. Since the task at hand is to explain why the ESA is (and needs to be) so prohibitive of human enterprise, the hypothetical policy analysis to follow will adopt the instrumental view as the operative human-centered value paradigm.

II.

THE HYPOTHETICAL ARGUMENT FOR THE HUMAN-CENTERED PERSPECTIVE

Part I presented a strictly empirical argument for rejecting the nature-centered view of the ESA, namely, that affirmative support for this perspective is conspicuously absent both in the substance of the Act and its legislative history. Part II will come to the same conclusion through a more hypothetical approach. As a thought experiment, forget for a moment that the problem at issue is species extinction. Imagine a perfectly rational legislator—deliberating from a human-centered perspective—who completely understands and dutifully employs certain rudimen-

tary principles in drafting beneficial public policies. These principles govern the appropriateness of governmental interference in the free market, the proper identification of dangers to society, the evaluation of regulatory options that might minimize this danger, and the best way to insulate legislation from corrupting influences. Now imagine that this ideal policymaker is confronted with a problem marked by the following set of variables: (1) the harm involved is severe; (2) a single act could trigger the harm; (3) there is no certain way to determine which act might cause this harm; (4) once triggered, the harm may not become apparent until much later; and (5) the harm cannot be mitigated in any way. What solution would this hypothetical policymaker choose?

The discussion on the instrumental human-centered justification for the ESA has already introduced these harm-variables in the context of species preservation. In particular, the legislators who enacted the statute gave tremendous weight to the dangers presented by a reduction in genetic and biological diversity. Adopting the instrumental point of view, Congress repeatedly stressed the following factors about the harms of species extinction:

Severity: The potential harms of species extinction on humans are *catastrophic*.

Sensitivity: The preservation of *any single species* could hold benefits for humanity; conversely, the loss of any single species could cause harms.

Uncertainty: There is no way to predict *which particular species* might be valuable to humans.

Latency: Many of these benefits and harms will not become apparent until the *future*.

Irreversibility: Extinct species can *never* be reclaimed.

Any one of these five factors would present difficulties to a potential regulator assigned with the task of determining an appropriate solution to the problem. In combination, these factors make a compelling case, on purely human-centered grounds, for imposing extremely tight restrictions on activities that might lead to species loss.

The remainder of this Part will analyze the ESA within the policy design framework that a rational policymaker would utilize in confronting *any* regulatory situation with specifications similar to those listed above. The purpose of this exercise is to

demonstrate that the ESA mirrors the same sort of statutory regime that an ideal legislator would construct, on an exclusively human-centered rationale, in solving any hypothetical problem with an equivalent set of harm-variables. This exercise will not prove that the nature-centered perspective is logically ruled out as a potential justification for the ESA, but just that the ESA demands no reference to the nature-centered perspective in explaining its atypically stringent mandate. No doubt, certain aspects of this evaluation may strike the reader as somewhat facile—since Congress has already laid down the regulatory structure of the ESA, it is that much easier to reach the conclusion that this structure is “rational” without applying the requisite analytical rigor. But this Article is not out to prove that the authors of the ESA were, in any sense, ideal rational policymakers, or that the ESA embodies the best of all possible regulatory approaches. The thesis is that the strict requirements and harsh tone of the ESA can be explained without reference to any nature-centered moral doctrine. Although the ESA may seem unique in its austere provisions, a closer analysis reveals that the statute is not so structurally dissimilar to other regulations that one would readily acknowledge as human-centered.¹²⁶ Indeed, the problem of species extinction is not fundamentally different in kind from the sorts of problems confronting our nation’s leaders every day. What *is* different is the anomalous set of harm-variables and the countervailing strength of short-term incentives, both of which might tempt developers, administrators, and legislators to turn a blind eye until disaster becomes inevitable.

A. *Justification for Government Regulation*

The first question a rational, human-centered policymaker asks is: “Why regulate the problem at all?” This is not the same question that was addressed in Part I; rather, the focus here is whether the problem warrants a legislative response rather than

¹²⁶ Consider the law prohibiting jaywalking: obviously human-centered and hardly controversial. If one were to isolate the harms and risks inherent to jaywalking and then ask what the ideal policymaker might do, one would likely come up with a solution that closely tracked the existing regulatory scheme. In explaining this decision, however, one would not feel the need to invoke any more comprehensive, other-regarding ethical paradigm. One would simply say that humanity, as a whole, would be better off if we regulated the problem. The ESA can be explained in parallel terms, although the nature and scope of the harm are clearly of a higher priority.

allowing private developers to handle the problem themselves. At first glance, one could reasonably agree that the prevention of species loss would be socially advantageous, yet disagree that government intervention is the best way to achieve that stated goal. Indeed, proponents of *laissez-faire* market structures might contend that the option of *not* regulating should be awarded presumptive favor, given the efficiency-related benefits of allowing resources to go to the person who values them the most.¹²⁷ The efficient result, on this conception, maximizes social welfare by lowering aggregate costs (or, roughly speaking, the total amount people are willing and able to pay in order to get what they want).¹²⁸ There is certainly no reason to believe that the government has a better sense of public preferences than what the people themselves, as reflected in their economic choices, profess to want. Under conditions ideal for free bargaining, the argument goes, the role of government should be limited to the clear definition of property rights, the establishment of appropriate enforcement mechanisms, and the provision of any information that could otherwise be gained only at a greater social cost.¹²⁹ Only if the goal of maximizing social welfare will be impeded by situational factors (such as high transaction costs) should regulatory action be taken.¹³⁰

Assuming that these factors constitute a reasonable precondition to regulatory action, a prudent policymaker must determine whether any barriers to efficient bargaining exist. The first relevant detail is that the benefits gained from species preservation appear to constitute a "public" good, that is, it is impossible to exclude others from enjoying the benefits of species preservation once they have been realized. In this sense, biodiversity is like many other environmental benefits, such as clean air and pure water. Private developers, therefore, can reap no profit from conservation activities on their land. Benefits stemming from development activities, on the other hand, can be retained by the developer and sold to consumers for a profit. Under these

¹²⁷ See generally RICHARD A. POSNER, *THE ECONOMIC ANALYSIS OF LAW* 4 (1972) (noting that resources tend to gravitate towards their highest-value uses under a regime of free exchange).

¹²⁸ See *id.*

¹²⁹ See generally Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 18-22 (1960) (arguing that costless bargaining will lead to the most efficient result).

¹³⁰ See *id.*

circumstances, self-interested developers will clearly prefer to utilize land for the most economically lucrative purpose rather than keeping the land pristine for the sake of species preservation. The negative impact of species degradation then becomes an externality that must be internalized (i.e., accounted for by the developers) in order to secure the greater social welfare.¹³¹

Were it possible to create a market for species, perhaps the externality problem could be solved without regulation. In this scenario, everyone adversely affected by species loss would pay private landowners not to develop their land in a manner adverse to threatened or endangered species. As long as species preservation had a greater social worth (as measured by willingness and ability to pay) than private development, the landowner would be better off becoming a professional habitat conservationist. This possibility is unrealistic for several reasons. First, the huge number of affected parties vastly increases the costs of organizing and negotiating, which frustrates the attainment of an optimal resource allocation at the lowest aggregate cost. Second, the large size of the group also encourages free-riding by members who believe that they will get the benefits even if they do not pay. Third (and most important), the inherent uncertainty as to the potential genetic or biological value of any given species, compounded by the fact that the harm may take generations to become manifest, prevents the market price from reflecting the true social worth of conservation. Since a free bargaining regime cannot guarantee an efficient result in the case of species preservation, government intervention seems entirely warranted. Congress evidently agreed in enacting the ESA.

B. *Risk Assessment*

After determining the propriety of regulation, a rational, human-centered policymaker would next want to know more about the overall nature and scope of the risk involved. At a minimum, one would want to identify the types of activities that are potentially harmful, the likelihood that any potentially harmful act will yield negative consequences, and the extent to which different persons are affected.¹³² In instances where adequate in-

¹³¹ Cf. Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243 (1968).

¹³² See, e.g., Alon Rosenthal et al., *Legislating Acceptable Cancer Risk from Exposure to Toxic Chemicals*, 19 *ECOLOGICAL L.Q.* 268, 277-95 (1992) (describing

formation regarding risk is unavailable (or inherently *unknowable*), the policymaker has no choice but to make projective assumptions based upon any knowledge that *is* relatively certain.¹³³ In the present situation, the policymaker cannot be entirely sure about the likelihood of harm (due to the sensitivity, uncertainty, and latency factors), nor the extent to which people will be affected (due to the severity and irreversibility factors), although it is certain that *some* risk is involved. The harm presented by species extinction is truly insidious, for even a single, seemingly insignificant act has the potential to destroy a valuable resource or, perhaps, to threaten the viability of the human species itself. Under these parameters, the only risk assessment function that the policymaker can adequately perform based on certifiable knowledge is the identification of potentially harmful acts. This task may be broken down into two distinct components: (1) the determination of which species are in danger of extinction; and (2) the specification of which acts will increase the likelihood that these species will in fact become extinct.

Additionally, the ideal policymaker would need to resolve a thorny question as to who should choose the acceptable level of risk: politicians, laypersons, or scientists. If politicians are to make this choice, one has to assign a mechanism for keeping ulterior motives, such as deference to special interests, out of the risk-determination calculus. If the general public is to choose, one has to account for distorting psychological factors such as fear and mistrust, a relative lack of expertise within the topic area, and a commonly-shared inability to effectively weigh tiny risks.¹³⁴ If, instead, the scientists will decide, one must remain wary of the tendency to put too much faith in numerical estimations of fundamentally indeterminate hazards.¹³⁵ Since each of these groups is specifically impaired in its capacity to account for risk, the rational policymaker ought to select the group that ap-

the risk assessment procedure utilized by the Environmental Protection Agency (EPA) in evaluating the level of danger posed by potential carcinogens).

¹³³ See William D. Ruckelshaus, *Risk, Science, and Democracy*, ISSUES SCI. & TECH., Spring 1985, at 19, 26.

¹³⁴ See generally STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE* 33-39 (1993) (noting a fundamental disparity between the way experts and the public evaluate risk assessment problems).

¹³⁵ See generally JOHN D. GRAHAM ET AL., *IN SEARCH OF SAFETY: CHEMICALS AND CANCER RISK* 151-78 (1988) (arguing that risk assessment in cancer cases has become too rigid and formulaic given the uncertainty of data modeling techniques).

pears the least likely to make an egregious error in judgment. In this way, the integrity of the risk assessment process may be preserved without effectively subverting the underlying policy goals.

Politicians make particularly bad risk assessors in the present case despite their professed sympathies to the project of species preservation. Many of the strongest ulterior political pressures come from economic development interests and, as noted earlier, the inability of these developers to internalize externalities is what spawned the need to regulate in the first place.¹³⁶ The strongest temptation at the risk assessment stage—and perhaps the most dangerous tendency among politicians—is to shade one's determination of what constitutes a dangerous act based upon one's view of how heavily that danger weighs in against competing policy alternatives.¹³⁷ To take the Tellico Dam as an example, a politician who wishes to push through a "pork-barrel" public works project despite an ESA-based challenge might prefer to label the snail darter as "not endangered" or "not a distinct species" rather than striving to determine the true relative merits of the build/no-build options. By disingenuously conflating risk assessment with risk management, politicians who lack the stomach to make unpopular decisions or who wish to keep their allegiances to private interests out of the public eye can slyly opt out of their duties as guardians of the public trust. Given the susceptibility of many politicians to such pressures, this group may be in too compromised a position to be relied upon to make case-by-case decisions regarding species listings or regulated acts.

Laypersons as risk assessors have serious drawbacks of their own. In the first place, some members of the general public will undoubtedly be affected by regulatory restrictions on human activity and will thus be caught in a conflict of interests similar to that which binds the politicians. Due to psychological influences (e.g., fear of the unknown, lack of expertise, difficulties in estimation), other laypersons will tend to be drawn towards two distorted extremes in assessing the risk. The sensitivity, uncertainty, and latency factors inherent to the harm of species loss may cause many people to underestimate the risk by lulling them into a false sense of security. Conversely, the severity and irreversibility factors may cause others to overestimate the risk by

¹³⁶ See *supra* text accompanying note 131.

¹³⁷ See Ruckelshaus, *supra* note 133, at 28.

spreading panic and alarm. Furthermore, the public's inability to grasp the ultimate impacts of species extinction may lead this group to pay more attention to the preservation of certain "symbolic" species, such as the bald eagle, while ignoring the plight of less majestic plants and animals that may, all things considered, have an even greater potential for benefiting humanity.¹³⁸ These tendencies definitely militate against allowing laypersons to perform the risk assessment.

The scientists, on the other hand, are comparatively well-equipped to discount many of the biases endemic to politicians and laypersons. With its commonly-shared conventions and methodologies, the scientific outlook typically possesses a greater neutrality towards political matters as well as a less volatile inclination towards risk distortion.¹³⁹ The primary cause for hesitation would be the propensity of many scientists to overquantify assessments of risk with abstract models that have little bearing on the real world. When confounded by limited information, scientists have a tendency to compensate by projecting the available information into untested areas based on unfounded theoretical assumptions.¹⁴⁰ For instance, this problem has been documented in cancer studies on toxic substances, where data obtained from tests on animals is used to draw speculative (and often flawed) conclusions regarding dose-response relationships in humans.¹⁴¹ In the case of species extinction, however, much of

¹³⁸ See YAFFEE, *supra* note 97, at 132-34. Recent preference surveys indicate that laypersons place differential values on endangered species based largely on anthropomorphic qualities, such as the perceived beauty or power of these creatures. See Don L. Coursey, *The Revealed Demand for a Public Good: Evidence From Endangered and Threatened Species*, 6 N.Y.U. ENVTL. L.J. 411, 438-41 (1998) (reporting the results of a valuation survey that ranked the bald eagle as "most important" and the Kretchmarr cave mold beetle as "least important").

¹³⁹ This is not to say that scientists are in any sense *immune* from these biases. Clearly, scientists can get caught up in the same sorts of prejudices and conflicts of interest that plague both politicians and laypersons. See WALTER A. ROSENBAUM, *ENVIRONMENTAL POLITICS AND POLICY* 136-37 (4th ed. 1998). Still, there is good reason to believe that the scientific method does yield comparatively accurate information regarding risk. See *id.* at 137-38.

¹⁴⁰ See Baruch Fischhoff, *Managing Risk Perceptions*, *ISSUES SCI. & TECH.*, Fall 1985, at 83, 90-91.

¹⁴¹ See GRAHAM ET AL., *supra* note 135, at 167-77 (noting the difficulty in extrapolating data obtained from tests on animal subjects to determine human cancer risks). The confusion resulting from specious data modeling techniques has been manifest in numerous court decisions involving risk assessment issues, such as the litigation involving OSHA safety standards on benzene exposure.

the potential for confusion in conducting a scientifically-based risk assessment has been ruled out. To the extent that policy-makers already *know* that factors such as the probability of harm or the scope of effect are inherently obscure,¹⁴² they must assume them to be near-absolute. Thus, the only risk assessment task upon which scientific knowledge will bear is the identification of protected species and their critical habitats. Although this task is not entirely free from controversy,¹⁴³ it does seem to involve far less manipulation of numerical data than, say, the determination of ambient air quality standards¹⁴⁴ or the classification of certain chemicals as “hazardous wastes.”¹⁴⁵ The sorts of environmental issues in which claims of scientific “objectivity” are the most suspect are simply not involved in the case of species protection. Of the three groups, then, the scientists are in the best overall position to perform the requisite assessment of risk.

See, e.g., Industrial Union Dep’t v. American Petroleum Inst., 448 U.S. 607 (1980).

¹⁴² *See* David S. Favre, *The Risk of Extinction: A Risk Analysis of the Endangered Species Act as Compared to CITES*, 6 N.Y.U. ENVTL. L.J. 341, 345-46 (1998).

¹⁴³ *See generally* Robert J. Taylor, *Biological Uncertainty in the Endangered Species Act*, 8 NAT. RESOURCES & ENV’T 6 (1993) (criticizing the taxonomic process by which scientists define a species).

¹⁴⁴ Under the Clean Air Act (CAA), the EPA must set national ambient air quality standards (NAAQSs) for each pollutant expected to have adverse effects on human health or welfare. *See* 42 U.S.C. § 7409(a) (1994). The NAAQSs serve as a ceiling on levels of listed pollutants above which no area of the country is allowed to climb without triggering more stringent regulation, *see id.* § 7502, and/or federal sanctions, *see id.* § 7506. Although the NAAQSs must reflect the latest scientific knowledge, *see id.* § 7408(a)(2), some scholars have nonetheless criticized the CAA’s risk assessment strategy as being both overinclusive and underinclusive of harmful activities, *see* James E. Krier, *The Irrational National Air Quality Standards: Macro- and Micro-Mistakes*, 22 UCLA L. REV. 323, 336-37 (1974).

¹⁴⁵ Under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901-6992k (1994), the EPA is required to promulgate regulations that identify the characteristics of “hazardous waste” and then to “list” those wastes on the basis of these characteristics, *see id.* § 6921. The EPA has fulfilled this mandate by defining four characteristics that make a substance “hazardous,” *see* 40 C.F.R. § 261.21 (corrosivity), .22 (reactivity), .23 (ignitability), .24 (toxicity) (1997), and by defining four categories of wastes containing toxic constituents, *see id.* § 261.31 (hazardous from nonspecific sources), .32 (hazardous from specific sources), .33 (acutely hazardous chemical products), .33(f) (non-acutely hazardous chemical products). Despite adopting these seemingly objective risk assessment criteria, the EPA had enormous difficulty in identifying appropriate tests and generating sufficient scientific data to support more than a handful of listing decisions during the early days following RCRA’s enactment. *See* PERCIVAL ET AL., *supra* note 74, at 238.

Looking at the ESA as it stands, Congress appears to have reached the same conclusion. The ESA clearly privileges the scientific approach in assessing risk, as demonstrated by the Act's provisions for identifying imperiled species and for specifying potentially harmful acts. The threshold requirement to invoke the substantive protections of the ESA is that the species in question be listed in the Federal Register as "endangered" or "threatened" by the appropriate Secretary.¹⁴⁶ Although the Secretary will rarely, if ever, possess sufficient knowledge to qualify as a "scientist," the ESA demands that listing determinations be made "solely on the basis of the best scientific and commercial data available,"¹⁴⁷ rather than deferring to political interests or popular choice.¹⁴⁸ In accordance with a directive from the United States Fish and Wildlife Service (FWS), the ESA's principal implementing agency within the Department of the Interior, such information must be reliable and credible, derived chiefly from primary and original sources, and evaluated by impartial scientists.¹⁴⁹ FWS has issued an additional criterion in furtherance of this listing methodology that incorporates a neutral peer review process into the public comment period required by the ESA prior to the finalization of any listing decision. Like the internal listing review, this public peer review is based on accepted scientific methods and other indices of expertise.¹⁵⁰ Fur-

¹⁴⁶ See 16 U.S.C. § 1533(c)(1), (d) (1994). The "Secretary" in question will be either the Secretary of the Interior (for freshwater and terrestrial species) or the Secretary of Commerce (for marine species). See *id.* § 1532(15).

¹⁴⁷ *Id.* § 1533(b)(1)(A).

¹⁴⁸ Despite the seeming clarity of the command to use only "the best scientific and commercial data," both political interest and popular choice still appear to influence some listing decisions. One example incorporating both elements is that of the Minnesota wolf—an animal reviled by livestock owners, game hunters, and almost everyone else—which was first listed as endangered in 1973. See Drozdowski, *supra* note 33, at 576. In 1978, after the carcasses of illegally slaughtered wolves appeared on the doorsteps of several legislators, the FWS decided to re-classify the wolf as merely "threatened." See *id.* Even more directly, the staunchly pro-industry 104th Congress suspended all new listings for over a year during the mid-1990s simply by de-funding the process. See generally Jeffrey S. Kopf, *Slamming Shut the Ark Doors: Congress's Attack on the Listing Process of the Endangered Species Act*, 3 ANIMAL L. 103 (1997). The topic of illegitimate outside influences on the enforcement of the ESA will be addressed at greater length in the section on "Political Influences." See discussion *infra* Part II.D.

¹⁴⁹ See Notice of Interagency Cooperative Policy on Information Standards Under the Endangered Species Act, 59 Fed. Reg. 34,271 (1994).

¹⁵⁰ See Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities, 59 Fed. Reg. 34,270 (1994). The statute grants the

thermore, if one believes that the Secretary has not used the “best scientific data” in making a negative listing determination, the ESA allows private individuals to make scientifically-based challenges to these agency decisions in federal court.¹⁵¹ Thus, the first step of the ESA risk assessment process clearly mirrors the choice that a rational policymaker would have made.

The next step is the identification of actions inimical to these so-defined endangered and threatened species. Due to the uncertainty and latency factors, it will be difficult, if not impossible, to delineate which specific human acts will lead to species extinction. After all, a species could be wiped out by such a wide and varied range of human actions—a massive oil spill, an ill-placed construction project, or even a dropped, lit cigarette—that this regulative approach would ultimately fail for lack of comprehensiveness. Instead, the ESA embraces a risk assessment strategy that defines harmful actions *negatively* by reference to human encroachment upon the critical habitat of the protected species. “Critical habitat” is a spatial buffer surrounding the species within which nearly *all* human activity is restricted to some degree.¹⁵² “[T]o the maximum extent prudent and determinable,” the ESA demands the designation of a critical habitat for an endangered or threatened species at the same time that the species is listed as such.¹⁵³ This designation must be made “on the basis of the best scientific data available and after taking into consideration the economic impact, and any other relevant impact, of specifying such area as critical habitat.”¹⁵⁴ While some scholars have (rightfully) criticized this standard for allowing economic

Secretary a one-year window, beginning on the date of notice regarding a proposed listing action, in which to solicit and review outside information as to the propriety of that particular listing. See 16 U.S.C. § 1533(b)(6)(A).

¹⁵¹ See 16 U.S.C. § 1533(b)(3)(C)(ii). Federal courts have been willing to strike down agency decisions that are arbitrary and capricious with respect to the data presented. See, e.g., *Northern Spotted Owl v. Hodel*, 716 F. Supp. 479 (W.D. Wash. 1988) (holding that the FWS receives no judicial deference when the agency makes a listing decision contrary to expert opinion without offering credible analysis).

¹⁵² The term “critical habitat” denotes “the specific areas within the geographical area occupied by the species . . . on which are found those physical or biological features (1) essential to the conservation of the species and (2) which may require special management considerations or protection,” as well as any areas beyond this zone that are deemed by the Secretary to be essential to the conservation goal. 16 U.S.C. § 1532(5)(A)(i)-(ii).

¹⁵³ *Id.* § 1533(a)(3).

¹⁵⁴ *Id.* § 1533(b)(2).

factors to corrupt the objectivity of this important risk assessment decision,¹⁵⁵ the ESA specifically precludes the consideration of such factors if the Secretary determines, “based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species concerned.”¹⁵⁶ Thus, the ESA predominantly retains its scientific foundation in identifying dangerous acts.

The ESA risk assessment process continues along different paths depending on whether the action is taken by government agencies or private entities, although both routes invoke scientific standards over political or populist ones. Federal agencies must consult with the appropriate Secretary to “insure that any action authorized, funded, and carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species” based upon “the best scientific and commercial data available.”¹⁵⁷ The FWS (or, in the case of marine species, the National Marine Fisheries Service (NMFS)) takes an oversight role in this consultation process, which involves three hierarchical steps: (1) ask FWS whether the species is listed;¹⁵⁸ (2) prepare a biological assessment to determine the effect on the species;¹⁵⁹ and (3) consult formally with FWS to yield a biological opinion as to whether the action is likely to jeopardize the species.¹⁶⁰ This process *must* be followed, even if the substantive impact seems minimal, in order to ensure that all relevant biological and ecological information has been considered before any action is taken.¹⁶¹ The Secretary’s

¹⁵⁵ See Elizabeth A. Foley, *The Tarnishing of an Environmental Jewel: The Endangered Species Act and the Northern Spotted Owl*, 8 J. LAND USE & ENVTL. L. 253, 274 (1992). Moreover, the “economic impact” standard would emphatically *not* be adopted by the ideal rational policymaker. Decisions as to how to balance risks, once identified as such, should be withheld until the risk management stage. See Andrew A. Smith et al., *The Endangered Species Act at Twenty: An Analytical Survey of Federal Endangered Species Protection*, 33 NAT. RESOURCES J. 1027, 1049-50; discussion *infra* Part II.C.

¹⁵⁶ 16 U.S.C. § 1533(b)(2).

¹⁵⁷ *Id.* § 1536(a)(2).

¹⁵⁸ See *id.* § 1536(c)(1).

¹⁵⁹ See *id.* This assessment is similar in scope to Environmental Impact Statements (EIS) and Environmental Assessments (EA) required under NEPA. See 42 U.S.C. § 4332(2)(C) (1994).

¹⁶⁰ See 16 U.S.C. § 1536(b).

¹⁶¹ See *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985) (holding that the ESA’s procedural requirements are mandatory). Moreover, the agency taking

independent oversight role is designed to ensure that the ESA risk assessment process remains as apolitical as possible.¹⁶²

For actions by private entities, the ESA makes it unlawful to “take” any listed species of fish or wildlife.¹⁶³ Although private individuals and corporations are not directly required to consult with any oversight agency, these private entities have a strong incentive to draft Habitat Conservation Plans (HCPs) in order to qualify for the ESA’s “incidental take” provisions¹⁶⁴ and thereby to avoid sanctions.¹⁶⁵ One requirement of an acceptable HCP is that it specify “the impact which will likely result from such taking,”¹⁶⁶ which encourages data gathering on the potential dangers of any given action. Additionally, in reviewing HCPs, the FWS and NMFS have adopted a policy of differentiating “low-impact” incidental take projects from more intrusive undertakings,¹⁶⁷ thus adding at least some element of scientific guidance to private individuals seeking to avoid ESA regulation. In both the public and private spheres, the ESA embraces a scientifically rigorous risk assessment scheme with which to identify actions

action has the burden of proving that all of these procedural steps have been taken. *See* *Roosevelt Campobello Int’l Park Comm’n v. EPA*, 684 F.2d 1041 (1st Cir. 1982).

¹⁶² Other environmental statutes vest all responsibility for determining the appropriate risk in the specific agency contemplating action despite obviously conflicting purposes and biases particular to these agencies. For instance, NEPA—which is essentially nothing more than a risk assessment tool—has been hampered in its effectiveness by assigning the responsibility for EIS/EA preparation to federal agencies whose interests often run counter to the goal of environmental protection. *See, e.g.*, William Funk, *NEPA at Energy: An Exercise in Legal Narrative*, 20 ENVTL. L. 759, 764-66 (1990) (arguing that the U.S. Department of Energy nominally complies with formal EIS requirements while ignoring the results in making agency decisions); *see also* MARC REISNER, *CADILLAC DESERT* 401-02 (1986) (describing how the U.S. Bureau of Reclamation slants EIS statistics to facilitate dam-building projects). Conversely, some scholars have criticized “no jeopardy” decisions made by the FWS as politically motivated in practice, despite the oversight role endowed to these agencies. *See infra* text accompanying note 211.

¹⁶³ *See supra* note 23.

¹⁶⁴ *See supra* note 23.

¹⁶⁵ The ESA provides for civil sanctions of up to \$25,000 per knowing violation, *see* 16 U.S.C. § 1540(a)(1), and for criminal penalties of up to \$50,000 and/or one year in prison, *see id.* § 1540(b)(1).

¹⁶⁶ *Id.* § 1539(a)(2)(A)(i).

¹⁶⁷ *See* FISH & WILDLIFE SERV., U.S. DEP’T OF INTERIOR & NAT’L MARINE FISHERIES SERV., U.S. DEP’T OF COMMERCE, *ENDANGERED SPECIES HABITAT CONSERVATION PLANNING HANDBOOK* 1-8 to 1-14 (1996).

likely to impede the survival of endangered and threatened species.

C. Risk Management

Upon the identification of the best risk assessment strategy, the rational, human-centered policymaker would seek to devise a regulatory system that best manages this risk. For any regulator, these questions are the toughest to answer. When assessing risk, one can rely on the (arguably) "objective" standard of scientific legitimacy to deflect much of the responsibility for the regulatory scheme adopted; when managing this risk, however, one must start to make hard substantive decisions about how to weigh the dangers and benefits of a certain course of action against those of another.¹⁶⁸ The rational policymaker could adopt any one of the following methodological frameworks¹⁶⁹ in performing these delicate risk management tasks:

No-Risk: Ban all courses of action that pose *any* risk whatsoever.

Process Standards: Carry out all courses of action in accordance with a standardized procedure that has been accepted as superior to all others in reducing risk (e.g., use the best available control technology).

Cost-Benefit: Compare the cost in dollars of a proposed regulation against the benefits to be gained by regulating. Choose the course of action that yields the highest benefit for the least cost.

¹⁶⁸ See generally BARUCH FISCHHOFF ET AL., ACCEPTABLE RISK 1-8 (1981) (explaining how choices between alternative risky options are consequentially contingent). Given its emphasis on the consequences of various actions compared to the alternatives, the risk management process is closely aligned to the instrumental perspective. See *supra* text accompanying notes 35-38.

¹⁶⁹ These categories have been taken, with some modification, from Lester Lave's study on risk management. See LESTER B. LAVE, THE STRATEGY OF SOCIAL REGULATION 8-28 (1981). Lave advances "market regulation" as a type of risk management strategy, see *id.* at 9-11, but this option will not be considered here since it would be contraindicated for many of the same reasons already mentioned in the discussion on regulatory justification. See discussion *supra* Part II.A. Lave also lists "cost-effectiveness" (achieving the goal at the least total cost for the specific regulating agency) and "regulatory budget" (achieving the goal at the least total cost for the regulated entities) as risk management techniques, but his categorization seems flimsy insofar as neither technique recommends how high to set the initial budget. See LAVE, *supra*, at 19-22.

Risk-Benefit: Compare the risks of a proposed regulation against the benefits to be gained by regulating. Choose the course of action that yields the highest benefit for the least risk.

Each of these competing paradigms has its advantages and disadvantages depending on the nature of the problem confronted. In the present case, the rational policymaker should choose the framework best suited to the harm-related variables (severity, sensitivity, uncertainty, latency, and irreversibility) that distinguish the problem of species extinction.

The first risk management strategy, No-Risk, has the obvious advantage of being very simple and clear: “just say no” to any activity determined to be dangerous at the risk assessment stage.¹⁷⁰ Unfortunately, this simplicity is gained only by ignoring huge qualitative differences in the riskiness of various acts, ruling out the development of future solutions, and forsaking the option of breaking the rule in circumstances where a greater social good might be achieved.¹⁷¹ In the present case, the severity, sensitivity, latency, and irreversibility factors all might justify a No-Risk prioritization scheme since they all counsel against allowing a single species to be lost. But what of instances where an absolutely *certain* harm of *enormous* impact will befall us unless we make an exception to the rule? To take an admittedly unlikely example: what if a belligerent Canada were suddenly to invade the United States and the only way to halt the advance of the northern hordes was to dig huge trenches along the border, thus destroying the vital habitat of a listed species? Surely the rational policymaker would want to design a species protection policy with sufficient flexibility to allow for exceptions in such extreme cases. The No-Risk approach is fundamentally unsuitable at handling the unforeseen contingencies of the real world.

Like the No-Risk strategy, the Process Standards approach also achieves a greater simplicity by dispensing with the need to estimate the advantages and disadvantages of specific actions; unlike the No-Risk approach, however, it focuses on finding a model procedure that will generally yield less risk. Both the

¹⁷⁰ As the slogan might indicate, the nation’s “zero-tolerance” drug policy provides an excellent example of a No-Risk management strategy as applied to the health and social risks presented by drug abuse. Similarly, some of the more severe language in *Tennessee Valley Authority v. Hill* is suggestive of a No-Risk approach. See, e.g., *supra* text accompanying note 70.

¹⁷¹ See LAVE, *supra* note 169, at 11-13.

CAA¹⁷² and the CWA,¹⁷³ for instance, employ a technology-based Process Standards strategy for controlling the emission of hazardous substances into the environment. While this technique may be quite effective at managing risks that can be isolated to discernible entry channels (such as specific pollutants), it seems ill-suited to handle dangers that stem from a wide and varied range of causes. All we know from the science-driven risk assessment process is that some species are in more danger of extinction than others and that interference with a species or its habitat can exacerbate this condition. There appears to be no standard procedure that would in all (or even most) cases yield a lower risk without requiring an explicit look at anticipated consequences. Even if such a uniform procedure could be articulated, the sensitivity, severity, and irreversibility factors guarantee that any risk that was not *completely* mitigated by this procedure would be just as bad as having no procedure at all.¹⁷⁴ With the stakes so high, no rational policymaker would accept the risk trade-off demanded by the Process Standards approach.

The two remaining risk management approaches focus on the expected consequences of a given course of action, asking the question: what do we give up in order to gain the advantages of the proposed regulation? The Cost-Benefit approach translates this question into quantitative, fungible terms of dollars and cents such that the advantages and disadvantages of regulation can be weighed directly against one another in the risk management calculus.¹⁷⁵ In most cases, these cardinal values may be obtained directly through the price of goods bought and sold in free markets. For certain intangible items with no obvious market value (such as clean air or beautiful scenery), the requisite worth

¹⁷² See 42 U.S.C. § 7411(b)(1)(B) (1994) (requiring the establishment of federal performance standards for new stationary sources).

¹⁷³ See 33 U.S.C. § 1316(b)(1)(B) (1994) (requiring the establishment of federal performance standards for new point sources).

¹⁷⁴ To take air and water pollution as counter-examples, imagine applying a "best control technology" standard to the emission of a hazardous substance, *any* amount of which could potentially kill half the population of the country. One would expect an outright ban on the production of such a substance or at least a strong showing that the advantages of allowing this substance to remain in circulation were so clear and significant as to justify the massive risk.

¹⁷⁵ See LAVE, *supra* note 169, at 23-24. To this extent, the Cost-Benefit approach strives for the same ideal of economic efficiency (i.e., lowering aggregate costs) as do the proponents of free market regulatory systems. See *supra* text accompanying notes 127-27.

in dollars must be gleaned indirectly from the premium that consumers are willing to pay for goods associated with these items (such as inflated real estate prices in pristine areas).¹⁷⁶

One factor that the Cost-Benefit scheme does not account for, however, is the possibility of an informational deficiency among players in these direct and indirect valuation markets. If consumers do not know how to estimate the worth of a social good in dollars, then its market price will not reflect its actual value. In the case of species extinction, we know that *some* species have potential economic value, but we do not generally know *which* ones do when evaluating the net benefits of competing policy options. In contrast, we are relatively certain of the economic benefits to be gained from development activities, such as building a highway or logging a forest, that will be forfeited if we protect species instead. The gap between the two choices is widened by a common misperception that land is most valuable when it is being actively utilized rather than remaining in a natural state.¹⁷⁷ Thus, in weighing these options head-to-head, we will be inclined to discount the dollar value of species preservation.

Another factor leading to undervaluation is the disparity between a person's willingness to pay for a good and one's willingness to relinquish a good that one already has. As a matter of empirical fact, the former sum tends to be lower than the latter.¹⁷⁸ A "revealed preference" valuation scheme, typical of the Cost-Benefit approach,¹⁷⁹ looks at the market price of undeveloped land (or willingness-to-pay for species habitat) in determin-

¹⁷⁶ See Steven Kelman, *Cost-Benefit Analysis: An Ethical Critique*, REGULATION, Jan.-Feb. 1981, at 33, 36-37.

¹⁷⁷ Joseph Sax has labeled these two views the "transformative economy" and the "economy of nature." See Joseph L. Sax, *Property Rights and the Economy of Nature: Understanding Lucas v. South Carolina Coastal Council*, 45 STAN. L. REV. 1433, 1442 (1993). Since most consumers do not acknowledge the "free" ecological services provided by healthy ecosystems, see *supra* text accompanying note 64, the benefits of species preservation will be consistently underestimated. See Zygmunt J.B. Plater, *The Embattled Social Utilities of the Endangered Species Act: A Noah Presumption and Caution Against Putting Gasmasks on the Canaries in the Coal Mine*, 27 ENVTL. L. 845, 869-70 (1997).

¹⁷⁸ This disparity is not economically rational, but it can perhaps be explained as some psychological attachment that we seem to feel towards goods that we possess. See Kelman, *supra* note 176, at 37-38.

¹⁷⁹ See generally E.J. Mishan, *Evaluation of Life and Limb: A Theoretical Approach*, 79 J. POL. ECON. 687 (1971); W. Kip Viscusi, *The Value of Risks to Life and Health*, 31 J. ECON. LITERATURE 1912 (1993).

ing the dollar value of the willingness-to-accept species loss. Obviously, one cannot “buy” new species. One can only lose those species that already exist. Thus, any valuation scheme that focuses on willingness-to-pay will categorically underestimate the true value of species preservation.¹⁸⁰

A final factor cutting against the Cost-Benefit approach is that it tends to downplay the worth of goods that may only be obtained in the future. In choosing among potentially lucrative courses of action, consumers are generally more inclined to seek immediate payoffs rather than waiting around to accrue future benefits, especially when these benefits are uncertain.¹⁸¹ Moreover, Cost-Benefit analyses do not factor in the economic preferences of future generations. Since anyone not in existence now cannot enter into market transactions, the social value of a good (such as the latent benefits of species preservation) that may become apparent only in the future will be diminished in the present estimation of worth.¹⁸² For all of these reasons, the Cost-Benefit approach is not a viable risk management strategy for the adequate preservation of species.

The Risk-Benefit option adopts a more subjective, qualitative tone in its balancing analysis. Its scope is broad and expansive, encompassing not only considerations such as economic costs, but also risks concerning health effects, environmental

¹⁸⁰ Economists have proposed various differential value and ordinal ranking schemes to more accurately capture the social cost of species loss. See, e.g., Dana Clark & David Downes, *What Price Biodiversity?: Economic Incentives and Biodiversity Conservation in the United States*, 11 J. ENVTL. L. & LITIG. 9, 18-19 (1996); Coursey, *supra* note 138, at 411-14. Although these systems undoubtedly come closer to the right answer than cardinal measures (such as direct dollar valuation), ordinal valuation techniques still seem inapposite to the task of truly assessing species worth. First, the interconnectedness of all life within an ecosystem makes it inherently difficult to weigh the cost of losing a single species, for the consequences may snowball in ways that we simply cannot foresee. See EDWARD O. WILSON, *THE DIVERSITY OF LIFE* 308 (1992). Second, allowing consumers to make this decision triggers the same disadvantages discussed at the risk assessment stage, namely, that laypersons cannot adequately distinguish between different, tiny degrees of risk. See *supra* text accompanying note 134.

¹⁸¹ See LAVE, *supra* note 169, at 24.

¹⁸² It should be noted, however, that the value of future persons *to present persons* may be accounted for in present economic choices. Economists have termed this the “bequest value.” See Clark & Downes, *supra* note 180, at 17 (“Bequest value captures the desire to leave a natural legacy for future generations.”).

damages, personal values, and even basic peace of mind.¹⁸³ However, if comprehensiveness is the fundamental strength of the Risk-Benefit approach, then vagueness is its underlying weakness. The most difficult task for any rational policymaker operating within the Risk-Benefit framework is that of weighing fundamentally different types of risks against one another in a coherent fashion. For example, to pose a question addressed by the Toxic Substances Control Act (TSCA),¹⁸⁴ exactly how does one perform a Risk-Benefit analysis on asbestos? On one side of the equation, the regulator looks at the risk of cancer from exposure to asbestos plus the risk of public alarm in allowing asbestos to remain in buildings and products. On the other side, the regulator looks at the financial cost of completely removing asbestos from the environment plus the increased risk of fire damage to persons and property. How can one balance these incommutable risks against one another? Given such an imprecise heuristic method, the answer will be entirely contingent upon the circumstances of each regulatory case.

Then again, when the general problem area involves a great deal of uncertainty regarding manifold potential harms and a vast array of possible causal sources, the Risk-Benefit approach might be more appropriate than the essentially reductionist answer suggested by the Cost-Benefit strategy. The Cost-Benefit analysis, by not taking into account many relevant factors regarding highly severe risks, virtually ensures that a tragically wrong choice will be made sooner or later. The Risk-Benefit strategy, while perhaps not as concrete or consistent, does cast a wider safety net that catches most problems before they can develop into worst-case scenarios. Therefore, this approach is compara-

¹⁸³ As Lester Lave says of the Risk-Benefit strategy: “[I]t is a general instruction to consider all social factors in arriving at a decision.” LAVE, *supra* note 169, at 18.

¹⁸⁴ 15 U.S.C. §§ 2601-2692 (1994). The TSCA provides an illuminating statutory example of the Risk-Benefit approach both in its breadth and its obscurity. If the regulator finds that there is a “reasonable basis” to believe that any chemical substance presents “an unreasonable risk of injury to health or the environment,” then that substance may be regulated under the statute. *Id.* § 2605(a). In determining this risk, the TSCA demands that the regulator contemplate numerous additional factors, such as “the benefits of such substance of mixture for various uses and the availability of substitutes for such uses, and the reasonably ascertainable economic consequences of the rule, after consideration of the effect on the national economy, small business, technological innovation, the environment, and public health.” *Id.* § 2605(c)(1)(C)-(D).

tively more effective at managing risk of a nebulous, yet catastrophic nature.

On this rationale, the drafters of the ESA embraced the Risk-Benefit approach as the statute's dominant risk management strategy. The legislators were clearly concerned that species preservation was getting short shrift in the policymaking prioritization scheme, yet they did not want to go so far as to ban all risky behavior outright. Their solution was to give species protection a strong presumption over other policy goals but to allow this presumption to be rebutted on a case-by-case basis.

One can readily discern this risk management scheme in the structure of the ESC exemption process. Upon a preliminary finding of jeopardy, the Secretary must recommend alternatives to the proposed agency action that would eliminate the need to imperil the listed species or to adversely modify its habitat.¹⁸⁵ If the agency still wishes to proceed with the action, it must submit an application for exemption to the Secretary.¹⁸⁶ Before the ESC can even hear the case, the application must clear several procedural hurdles designed to weed out all but the most worthwhile projects.¹⁸⁷ The assembly of the ESC itself is essentially an adjudication on the merits of granting the exemption weighed against the risks of doing so.¹⁸⁸ The ESC applies both a "means" test and an "ends" test to the proposed action. For an action to pass the means test, the ESC must determine that there exist no reasonable or prudent alternatives, that the agency made no irreversible commitment of resources, and that the agency will take whatever measures are necessary to minimize the adverse impacts of the action.¹⁸⁹ To pass the ends test, the ESC must conclude that the benefits of the action clearly outweigh the

¹⁸⁵ See 16 U.S.C. § 1536(b)(3)(A) (1994). Even if jeopardy is not found, the Secretary must specify reasonable mitigation measures. See *id.* § 1536(b)(4)(B)(ii).

¹⁸⁶ See *id.* § 1536(g)(1).

¹⁸⁷ These threshold requirements include a determination by the Secretary that the agency applying for exemption has carried out all of its consultation responsibilities in good faith, made positive efforts to explore alternatives to the proposed action, and refrained from making any irretrievable commitment of resources. See *id.* § 1536(g)(3)(A).

¹⁸⁸ See *Portland Audubon Soc'y v. Endangered Species Comm.*, 984 F.2d 1534 (9th Cir. 1993) (holding that ESC proceedings qualify as an adjudication rather than a rulemaking). As a further procedural safeguard, the ESA requires a supermajority of five out of seven members voting in favor of the action before the ESC may grant an exemption. See 16 U.S.C. § 1536(h)(1).

¹⁸⁹ See 16 U.S.C. § 1536(h)(1)(A)-(B).

advantages of any other options consistent with species preservation, that the action is in the public interest, and that the action is of regional or national significance.¹⁹⁰ Importantly, these tests make no explicit mention of economic costs, although such factors are certainly not to be excluded from the risk management calculus altogether. The ESA requires the ESC to take into account the full universe of potential risk in making the irrevocable decision to allow a listed species to be jeopardized, which is precisely what the ideal rational policymaker would require under the circumstances.

The standard ESC exemption process is not the only way in which the ESA incorporates the Risk-Benefit approach. In several ways, the ESA allows the circumvention of its provisions when some serious countervailing harm is highly certain to occur. One example already discussed is the ESA's definition of "endangered species," which is specifically tailored to exclude insects whose continued survival "would present an overwhelming and overriding risk to man."¹⁹¹ Along similar lines, the ESA enables the Secretary of Defense to unilaterally grant an exemption to any federal action upon a determination that the action is "necessary for reasons of national security."¹⁹² In regions declared major disaster areas, the President has the power to preempt the ESC in granting exemptions to public facility repair projects that he determines will reduce the risk to human life.¹⁹³ Private entities engaged in scientific research and development activities may be allowed to take listed plant and animal species for the greater benefit of humanity.¹⁹⁴ The ESA recognizes cultural values as well: Alaskan Indians, Aleuts, and Eskimos are all granted a partial exclusion from the "take" prohibitions so that their ancestral hunting customs and traditional way of life

¹⁹⁰ *See id.* § 1536(h)(1)(A).

¹⁹¹ *Id.* § 1532(6); *see also supra* text accompanying note 107.

¹⁹² 16 U.S.C. § 1536(j). On a facial reading of the statute, any federal action seeking a "national security" exemption would have to go through the standard consultation process, *see id.* § 1536(a)(2), before an application to the ESC would be accepted. Whether this time-consuming process would actually be followed during a national security crisis that somehow demanded the extinction of a listed species is an empirically untested matter, but rather dubious at any rate.

¹⁹³ *See id.* § 1536(p).

¹⁹⁴ *See id.* § 1539(a)(1)(A).

may endure.¹⁹⁵ All of these exceptions are representative of a broad, human-centered Risk-Benefit approach within the ESA.

D. *Political Influences*

Up to this point, the rational, human-centered policymaker has only considered issues arising from the harms of species extinction and the relative merits of possible solutions. But what if an even greater threat comes from the political process itself? Good intentions, careful planning, and thoughtful drafting all amount to naught if the underlying policy goal can be corrupted by political action committees and other self-interested third parties who may command an undue influence over legislators and administrators. This dilemma has been framed as an ongoing conflict between “public interest” legislation (i.e., laws designed to enhance the general social welfare by internalizing the costs of deleterious private action) and “public choice” legislation (i.e., laws designed to further the goals of politically powerful groups at the expense of weaker groups).¹⁹⁶

The environmental policy arena is certainly not removed from this conflict. Even the most stringent environmental statutes, which seem at face value to embody precisely the sorts of concerns emphasized by the public interest view, can be shown to have been substantially influenced by public choice dynamics behind closed doors in Washington.¹⁹⁷ Some powerful industry groups lobby for federal regulation to preempt even more restrictive state regulation;¹⁹⁸ others push for specific provisions that will give them a comparative advantage over their competi-

¹⁹⁵ See *id.* § 1539(e).

¹⁹⁶ See RICHARD L. REVESZ, FOUNDATIONS OF ENVIRONMENTAL LAW AND POLICY 183 (1997).

¹⁹⁷ On the other hand, there are good reasons to believe that environmental lobbies themselves have greater relative influence at the national level than they do at the state and local level. At the national level, environmental groups will tend to have lower aggregate organization costs, greater economies of scale on centralized decision-making and fundraising, and greater sympathy among legislators to long-range concerns. See Richard B. Stewart, *Pyramids of Sacrifice?: Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1213-15 (1977).

¹⁹⁸ E. Donald Elliott, Bruce Ackerman, and John Millian make this argument with respect to the role of the automobile and coal-mining industries in the enactment of the CAA. See E. Donald Elliott et al., *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. ECON. & ORG. 313, 325-27 (1985).

tors.¹⁹⁹ This sort of illicit external pressure can affect the enforcement process as well, especially when the enforcing agency has interests strongly aligned with those of the industry groups they purport to regulate.²⁰⁰ The rational policymaker, then, should account for this political reality prospectively and attempt to structure any regulation in a way that might mitigate political influences.

Looking at the harm-related variables specific to species extinction, one can see that the danger of discounting the value of species preservation in the face of political pressure from special interest groups is quite high. The uncertainty and latency factors contribute vastly to this problem. Since one cannot know what the specific benefit of saving any particular species will be—indeed, on an instrumental rationale, there may be *none*—anyone whose economic prosperity will suffer as a direct result of protecting this species has an enormous incentive to derail the decision in any way possible. Given that many of the benefits of species preservation may depend on technology or scientific knowledge that we do not yet possess, most affected third parties will favor their own short-term bottom line. Congress knew that if the task of species protection was left up to a case-by-case comparison of its benefits against the benefits of a public or private development project, the species would *always* lose.²⁰¹ Congress also knew that the severe and irreversible harms of species extinction would eventually catch up with us if we ignored them indefinitely. Thus, the drafters of the ESA took several affirmative steps to shield endangered species from the short-sighted fo-

¹⁹⁹ The 1977 Amendments to the CAA's performance standards for new emitting sources have been characterized as a surreptitious attack on the Western low-sulfur coal industry by Eastern high-sulfur coal producers. See BRUCE A. ACKERMAN & WILLIAM T. HASSLER, *CLEAN COAL/DIRTY AIR* 26-41 (1981).

²⁰⁰ One prominent example is the teleological bond shared by the U.S. Forest Service and the commercial logging industry. When both federal timber sales and private logging activities were curtailed by adverse environmental litigation in the early 1990s, the Forest Service's response was simply to increase the number of trees labeled as "salvage" for ostensible health and fire-prevention purposes. See Paul Roberts, *The Federal Chain-Saw Massacre: Clinton's Forest Service and Clear-Cut Corruption*, *HARPER'S MAG.*, June 1997, at 37, 44. Originally intended as a limited emergency measure, salvage sales allow the agency to exceed regular clear-cutting acreage limits, to harvest trees in normally forbidden areas, and most importantly, to keep all sales receipts off-budget. See *id.* at 45-46. The logging industry, in turn, receives cheap federal lumber and more timber processing jobs. See *id.* at 45.

²⁰¹ See, e.g., *supra* text accompanying notes 40-41.

cus of the standard policy prioritization agenda. But did they go far enough in preserving the Act against less obvious threats to its authority?

On paper, the ESA looms as a bulwark against manipulation by short-term, economic interests. As mentioned in the discussion on risk assessment, the ESA disallows any consideration of economic cost in the decision to list a species.²⁰² The threshold determinations for “jeopardy” and “take” actions are set drastically low in the statute and have been interpreted as such by the courts.²⁰³ The decision to staff the ESC with a half-dozen top administrators appears to have diminished the likelihood of inofficious meddling by most special interest groups. The Committee, moreover, has convened only rarely and has not demonstrated any particular sympathy towards economic development goals when it does.²⁰⁴ Also, the ESA grants a fairly broad capacity for individuals to sue in federal court to enjoin any public or private entity from carrying through with an activity that violates any part of the statute.²⁰⁵ With so many layers of

²⁰² See *supra* text accompanying note 147. The ESA does allow economic factors to come into play in the Secretary’s designation of the “critical habitat” for the species, see *supra* text accompanying notes 154-156, although this provision is rarely invoked by the agency in refusing to designate critical habitat, see Oliver A. Houck, *The Endangered Species Act and Its Implementation by the U.S. Departments Of Interior and Commerce*, 64 U. COLO. L. REV. 277, 297 (1993).

²⁰³ In one case involving the jeopardy provision, the First Circuit held that a failure on the part of the EPA to use real-time simulation studies (deemed essential by the U.S. Coast Guard for the determination of the project’s safety) precluded the agency’s finding that the proposed action was not “likely to jeopardize” three listed species. See *Roosevelt Campobello Int’l Park Comm’n v. EPA*, 684 F.2d 1041 (1st Cir. 1982). In a landmark case involving the take prohibition, the Supreme Court ruled that a private entity could illegitimately “harm” a listed species within the meaning of the statute without using physical force or even intending to take the species. See *Babbitt v. Sweet Home Chapter of Communities for a Great Or.*, 515 U.S. 687 (1995).

²⁰⁴ See *supra* text accompanying note 32.

²⁰⁵ See 16 U.S.C. § 1540(g) (1994). Last year, however, the Supreme Court expanded the “zone of interests” test for citizen suit jurisdiction to include private individuals who had been economically harmed by ESA take prohibitions. See *Bennett v. Spear*, 520 U.S. 154 (1997). Presumably, this ruling will make it easier for property owners and developers to challenge regulatory action under the ESA. Compare *Building Indus. Ass’n of Superior Cal. v. Babbitt*, 979 F. Supp. 893, 899-901 (D.D.C. 1997) (holding that plaintiff landowners had standing to bring a citizen suit under the ESA by pleading a purely economic harm), with *National Ass’n of Home Builders of the United States v. Babbitt*, 990 F. Supp. 1, 4-7 (D.D.C. 1997) (holding that plaintiff trade associations had no such

protection, the ESA looks well-equipped to fend off most frontal attempts by third parties to undermine its tough mandate.

In practice, however, economic interests have been making huge inroads into the ESA's protective scheme from its very inception. To begin with, the federal agencies entrusted with enforcing the ESA have proven somewhat susceptible to pressures from outside parties who find themselves adversely affected by the ESA. FWS, for instance, has fostered significant delays in listing candidate species through a common finding that the listing is "warranted but precluded" by the bottleneck of other listing proposals.²⁰⁶ This delay in listings—the statutory mechanism upon which *all* ESA protections are predicated—has effectively transformed the mandatory directives of the ESA into a discretionary finding by the FWS.²⁰⁷ Given the importance of habitat preservation to species preservation (a proposition accepted universally by biologists²⁰⁸ as well as by most members of Congress²⁰⁹), it is shocking to note that as of May 31, 1997, only twenty-eight percent of all listed animal species had been designated critical habitats.²¹⁰ The FWS has also been accused of implementing a "rubber-stamp" jeopardy approval process²¹¹ and assigning incidental take permits without realistic mitigation requirements.²¹² On many occasions, the enforcement of the species listing and habitat designation provisions within the ESA is

standing upon a more searching analysis of the injury-in-fact, causation, and redressability requirements).

²⁰⁶ Although there is legitimate statutory authority for these decisions, *see* 16 U.S.C. § 1533(b)(3)(B)(iii), it is clear that the legislators never intended for the "warranted but precluded" exception to extend beyond a temporary state of triage, *see* H.R. REP. NO. 97-567, at 15 (1982), *reprinted in* 1982 U.S.C.C.A.N. 2807, 2821. As of 1993, the listing of 56 candidate species had been shelved as "warranted but precluded" for over eight years, while several had been waiting for almost 20 years. *See* Houck, *supra* note 202, at 286.

²⁰⁷ This condition is exacerbated by a chronic shortage of funding at the FWS. *See* Houck, *supra* note 202, at 293-94.

²⁰⁸ *See, e.g.,* EHRlich & EHRlich, *supra* note 64, at 129-76.

²⁰⁹ *See supra* text accompanying note 61.

²¹⁰ *See* Fish & Wildlife Serv., U.S. Dep't of Interior, *Endangered Species General Statistics* (last modified Feb. 28, 1999) <<http://www.fws.gov/r9endspp/esastats.html>>.

²¹¹ *See* Houck, *supra* note 202, at 317-21. Between Fiscal Year 1987 and Fiscal Year 1995, FWS initiated formal consultations on only 2.7% of all federal actions, delivered "jeopardy" biological opinions on only 0.3%, and rejected only 0.05% outright (i.e., without offering alternatives). *See* Fish & Wildlife Serv., U.S. Dep't of Interior, *supra* note 210.

²¹² *See* Houck, *supra* note 202, at 354-58.

left to private litigators who must step up to fill the void created by agency inaction.²¹³ Clearly, the front-end risk assessment process has been compromised by political pressures.

The back-end risk management process has not fared much better. For starters, one would think that the politically-isolated ESC would be completely impregnable from the tainting influences of special interests. As suggested by allegations of impermissible *ex parte* communications with Bush Administration officials during the ESC hearings on the northern spotted owl,²¹⁴ however, the possibility of executive tampering remains a real threat. A more systemic frustration of ESC authority is presented by the ability of Congress to expressly exempt federal projects from the ESA through their inherent budgetary powers. The Tellico Dam, first enjoined by the Supreme Court in *Tennessee Valley Authority v. Hill*²¹⁵ and subsequently denied exemption by a unanimous ESC vote,²¹⁶ was eventually completed in 1980 after being slipped through the House as an appropriations rider.²¹⁷ Despite the rigorous tone of the ESA, it seems that the statute's mission has been at least partially compromised by legislators, administrators, and private groups who do not have the best interests of endangered species at heart.

Regrettably, these influences may transcend the power of any ideal legislator to preclude altogether, for they reflect a concentration of wealth and power that is itself hardly "ideal." If anything, these short-sighted frailties in human judgment are precisely why we need an ESA in the first place: to secure for ourselves and our progeny the numerous human-centered benefits of species preservation. Towards this end, the ESA certainly *sounds* like a legislative attempt to insulate species protection

²¹³ According to one environmental litigator: "At one point an official in the Department of Interior asked me to please sue his department so that they could be freed politically to do what they knew they should." Plater, *supra* note 177, at 872.

²¹⁴ In 1993, the Ninth Circuit granted a request for an evidentiary hearing to determine whether the Bush Administration had engaged in *ex parte* communications with several members of the ESC to convince them to vote in favor of exempting timber sales that would jeopardize the Northern Spotted Owl. See *Portland Audubon Soc'y v. Endangered Species Comm.*, 984 F.2d 1534, 1549-50 (9th Cir. 1993).

²¹⁵ 437 U.S. 153 (1978).

²¹⁶ See *PERCIVAL ET AL.*, *supra* note 74, at 1197.

²¹⁷ See Zygmunt J.B. Plater, *In the Wake of the Snail Darter: An Environmental Law Paradigm and Its Consequences*, 19 U. MICH. J.L. REFORM 805, 813-14 (1986).

from the backroom machinations of special interest groups; indeed, if Congress *truly* thought that species protection was not an important concern, they presumably would have repealed the statute by now. The fact that the statute's enforcement has been hampered to some degree by the influence of outside interests should not detract from its substantial accomplishments. For species listed as endangered or threatened, the ESA has demonstrably improved the prospects of recovery.²¹⁸ More significantly, of all the species listed since the inception of the ESA, only seven—less than one percent—have gone extinct.²¹⁹ There may be better ways to recover species from the brink of extinction,²²⁰ but one cannot say that the approach adopted by the legislators was irrational or even mostly ineffectual. There just may be no legitimate recourse for the policymaker (real *or* ideal) when the persons entrusted to enforce the rules do not consistently play by them in good faith.

In any event, this concession does not affect the outcome of the present thought experiment. Regardless of the presence of political influences, the ESA bears a striking resemblance to the sort of regulation that a perfectly rational, human-centered policymaker would have chosen after considering the severity, sensitivity, uncertainty, latency, and irreversibility of the harm involved. If the ESA seems peculiar compared to other environmental statutes, it is because this conjunction of harm-variables is itself exceptional, if not unique. One would be mistaken, however, to confuse this idiosyncratic set of regulatory circumstances with an entirely different value structure underlying the regulation. The human-centered perspective offers a completely sufficient justification for the ESA. The nature-centered perspective, notwithstanding its usefulness either as a shining, ethical grail or a convenient, political bugaboo, is entirely superfluous to this policy analysis.

²¹⁸ Twenty-two percent of those species listed for less than four years have improved or stable populations, increasing to 44% for species listed for four to 20 years, and to 58% for species listed for more than 20 years. See Jeffrey J. Rachlinski, *Noah by the Numbers: An Empirical Evaluation of the Endangered Species Act*, 82 CORNELL L. REV. 356, 369 (1997).

²¹⁹ See Fish & Wildlife Serv., U.S. Dep't of Interior, *Endangered Species Recovery* (visited Mar. 12, 1999) <<http://www.fws.gov/r9endspp/faqrecov.html>>.

²²⁰ Some scientists have argued that we should abandon the idea of protecting species (as the basic unit) in favor of approaches that protect biodiversity. See, e.g., L. Scott Mills et al., *The Keystone-Species Concept in Ecology and Conservation*, 43 BIOSCIENCE 219, 222-23 (1993).

CONCLUSION

Amidst the bombast from the “pro-green” political left and “pro-growth” political right, the 105th Congress has introduced two bills proposing substantive changes to the ESA. Although both bills are entitled “The Endangered Species Recovery Act of 1997,” the overt goals and underlying interests of each are quite different. House Bill 2351,²²¹ authored by Representative George Miller, seeks to make the ESA more proactive by removing discretionary roadblocks to species listing and habitat designation,²²² adopting an ecosystem-wide approach to conservation efforts,²²³ and providing new tax incentives to private landowners.²²⁴ Senate Bill 1180,²²⁵ co-sponsored by Senators Dirk Kempthorne, John Chafee, Max Baucus, and Harry Reid, proposes to make species recovery more “user-friendly” by facilitating greater public and state participation,²²⁶ codifying many existing FWS conservation incentives for private landowners,²²⁷ and implementing enhanced education and compliance-assistance mechanisms.²²⁸ Both bills emphasize more rigorous scientific standards at the risk assessment stage²²⁹ and provide for massive increases in funding.²³⁰ Unsurprisingly, the Miller Bill has garnered widespread support from the environmentalist community,²³¹ while the Kempthorne Bill appears to be backed mostly by property rights advocates and development interests.²³²

As in the original passage of the ESA in 1973, however, none of the legislators involved seem to be talking about nature-centered reasons. The Miller Bill, for instance, implicates instru-

²²¹ H.R. 2351, 105th Cong. (1997).

²²² See *id.* §§ 102-103, 105.

²²³ See *id.* §§ 107-108.

²²⁴ See *id.* §§ 201-204.

²²⁵ S. 1180, 105th Cong. (1997).

²²⁶ See *id.* §§ 2-3.

²²⁷ See *id.* § 5.

²²⁸ See *id.* § 7.

²²⁹ See H.R. 2351 §§ 104, 108; S. 1180 §§ 2-3.

²³⁰ See H.R. 2351 § 301; S. 1180 § 8.

²³¹ See Nancy Perry, *The Fruits of Our Labor: Results from the First Session of the 105th Congress—1997 Federal Legislative Summary*, 4 ANIMAL L. 137, 142 (1998).

²³² See Deanne M. Barney, Note, *The Supreme Court Gives an Endangered Act New Life: Bennett v. Spear and Its Effect on Endangered Species Act Reform*, 76 N.C. L. REV. 1889, 1921 (1998). *But see Regulation Reform and Expansion on Capitol Hill*, JUD./LEGIS. WATCH REP., May 1998, at 1, 2.

mental human-centered reasons in citing a need to preserve “the spiritual, medicinal, agricultural, and economic benefits that plants and animals offer.”²³³ The bill invokes intrinsic human-centered reasons in referring to “the importance of protecting the natural environmental legacy of this Nation” and warning against actions that would “deny a world of abundant, varied species to future generations.”²³⁴ Admittedly, one might read a nature-centered interest into the bill’s admonition of “a moral responsibility not to drive other species to extinction,”²³⁵ but then one would still have to explain away various human-centered elements remaining in the Act, such as the ESC,²³⁶ the lack of protection to individuals,²³⁷ and the allowance of “disfavored” species.²³⁸ Indeed, were the sponsors of H.R. 2351 truly guided by nature-centered concerns, one would think that now would be as good a time as any to do away with these offending provisions. The Miller Bill affirmatively acknowledges the importance of ecosystem conservation planning,²³⁹ but even this environmentally-sensitive focus is still completely within the ambit of the human-centered perspective. Such measures fall squarely within a rational, human-centered risk assessment strategy as yet another way to account for the harm-variables specific to the problem of species extinction.

The Kempthorne Bill is even more difficult to reconcile with the nature-centered perspective. The substantive provisions of S. 1180 read like a “Landowner’s Bill of Rights,” categorically guaranteeing the supremacy of human interests over nonhuman welfare. For example, the recovery planning standards under the proposed bill actually demand that greater attention be accorded to plans that “*reduce* conflicts with construction, development projects, jobs or other economic activities”²⁴⁰—a complete reversal of the existing ESA prioritization scheme.²⁴¹ The Kempthorne Bill also places a higher premium on human-centered economic factors in selecting recovery team members,

²³³ H.R. 2351 § 2.

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ See *supra* text accompanying notes 69-79.

²³⁷ See *supra* text accompanying notes 108-25.

²³⁸ See *supra* text accompanying note 107.

²³⁹ See H.R. 2351 § 108.

²⁴⁰ S. 1180, 105th Cong. § 3(b) (1997) (emphasis added).

²⁴¹ See 16 U.S.C. § 1533(f)(1)(A) (1994).

choosing between alternative recovery measures, and designating critical habitats.²⁴² Furthermore, the bill authorizes “candidate conservation” agreements and “no surprises” provisions, both of which exempt landowners from costly conservation requirements (including those that might benefit struggling populations) once an HCP has been effectuated.²⁴³ Finally, the bill permits “safe harbor” regulatory contracts that allow private individuals to take threatened and endangered species in exchange for restoring (or even simply *maintaining*) existing habitat.²⁴⁴ None of these statutory amendments appear to do much in the way of protecting nonhuman species for their own sake. Granted, the hearings on S. 1180 do contain scattered references to the rhetorical choice of “people over animals,”²⁴⁵ which might lead one to believe that the current ESA does privilege nonhuman interests. Then again, considering the insidious operation of special interest influence over public interest lawmaking,²⁴⁶ it seems much more likely that these legislators are just stirring up the kettle to leverage political capital as S. 1180 moves to the Senate floor.

The authors of the Miller and Kempthorne Bills, like their counterparts of a quarter-century ago, seem concerned exclusively with the advancement of human-centered values. Once again, the nature-centered perspective has been left out of the policy discussion. This omission is not at all surprising, however, given the results of the rational policymaking framework utilized throughout Part II. Far from resting on empty platitudes or “tree-hugging” sympathies, the ESA makes good sense in light of the potentially devastating harms associated with species extinction. The instrumental values of genetic diversity, ecosystem health, and aesthetic appreciation, along with the intrinsic value

²⁴² See S. 1180 § 3(b).

²⁴³ See *id.* § 5(c)-(d).

²⁴⁴ See *id.* § 5(f).

²⁴⁵ The most graphic portrayal of this idea came from Senator James Inhofe, who claimed:

America has adopted an attitude that places more value on the life of a critter that [sic] on a human being. We want to protect the Spotted Owl, yet we care little for the men and women who lost jobs in the Northwest when the timber industry was virtually shut down. We want to protect the Arkansas River Shiner, a bait fish in Oklahoma, yet we will allow unborn babies to have their brains sucked out in a partial birth abortion. Mr. Chairman, we need to do something.

Endangered Species Recovery Act: Hearings on S. 1180 Before the Senate Comm. on Env't and Pub. Works, 105th Cong. 8 (1997).

²⁴⁶ See discussion *supra* Part II.D.

of prudent stewardship, provide highly compelling human-centered reasons for protecting our nation's species.

Thus, the contemporary debate pitting nonhuman rights against economic freedom offers a false dichotomy that has very little to do with the ESA itself. The environmental ethicists believe that their appeal for increased recognition of nonhuman interests is crucial in furthering the cause of species preservation. The property rights advocates and pro-development groups believe that basic human interests are being ignored by a law that demands so much restraint and sacrifice. Both sides are wrong. The nature-centered perspective was not the motivating force behind the enactment of the ESA twenty-five years ago, nor is any reference to the nature-centered perspective necessary to explain the ESA's regulatory structure as it stands today. In protecting species, the ESA protects vital human interests that are simply more important than most other policy considerations.

In deciding whether or not to amend the Endangered Species Act, the nation's legislators would do well to keep in mind the gravity of the human-centered reasons that prompted its inception. In 1999, as in 1973, a tough problem demands a tough statute.