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The Risk of Extinction: A Risk Analysis of the Endangered Species Act as Compared to CITES

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THE RISK OF EXTINCTION: A RISK ANALYSIS OF THE ENDANGERED SPECIES ACT AS COMPARED TO CITES

David S. Favre

Introduction

Life for any individual is a series of risk assessments. The continued existence of a particular species depends on the sum total of the risks or rewards realized by the actions of each individual member plus the sum total of the risks or rewards imposed upon that species by other species, together with the unknowable acts of Nature. With the overwhelming and ubiquitous presence of human beings around the globe, the human species has the ability and interest to impose significant risks of destruction upon other species. Adverse ecological impacts are leveraged from technological advances and driven by forces of irresponsible capitalism. The money and interests of a thousand humans may be all that is needed to drive a beautiful bird species to extinction in the wild. Finally, there is the human capacity to self-direct and

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1 In an article discussing the devastation of coral reefs by dynamite and cyanide, it was noted that, "as in other developing countries, modern technology has vastly increased the capacity to mine and destroy ecological systems for short-term gain even as poverty, corruption and a rapidly growing population have increased the pressures to do so." Rod? Reel? Dynamite, U.S. News & World Rep., Nov. 25, 1996 at 56. Science News reported that the North Sea cod stock could collapse from overfishing. An easy solution of using a larger mesh size net will not even be tried because of short-term economic greed and/or need of the fisherman. Janet Raloff, Overfishing Imperils Cod Reproduction, 151 Science News 124 (1997).

2 "National and international economic policy has usually ignored the environment . . . . [E]conomy-wide policy reforms designed to promote growth and liberalization have been encouraged with little regard to their environmental consequences . . . ." Kenneth Arrow et al., Economic Growth, Carrying Capacity, and the Environment, 268 Science 520 (1995).

3 As an example of the potential of one individual to impact a species, it has been estimated that Tony Silva, who illegally imported over 300 exotic birds, may be responsible for the removal of 5 to 10 percent of the world's population of hyacinth macaws. Holly Reed, Traffic USA, Dec. 1996, 15(4) at 7. Mr. Silva received a sentence of 82 months in prison from the federal courts, one of
self-limit activities. Beyond the capacity to destroy, humans have the capacity to be aware of the consequences of their actions and to care about those consequences. In other words, humans usually can choose whether to impose risks on other species.

The Endangered Species Act of the United States (ESA)\(^4\) and the international Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)\(^5\) are both political products of human beings seeking to control the risk of extinction imposed upon other species by human activity. The ESA is all-encompassing in that it seeks to deal with the threats of species endangerment from all sources. CITES seeks to deal only with one component of the basketful of risks humans impose upon other species, which is that of international trade in animals and plants, be they alive or in parts.\(^6\) Human law can approach the issues negatively, through criminal prohibitions, as well as positively, through adopting recovery plans. Both the ESA and CITES seek to reduce the risk of extinction for species around the world by listing those at risk and then imposing restrictions on their uses. The ESA, but not CITES, also tries to create positive support for the at-risk species.

One consequence of reducing the risk for non-human species through the provisions of the ESA and CITES is that some human actions must be limited or constrained. Preservation of endangered species in the political arena requires balancing the risk to the species with the degree of government interference with human activity. This Article first explains a risk analysis the longest jail sentences given in the U.S. for an endangered species violation. Exotic Bird Expert Sentenced for Parrot Smuggling, Reuters North American Wire, Nov. 19, 1996, available in LEXIS, News library, Curnws file.


\(^6\) The difficulty and complexity in seeking to control illegal international trade in live specimens is artfully set out in DONOVAN WEBSTER, The Looting and Smuggling and Fencing and Hoarding of Impossibly Precious, Feathered and Scaly Wild Things, N.Y. Times, Feb. 16, 1997, § 6 (Magazine), at 27. The author follows the trail of smuggled radiated tortoises from a Florida bust of a smuggling ring back to their collection in the wilds of Madagascar. Id. The local people who collected the animals received 30 cents for a live tortoise that will fetch thousands of dollars from the illegal collector in the United States. Mr. Webster suggests that there is a $10-$20 billion black market in endangered animals and plants around the world. Id.
context for the ESA, which includes the "risk of extinction," "public policy risk," and "implementation risk." Next, the Article examines and compares portions of the ESA with CITES, as well as the laws of Malawi\(^7\) and the Kempthorne Bill,\(^8\) to understand how different legal language impacts the risk of species extinction. The Article concludes that the ESA strikes the appropriate balance by seeking to protect species from extinction according to the following criteria: (1) preservation of species should occur at the ecological level, (2) habitat must be protected, and (3) there should be an affirmative duty upon the government to seek the recovery of a species.

I

THE RISK CONTEXT

The word "risk" has an innate negative aspect.\(^9\) To say that something is risky is to suggest that there are possible negative outcomes. The terms "negative" and "risk" both have meaning only within the human mind, where values and preferences are attached to outcomes. The earth, as a physical entity, and species, as groups of related entities, make no such value judgments. The earth does not care whether one, a hundred, or a million species exist upon its surface and in its waters; the forces of the universe and the rules of Darwinian selection will continue to operate, without judgments of good or bad. An eagle about to eat the last snake of a species does not balance the eagle’s interest against the need to preserve the snake species.

For this Article there are three different contexts for the word "risk" which will be discussed in order. The first is the "risk of extinction." This is primarily a science-based prediction of

\(^7\) Malawi was chosen because the author has visited the country and talked with government officials there. Passed in 1992, the Malawian law is representative of present African wildlife management as opposed to the prior colonial government. Many other African laws reviewed by the author are not as comprehensive, and therefore it is more difficult to understand the legislative perspective of those countries. An African country was chosen because while the law is written in English, thus eliminating translation problems, it represents a different cultural perspective of wildlife.

\(^8\) The Kempthorne Bill represents an extreme position within the United States. This bill and its backers sought to dismantle the Endangered Species Act. See infra note 24.

\(^9\) While it is possible to say, "There is a risk you will win the $1 million lottery," the more likely proposition is: "There is a risk you will lose your money in the lottery."
possible future outcomes. It is akin to the concept of “risk assessment” in the pollution side of environmental law. The second is “public policy risk,” which is related to the concept of risk management. The third, “implementation risk,” has not previously been singled out for individual analysis. It is the risk that the objectives of the law—the reduction or removal of the threat to the species—will never come to fruition. Both public policy risk and implementation risk are defined in detail later.

A. Risk of Extinction

It is a human premise that the preservation of other species on the planet should impose a constraint on human action. The development of this notion is beyond the scope of this Article and will simply be accepted as an operational premise. However, while acknowledging its existence, it must also be recognized that it is not shared with equal conviction by all the states of the world; nor does it mean that all humans feel their actions should be constrained by that premise.

The transformation of the ethical premise into a legal restraint of human action is not as straightforward as one might think. There is seldom a clear single action which should be pro-

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11 Ruckelshaus explains:
Risk management [of chemical pollution] is the process by which a protective agency decides what action to take in the face of such [risk assessment factors]. Ideally the action is based on such factors as the goals of public health and environmental protection, relevant legislation, legal precedent, and application of social, economic, and political values.

Id.

12 See infra notes 16-27 and accompanying text.


14 The tortoise collector in Madagascar understands that the rarity of the species is what makes it valuable. Although he realizes that his actions may drive the species to extinction, he continues nevertheless. See Webster, supra note 6.
hibited. Instead, the risk of extinction arises out of a number of actions or non-actions, each of which imposes a degree or level of risk on a species. It is also clear that to prohibit all human action which might impose any risk on another species is not politically or economically acceptable or necessary. Therefore, the first political decision relevant to this issue for each state to decide is what level of risk of extinction is acceptable to that society. To do this there must be some understanding of the nature and degrees of risk which various courses of action represent. As a government seeks to lower the risk of extinction, it will often increase interference with human activity.

Before moving to the specifics of the legislation, it is important to understand the potentially different roles of science in public policy. The U.S. political system does not give any political decision-making power to science or scientists. However, science can play two important roles in the preservation of species. First, it can provide the best available information about the present state of the physical world to those who make the decisions: the elected representatives or administrators of our laws. Second, it can attempt to assess the risk of extinction based upon existing conditions. Science cannot decide what level of risk of extinction is acceptable to the American public or to any particular state. Still, the political process may decide that the best course of action is to make the administrative decision-making process as scientific as possible. Congress can decide that scientific and ecological information should dominate the administrative decision-making process, rather than ethical, cultural, economic or political interests. On the other hand, ethical considerations may at times become a dominant factor in wildlife issues.15

The risk of extinction for a given species is a science-driven projection of population dynamics. For some species, there is no foreseeable risk of extinction. Good examples of this group are species that have adapted to human populations, such as the urban rat and the pigeon. For other species, like the American bi-

15 Under the Marine Mammal Protection Act, the importation of seals is prohibited while they are still nursing or if they are taken in a manner deemed inhumane. 16 U.S.C. § 1372(b) (1994). Likewise, ethical concerns have supported continued efforts to block commercial whaling, even where science has reported that a whale species is no longer in danger of extinction. See Alexander Gillespie, The Ethical Question in the Whaling Debate, 9 Geo. Int'l Envtl. L. Rev. 355 (1997).
son and the sandhill crane, it may be foreseeable that future human activity could put a species at risk, but no such risk exists at this time. Finally, there are some species, such as the black rhino and the loggerhead turtle, which are clearly at risk of extinction.

However, while we look to science to make judgments that are predictive of the future and not just statements of present facts, science cannot make such decisions. Scientists may be willing to place species in categories, but they are usually not willing or able to place a number on the risk, e.g., "there is a 40% chance that the black rhino will be extinct in the wild in ten years assuming no new measures are adopted to change the present courses of events." Therefore, while it is an obligation of science to provide information concerning the risk of extinction faced by a species, one can not expect exact calculations or clear-cut numbers.

B. Public Policy Risk

"Public policy risk" is the outcome of the political process as it decides what level of risk of extinction is acceptable to society. This risk is seldom stated explicitly; rather, it is reflected in the language of the law adopted. The legislative decision about when to start protective intervention on behalf of a species is a good example. This might occur at the first sign of a population decline, or when science determines there is a chance of extinction within twenty years, or perhaps only when science concludes that there is a likelihood of extinction within twenty years.

In making this decision, each political body (legislature) decides within a matrix of risk factors. Part of the context (a risk matrix) in which these decisions are made include: moral beliefs, ecological protection, economic expansion, religious beliefs, cultural history, and the physical well-being of the citizenry.

Some examples can illustrate the operation of the risk matrix. First, an individual may believe that it is morally wrong to do something that would result in the loss of a species. This per-

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16 This is similar to the decisions of the federal government about acceptable levels of risk concerning automobiles. In this arena, the issue is how much safety should be mandated by the federal government, at what risk of human injury, and at what cost to the consumers and voters of the country. See generally Steven W. Potter and Robert C. Witt, On the Demand for Liability Insurance: An Insurance Economics Perspective, 72 Tex. L. Rev. 1681 (1994).
son will take fewer risks with an "at risk" species and may seek to intervene and protect that species sooner than he or she otherwise would. Second, some species are very important to the functioning of local ecosystems, for example, pollinators like the bee and habitat modifiers like the elephant. It might be wise to take fewer risks with these species, as their loss would directly affect other species. Third, economic impact is demonstrated by the spotted owl controversy in the United States. The more protection that is given the spotted owl through habitat preservation, the fewer the number of trees that can be cut down by the lumber industry. Fourth, the prohibition on the killing of eagles interferes with the religious rituals of some Native Americans which call for feathers from recently killed eagles. Similarly, Intuits believe that the killing of whales is integral to their culture. Finally, how does one balance the protection of a species with the likelihood that, by increasing the population of a species, there will be an increase in the physical risk to human beings?

In the context of the United States, economic considerations constitute the most significant limitation on human protection of various species. Protecting a species requires habitat protection and controlling or eliminating the commercial market for the animal. Thus, new leopard skin coats are no longer available, and housing projects are changed in density and location to accommodate the needs of a butterfly. Economic consequences

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17 The state of Nevada faced this issue:
As the claimant's affidavits demonstrate, experts in comparative religion have likened the status of the eagle feather in Indian religion to that of the cross in the Christian faith. In that the eagle feather enjoys such an exalted status in the Indian religion, any scheme which limits the access of the faithful to their talisman must be seen as having a profound effect on the exercise of religious belief.


18 For instance, consider balancing the interests of protecting elephants and tigers, both of which are known to kill humans. See Save the Elephants: Start Shooting Them, U.S. NEWS & WORLD REP., Nov. 25, 1996, at 51. “Elephants are the darlings of the Western world, but they are enemy No. 1 in Kenya,” says David Western, head of the Kenya Wildlife Service. Id. In a period of six years, wildlife, consisting of predominately elephants, killed 400 Kenyans. Id. See also Peter Matthiessen, Tiger in the Snow, THE NEW YORKER, Jan. 6, 1997, at 58, 62 (“Miquelle had told me that tigers in Primorski Krai take about one human life each year, a fact that lends a certain edge to walking in the taiga.”).

flow from both the loss of private economic gain from prohibited activities and from the public and private resources expended in seeking protection and the recovery of the species. Of course, there is also the considerable weight of ecological protection and enhancement that comes from the protection of a single listed species within an ecosystem. How should the decision-makers weigh all these divergent factors?

Even if there is agreement about what level of risk is necessary or appropriate for a given society, there may be considerable disagreement about what course of action will provide the best protection for species. There will be disagreement about whether the action should be passive (criminal prohibitions) or active (management recovery programs like the reintroduction of the wolf into the Yellowstone National Park). It is in this bubbling mud pot of conflict and contradiction that we make our public policy. Back in the 1970s when the ESA and CITES were shaped out of the mud and placed in the wall of public policy, the depth of the conflicting interests were not as apparent as they are today. There had not been a spotted owl controversy, and elephant ivory did not have a black market. The full set of restrictive consequences to human activities when preserving and helping another species recover was not readily apparent when the ESA and CITES were adopted. After twenty-five years of experience, the costs and benefits of such courses of action are more apparent. As noted in Section III, infra, both represent a public policy which is strongly protective of species at risk of extinction.

C. Implementation Risk

To focus solely on the adopted public policy risk is to overlook the full picture. Pretty words can hide an unpleasant reality. The full story cannot be understood without consideration of a third kind of risk: implementation risk. This is the danger that the adopted public policy, as reflected in the language of the statute or regulation, will never be, or will only partly be, achieved in

(D.D.C. 1996) (dealing with the impact of listing the Delhi Sands Flower-loving Fly on San Bernardino County's attempt to construct a hospital on one of the species' last remaining habitats).

20 The best place to observe mud pots in the United States is at Yellowstone National Park, in the general area of the geyser "Old Faithful"—which is not as faithful as it used to be.
the real world. It is the risk that the law will not work; that it will not be effectively implemented. The risk is that, notwithstanding the positive words of the public law, the threat to the threatened species will not be reduced or modified.

One type of implementation risk concerns the level of resources which the legislative and executive branches of government allocate to the task of realizing the objectives of the law. The legislature can pass a strong law but allocate no money for its implementation. There may be short term political gain for the politicians passing the new law but not sufficient interest to justify the expenditure of real money. Obviously, while this may help the politicians, it is not helpful for reducing the risk of extinction faced by species. The U.S. experienced a minor episode of this problem when, for a period of time, funds necessary for the listing of new endangered species under the ESA were intentionally blocked by Congress.21

Certain risks in the administrative process of species protection are predictable and preventable. For example, consider the issue of ports of entry for importation into the U.S. of endangered or threatened species. The law may provide that certain species or products containing endangered species are importable only with an appropriate permit. However, identification of the species product (reptile skin boots) may be difficult for the average custom agent. Foreign permits in various languages may be difficult to understand. If an importer is allowed to use any port of entry into the U.S., careful review and inspection of wildlife would be impossible. It is not financially feasible to have a

21 Upset by the economic impacts of the Endangered Species Act, the new Republican Congress cut off all funds to the Fish and Wildlife Service for the cost of listing of new species in 1995. Emergency Supplemental Appropriations Act, Pub. L. No. 104-6, Ch. IV, 109 Stat. 73, 86 (1995). For over one year there were no new listings of endangered species, as there was no paid staff to undertake the process. The Republicans were seeking to maintain the status quo, with respect to the size of the endangered species list, while simultaneously seeking a redraft of the ESA that would have significantly changed the public policy risk. They were unsuccessful in changing the law during the 104th Congress. See Kempthorne Bill, infra note 24. As an example of the impact of the restriction imposed by Public Law 104-6, when the Service relisted the American bald eagle from endangered to threatened, the Service could not list the bald eagle of Mexico as endangered because of the moratorium. See Final Rule to Reclassify the Bald Eagle, 60 Fed. Reg. 36,000-01 (1995) (to be codified at 50 C.F.R. § 17). 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).
reptile skin expert available at every port of entry. Therefore, the regulatory scheme must take this into account, and a good scheme will require all reptile skin importers to use a limited number of ports of entry where it is realistic that an expert may be available to assure full compliance with the law.\textsuperscript{22} Attempts to import at other ports of entry are illegal,\textsuperscript{23} and custom officials at non-designated ports should be empowered to simply seize the suspect goods without specific knowledge of the identity of the specific species involved. The more serious a state is about controlling the risk of extinction, the harder it will strive to reduce the implementation risk.

Perhaps one of the most serious problems of analysis in the area of species protection is the problem of the false positive, the creation of a public policy sham. This occurs when a state, by its legislature or executive branch, seeks to create the appearance of a strong, protectionist, risk reduction policy by law or order, with the full knowledge and belief that it will never be realized because of a high implementation risk. This can and does occur when states seek to appear to care about wildlife protection because of internal and international political needs, while actually operating upon a different risk analysis. One example of this was when the amendments to the ESA were introduced in the 104\textsuperscript{th} Congress as part of the Republican Revolution.\textsuperscript{24}

Since the Republicans did not believe it politically acceptable to eliminate the ESA, they set out to draft a set of provisions that would retain the shell of a protective law, yet have such a high implementation risk that the regulatory outcome would be the same as if there were no protection for endangered species at all.\textsuperscript{25} This Article considers the language of the Kempthorne bill,\textsuperscript{26} even though it was not adopted, because it represents a strikingly different vision about where the balance point should be between protecting a species and interfering with human activities. 22 While there are approximately 400 points of entry for the United States, the Secretary of the Interior has limited wildlife entry to 12 named ports. See 50 C.F.R. § 14.11 (1997).
24 See S. 1364, 104th Cong. (1995). While there was both a House and a Senate Bill, the provisions referred to in this Article will be those of the Senate bill as introduced by Senator Kempthorne and sponsored by Senator Kempthorne and others.
25 Id.
26 Id.
tivity. It is very illustrative of what roads the ESA has been able to avoid taking over its twenty-five year history.

Finally, even when protective legislation is adopted in good faith and the implementation risks are minimized, there may be unforeseeable negative events that frustrate the public policy risk goals. For instance, in the 1980s, black-footed ferrets numbered less than fifty in the wild, and several were removed for captive breeding under a recovery program.\(^2\)\(^7\) Shortly after the removal, canine distemper struck one of the few remaining populations in the wild and wiped them out. Due to both unforeseeable hindrances and implementation risks such as this, it is often prudent to construct any program or legislation with more risk reduction than might otherwise seem necessary. Such an outlook is precautionary in nature.

II

Comparative Legislative Responses to Risk

What is the balance point found in the ESA between protection of the species and interference with human activities? If the balance point were to be set at different points, what might it look like? The following analysis examines three key provisions of the ESA in detail and compares them to several other politically created risk matrices, including: CITES, the wildlife laws of Malawi (which are representative of the African approach to wildlife issues) and finally, the Kempthorne Bill.

In determining a certain law's response to risk, many issues must be addressed. First, how do you define species? Second, what is the threshold for the listing of a species? The consequence of setting the threshold is significant—a lower threshold leads to a more protective law, and therefore a more risk-averse policy. Third, for a listed species, what prohibitions are imposed upon human activity? Answering this question entails determining what acts are criminal acts, and what activities protect habitat from destruction. Fourth, does the listing of a species trigger any affirmative duty to help the species recover? The following Section of this Article examines how the four different legal re-

\(^{27}\) See Gallick v. Barto, 828 F. Supp. 1168, 1170 (M.D. Pa. 1993) (describing the near extinction of the black-footed ferret in the wild, and subsequent implementation of captive breeding programs at the Wyoming Game and Fish Department and the National Zoological Park at Front Royal, Virginia).
gimes—ESA, CITES, the laws of Malawi, and the Kempthorne Bill—attempt to answer these very complex questions.

A. Defining a Species

Before asking science for a number count to determine if a species is at an endangered population level, there is a significant policy issue that must be addressed. When the term "endangered" is used, should the context be strictly biological or should it be ecological? Is the goal to allow a species to perform its function in those ecological systems in which it is located, or is it to preserve a viable breeding population of the species somewhere on the earth (in a zoo perhaps) so that the genetic code of the species is preserved? The argument of the environmentalist is that the purpose of protecting endangered species is to keep them functional in the ecological sense. To have a breeding population in a zoo may preserve the biological existence of the species, but it will be ecologically extinct.28

For example, if the test is biological extinction, then the American bald eagle should never have been listed as threatened and endangered in the lower forty-eight states. Since there has always been a biologically and ecologically healthy population of American bald eagles in Alaska, scientists could never have predicted biological extinction even if the eagle was eliminated from all the lower forty-eight states. However, since the ESA allows an ecological rather than biological focus, the eagle was protected outside Alaska. With the protection of the ESA, a population recovery has been realized in many of the lower 48 states.29

For the United States, the outcome of this policy debate appears in the definition of "species." Under the ESA, an ecological focus is allowed by defining the term "species" to include

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28 After several decades of working in the area of endangered species, I believe, but cannot prove, that this is an important dividing line for many individuals. While most environmentalists seek to preserve the ecological role of species, many of those who object to the strict controls on human activity will accept interference with human activity only at the risk of biological extinction, and will not accept that geographically different groups of the same species should be protected for ecological reasons.

29 See 60 Fed. Reg. 36,000-01 (1995), which sets out some of the history of the status of the bald eagle. This notice reduced the status of the eagle under the ESA from endangered to threatened.
population groups. An ecological approach is also allowed under CITES, which uses the phrase “geographically separate population” in its definition of species. The provisions of CITES further reinforce this ecological perspective by requiring the Scientific Authority of each member state to keep the population level of a species “at a level consistent with its role in the ecosystems in which it occurs.” Under the Kempthorne Bill, subspecies and distinct population segments would have been allowed only if it could be proven that the group was genetically isolated. This would have significantly increased the risk of local ecological extinction for many species.

For a different perspective, consider the law of the African country of Malawi. Under the Malawian law, which was adopted in 1992, there are neither endangered nor threatened species. The law creates the category of “protected species.” The definition of this term is different from the definition under the ESA for endangered species. A protected species may refer to “all of some species in a specified area, or to varieties of a species, in-

30 "The term 'species' includes any sub-species of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” 16 U.S.C. § 1532(16) (1994).
31 See CITES, supra note 5, art. I (a), 27 U.S.T at 1090, 993 U.N.T.S. at 245: "‘Species’ means any species, subspecies, or geographically separate population thereof.”
32 Article IV(3) states:
3. A Scientific Authority in each Party shall monitor both the export permits granted by that State for specimens of species included in Appendix II and the actual exports of such specimens. Whenever a Scientific Authority determines that the export of specimens of any such species should be limited in order to maintain that species throughout its range at a level consistent with its role in the ecosystems in which it occurs and well above the level at which that species might become eligible for inclusion in Appendix I, the Scientific Authority shall advise the appropriate Management Authority of suitable measures to be taken to limit the grant of export permits for specimens of that species.
33 The proposed bill stated:
SPECIES. The term "species” (A) means a biological species; and (B) includes any subspecies of naturally occurring fish or wildlife or plants, and any genetically distinct population segment of any species of vertebrate fish or wildlife, only if it can be demonstrated that there exist a complete lack of gene flow into occupied habitat of the subspecies or distinct population segment.
35 There is a designation of “dangerous animals,” which is not found in the ESA. This list includes elephants and big cats. Id. § 2.
excluding sex and age groups.”36 This would allow almost any grouping of animals to be considered protected, but the regulatory scheme is entirely different from the ESA. This definition is adequate from their perspective, because all issues are management issues. This listing of a species under the law of Malawi has no impact on economic development and therefore, unlike in the United States, there is little political concern with the crossing of the threshold of listing a species. The definition of “species” itself is not that important in the Malawi system.

The focus of the law of Malawi, and many other African countries, is species management with an eye toward sport hunting. A hint of this perspective in the law is indicated by the section which states “for purposes of this Act, protected species of animals shall be classified as game species.”37 The Malawian law defines wildlife in the nature of management groups rather than as an endangered or threatened species. Part of the reason for this different approach is that Malawi has a different outlook toward utilization of species, even those that are endangered. Many Southern African states believe that wildlife, even endangered wildlife, should be used on a sustainable basis to realize economic potential.38 Assuming that a sustainable management program is adopted, this would allow the sport hunting of rhinos and elephants.

**B. Listing a Species**

A key policy question that must be decided when setting the public policy risk level deals with the threshold of listing the species and what factors should be part of that decision. While many factors might come into play, two primary routes are available. The first is to make it primarily a scientific issue, e.g., focusing solely on whether the species is at risk of extinction. The second route allows non-scientific factors to be considered.39

This changes the issue to the following query: should the deci-

36 Id. § 43(2).
37 Id. § 44(1).
39 The ESA contains within it a clear example of the balancing approach. In determining the critical habitat for a listed species, the Secretary is directed to do so, “on the basis of the best scientific data available and after taking into consideration the economic impact, and other relevant impact, of specifying any particular area as critical habitat.” 16 U.S.C. § 1533(b)(2) (1994).
sion to list a species be balanced against the expected loss of human activity, in particular, the loss of property value and the restrictions on economic exploitation of the species being considered?

In the rush of good will that existed in the early environmental movement of the 1970s, as well as the unforeseeability of the consequences of its own action, Congress adopted a non-balancing, scientific approach to the issue of when to list a species. Thus, under the ESA, the Secretary of the Interior is directed to list a species "solely on the basis of the best scientific and commercial data available to him after conducting a review of the status of the species...." Clearly, the ESA takes a strongly protective position.

One interesting point about the ESA is that neither the law nor the regulations actually define the key term "endangered." Thus, as various Secretaries of the Interior come and go in Washington D.C., the standards for listing a species may fluctuate. While the Administrative Procedure Act would not let such an action be "arbitrary" and "capricious" or without sufficient factual evidence, there is nevertheless room for some exercise of discretion. Additionally, there is the implementation risk that even though a species as a matter of science should be listed, economic or political pressures may prevent its listing. For example, the first time the Fish and Wildlife Service faced the issue of the spotted owl, it declined to list the species. In the 1980s, notwithstanding the opinion of almost all owl experts, the Fish and Wildlife Service refused to list the species as endangered. But for the power of our federal courts to overturn arbitrary and capricious administrative decisions, this politically "hot" species would not have received the protection it needed. Imagine how

42 See, e.g., Northern Spotted Owl v. Hodel, 716 F. Supp. 479, 483 (W.D. Wash. 1988). There, the Court sharply criticized the Fish and Wildlife Service's arbitrariness:

The Court will reject conclusory assertions of agency "expertise" where the agency spurns unrebutted expert opinions without itself offering a credible alternative explanation.... Here, the Service disregarded all the expert opinion on population viability, including that of its own expert, that the owl is facing extinction, and instead merely asserted its expertise in support of its conclusions.

The Service has failed to provide its own or other expert analysis supporting its conclusions. Such analysis is necessary to establish a ra-
easy it would be for an agency that did not have the science standard imposed upon it to ignore a species that represents conflicting economic and political interests within a government. The existence of independent review by our judiciary is an important element for lowering the implementation risk in the United States. It is an element that does not exist in many other countries.

Under the provisions of CITES, species are to be listed under Appendix I (endangered), when the Party States find that they (1) are threatened with extinction and (2) are, or may be, affected by (international) trade. While Article XV of the treaty sets out the process for listing a species, it does not suggest the extent to which scientific or political analysis should go into the decision-making. Though the standards are factual and therefore science-based, they are without specific definition, and there is a perception among some delegates to CITES that political pressure and ecological protectionism have been the basis for listing or not listing some species. For example, many believe that at the 8th Conference of the Parties, Sweden withdrew its proposal for listing the bluefin tuna because of political pressure from other countries. At the 1994 Conference of the Parties, an adopted resolution set out in significant detail scientific criteria for deciding when a species was threatened with extinction. Clearly, the public policy sought by the Party States is the low risk position of a science driven answer to the question of when to list a species.

For those that were seeking to make the CITES listing process science-driven, they may or may not be satisfied with the

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Id. (citation omitted). The story of the spotted owl contains significant subsequent litigation in which the focus shifted to critical habitat issues. See Seattle Audubon Society v. Moseley, 80 F.3d 1401 (9th Cir. 1996); Seattle Audubon Soc'y v. Espy, 998 F.2d 699 (9th Cir. 1993); Seattle Audubon Soc'y v. Espy, 952 F.2d 297 (9th Cir. 1991).

43 CITES, supra note 5, art. II (1), 27 U.S.T at 1092, 993 U.N.T.S. at 245.


outcome. There is a fundamental difference between the ESA and CITES as to who is making the decision, even though both seek to use primarily scientific information. Under the ESA, administrators of the law make the decision; if their decisions are not in compliance, their actions may be overturned by a court of law. However, the decision to list a species under CITES is made by representatives of the Party States, not administrators, and their decision is not reviewable by any court of law. A legislative decision-maker cannot be expected to focus exclusively on science when making a decision.

The Malawian listing process is not limited to scientific information and there is no limitation as to the number of factors that can be considered when listing a species. Thus, it is fully in the discretion of the executive branch of the government to decide if and when a species should be listed as "protected." The outcome of the risk analysis—assessing scientific, economic, social, ecological and personal safety factors—can vary from time to time as the executive branch of government sees fit. This approach eliminates the possibility of judicial review and represents an abandonment by the legislative branch of its right to shape the decisions of the executive branch. While this gives the executive branch great flexibility, it does not create predictable risk reduction for species and poses a high level of implementation risk.

The Kempthorne bill takes a different route. It does not change the science-based standard; rather, it seeks to significantly discourage the listing of new species through the implementation risk of delay. For example, consider how the Kempthorne bill would have dealt with the listing of foreign endangered species. Under the ESA, the criteria and process for listing species is identical for foreign and domestic species. Under the Kempthorne bill, before any proposed listing of a foreign species by the Secretary via regulation could be made, the proposal would have been conveyed in the language of that na-

46 National Parks and Wildlife Act, No. 11, § 43(1) (Malawi) ("The Minister may, from time to time . . . declare any species of wild plant or wild animal . . . as a protected species under this Act.").

47 At the time of the adoption of this law the country had only one real political party and was ruled by President for Life H. Kamuzu Banda. Since that time Malawi had elections which resulted in a peaceful transfer of power to a new president. What impact this may have on legislation and protection of endangered species remains to be seen.
tion, with supporting materials, to each government where the species is naturally found (the "range state"). The material would have to include an impact statement for the action within the range states, and the states contacted would have not less than 180 days to comment on the proposal.\textsuperscript{48} In subsequent discussion, if the foreign country believes that more study is necessary (e.g., population levels or threats to habitat), then the Secretary of Interior must help to find funds for carrying out the study. One should remember that wildlife studies may take several years from the point of seeking funding to the release of a final report.

After all this possible delay, the Kempthorne Bill would still not allow the listing of a foreign species as endangered without the concurrence of the range states, unless approval is obtained from the President of the United States.\textsuperscript{49} Obviously, the decisions of a foreign country, approving or disapproving a U.S. listing, are not subject to judicial review in the United States. The entire process could delay the listing of a foreign species for years. It also makes the process much more political. Thus, without changing the appearance of a science-based decision for species listing, the Kempthorne Bill adopted a process that would have made the reality of listing, or reducing risk for new species, very unlikely.

In contrast to the ESA, the issue of what constitutes an endangered species is directly addressed in the Kempthorne Bill. It stated that "'endangered species' means any species that, if no action were taken under this Act, would be placed on an irreversible course of extinction within 2 human generations..."\textsuperscript{50} The use of the human life span as a reference point is curious and arbitrary especially when compared to CITES, where the adopted listing criteria go on for over twenty pages.\textsuperscript{51}

C. \textit{Prohibitions on Human Actions}

After having listed a species, the next critical point of analysis is understanding what level of protection a species should receive under the law. The usual approach is to make the

\textsuperscript{48} S. 1364, 104th Cong. (1995), at 18-19.
\textsuperscript{49} \textit{Id.} at 20.
\textsuperscript{50} \textit{Id.} at 8. Forty years is shorter than the lifetime of an elephant, but may represent 80 generations of the butterfly.
\textsuperscript{51} \textit{See} Conf. 9.24, \textit{supra} note 45.
obtaining, possessing and shipping of a specimen of a listed species illegal, unless an exception applies or the individual has a state-issued permit. The ESA contains a long list of prohibited acts which includes taking, possessing and selling.\textsuperscript{52} In fact, it may be the most extensive listing of prohibited acts of any national legislation.

The ESA has layers of definitions beyond the list of prohibited acts in 16 U.S.C. §1538. While this section prohibits the taking of a listed species, the term “take” is further defined elsewhere in the law to include a wide range of actions, including: “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”\textsuperscript{53} By regulation, the Secretary further defined the term “harm” to include destruction of habitat, rendering the reach of the ESA extensive.\textsuperscript{54} Acts of economic development on private property, which may or may not be part of the critical habitat for the species, can subject an individual to criminal sanctions even if an individual animal is never seen. No \textit{corpus delicti} is required.

\textsuperscript{52} (1) Except as provided in sections 1535(g)(2) and 1539 of this title, with respect to any endangered species of fish or wildlife listed pursuant to section 1533 of this title, it is unlawful for any person subject to the jurisdiction of the United States to—

(A) import any such species into, or export any such species from the United States;
(B) take any such species within the United States or the territorial sea of the United States;
(C) take any such species upon the high seas;
(D) possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any such species taken in violation of subparagraphs (B) and (C);
(E) deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of a commercial activity, any such species;
(F) sell or offer for sale in interstate or foreign commerce any such species; or
(G) violate any regulation pertaining to such species or to any threatened species of fish or wildlife listed pursuant to section 1533 of this title and promulgated by the Secretary pursuant to authority provided by this chapter.


\textsuperscript{53} \textit{Id.} § 1532(19).

\textsuperscript{54} Under the implementing administrative code, the term “harm” is defined by the Secretary of the Interior as to “include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding or sheltering.” 50 C.F.R. § 17.3 (1997).
This definition was upheld by the U.S. Supreme Court and became a major point of contention with those unhappy about the reach of the ESA. The present definition of harm clearly sets the balance point strongly on the side of species protection.

The backers of the Kempthorne bill strongly disagreed with the idea that the reach of the ESA should extend to the destruction of habitat on private lands. The definition of "take" would have been significantly modified under the Kempthorne bill. The proposed definition would have preempted the existing regulatory definition by providing that the term "take": "(A) means to proximately and foreseeably physically injure, kill, or reduce to possession an identifiable member of the species; and (B) includes proximately and foreseeably modifying habitat of the species so as to affect a member of the species in the manner described in subparagraph (A)."

The addition of the word "foreseeably" weakens the protective nature of the provision, making the burden of proof on the state higher in an enforcement action. The terms "harass," "harm," and "pursue" are omitted, and presumably such acts would be legal. Under the Kempthorne bill, it would be acceptable to chase eagles and wolves with airplanes until they reached exhaustion. Habitat modification would not be prohibited unless the act of modification resulted in the discovery of a dead body of a listed species. The Kempthorne bill strikes the balance between protection of species and interference with human activity at a different point—one that leans more toward freedom of human action.

The ESA contains another major thrust in the nature of a prohibition. Under § 7 of the Act, no federal action (project or permit approval) may proceed until there has been assurance

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55 See Babbitt v. Sweet Home Chapter of Communities for a Great Oregon, 515 U.S. 687 (1995). The Court, in upholding the regulation as promulgated, stated that "[t]he latitude the ESA gives the Secretary in enforcing the statute, together with the degree of regulatory expertise necessary to its enforcement, establishes that we owe some degree of deference to the Secretary's reasonable interpretation." Id. at 703. The Court held that a broad interpretation of "harm" was clearly intended by Congress, and the term should be considered distinct from the other words used to define "take." Specifically, the Court stated, "The Secretary's interpretation of 'harm' to include indirectly injuring endangered animals through habitat modification permissibly interprets 'harm' to have a character of its own not to be submerged by its association." Id. at 702 (citation omitted).

that the action will not “jeopardize the continued existence of any endangered species” or result in the destruction of habitat that is critical to the species.\(^{57}\) This self-limitation on government action has the effect of giving protection of endangered species the trump card over other government projects. Whatever the project and its social, political or economic priority, the § 7 prohibition allows the potential negative impact on endangered species habitat to stop the project with no balancing of interests. This point was reinforced in one of the earlier ESA cases, which was the first to reach the Supreme Court. The case pitted the small snail darter against the mighty power of the dam-building, river stopping Tennessee Valley Authority (TVA). The agency was not allowed to close the gates of the Tellico dam, even though over $100 million had been spent on its construction, because the creation of a lake at the point of the dam would have destroyed the swift water river habitat of the snail darter. With some reluctance the Supreme Court held that Congress had spoken, that no balancing was possible under the law, and that § 7 would trump the TVA’s goals and projects.\(^{58}\)

By contrast, while the laws of Malawi have fairly encompassing provisions protecting individual animals on the protected list, there is no such protection for the habitat of the protected species. There is no identification of critical habitat, nor any limitation on destruction of the habitat of protected species by either public or private development. However, habitat may indirectly be protected through the designation of an area as a park or wildlife reserve.\(^{59}\)

The laws of Malawi are focused on hunting by permit; therefore, the structure of prohibitions is different from that of the United States.\(^{60}\) The starting point is § 47, which states that “any


\(^{58}\) Tennessee Valley Authority v. Hill, 437 U.S. 153 (1978). Partly as a result of this conflict, Congress amended the law in 1978 to provide for a Committee that could issue an exemption to the requirements of the ESA under a limited set of circumstances. 16 U.S.C. § 1536(e) (1994). The issue of the Tellico Dam went before the Committee, but the Committee decided not to grant an exemption.

\(^{59}\) National Parks and Wildlife Act, No. 11, §§ 26-41 (Malawi).

\(^{60}\) In the United States, sport hunting is traditionally controlled by the individual states. In Malawi, the national government both controls sport hunting and the protection of species. This combination of both responsibilities at one level of government results in a provision of the Malawian law which makes it illegal to cause unnecessary or undue suffering to any wild animal. See id. § 83.
person who hunts or takes any protected species, except in accordance with the conditions of a licence . . . shall be guilty of an offence.” The term “take” is defined as “to wound, capture, or kill the animal, or to remove or destroy its nest or egg or any part of it.”61 A separate provision makes the molesting or provoking of a protected animal illegal.62 Presumably these terms reach the same acts as “harass, harm and pursue” under the ESA. A subsequent section, which deals with the commerce of wildlife, makes it illegal to possess, buy or sell a protected species without a licence.63

The CITES treaty has no equivalent provision for the actions of individuals. As a treaty between states, it does not seek to control the conduct of individuals, only states. Therefore, the prohibitions in the treaty relate to states allowing the importation or exportation without a CITES permit, rather than individuals.64 Moreover, while the treaty has no authority to impose criminal sanctions, CITES also does not require that any state (or individual) protect the habitat of listed species.65

D. Affirmative Duty

The goals of ESA are to protect individual plants and animals of listed species, to identify and protect critical habitat, and ultimately to support the recovery of species so that they may eventually be delisted.66 These goals are realized in part by re-

61 Id. § 2.
62 Id. § 82.
63 Id. § 86.
64 For example, “[T]he export of any specimen of a species included in Appendix I shall require the prior grant and presentation of a export permit.” CITES, supra note 5, art. III (2), 27 U.S.T. at 246, 993 U.N.T.S. at 1093.
65 The Agreement on the Conservation of African-Eurasian Migratory Waterbirds, drafted and signed in 1996, is a representative international agreement seeking to impose habitat protection obligations on states. It also seeks to impose the obligation to conserve a species, as is understood under the ESA. See, Art. II-III, Agreement on the Conservation of African-Eurasian Migratory Waterbirds, 6 Y.B. Int’l Envtl. L. 306-07, 907-09 (1995).
66 Specifically, the purposes of the ESA are:
   to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section.
quiring the federal government to "conserve" a listed species. The provisions of the ESA create an affirmative duty upon the Secretary of Interior to support the recovery of the species. The mandatory nature of the language has been recognized by the courts. However, this can be an expensive proposition. For example, the expenditures, public and private, on behalf of the bald eagle amounted to $1 million per year for over a decade. Most countries are not willing to take this step in their legislation. While many governments do expend resources to help species recover, their laws do not create a legal mandate to do so, as does the ESA. There is no equivalent language in the law of Malawi.

The neutralization of this affirmative duty was one of the key reconstruction efforts of the Kempthorne bill. First, the bill changed the definition of "conserve." Under the Kempthorne bill, the affirmative mandate was replaced by a simple reference: "The term 'conservation objective' and 'conservation plan' means [one] developed under section 5." Each species has its own "conservation plan," which may consist of "such level of conservation of the species and any critical habitat to be designated as the Secretary considers practicable and reasonable to the extent that the benefits of the conservation measures justify the human and economic costs of implementation for the [governments], private sector and affected private individuals and organizations." In the alternative, the Kempthorne bill provides that the Secretary may adopt the approach of "no Federal action other than enforcement against any person whose activity violates [section 9(a) prohibitions]." Consequently, recovery of the species would become an option, but not a mandate, for the government.

16 U.S.C. § 1531(b) (1994). CITES does not have a purpose statement.

67 "The terms 'conserve,' 'conserving,' and 'conservation' mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary." Id. § 1532(3).

68 "The Secretary . . . shall establish and implement a program to conserve fish, wildlife and plants . . ." Id. § 1534.

69 See Carson-Tuckee Water Conservancy District v. Clark, 741 F.2d 257, 261 (9th Cir. 1984).

70 See 60 C.F.R. 36,000 (1997) for a discussion of the recovery program for the bald eagle.


72 Id. at 39.

73 Id. at 79.
This portion of the Kempthorne bill contains language which represents the core of the risk reduction issue without necessarily providing the answer, at least not directly: "to the extent that the benefits of the conservation measures justify the human and economic cost of implementation." Just how much benefit justifies how much cost? As the "benefits" are reduction in the risk of the possibility of extinction for a species, what coin of the realm should be used to measure the benefits? Even assuming science could quantify the benefits of a conservation plan to species—perhaps a ten-fold reduction of risk of extinction—it would be difficult to balance this against the economic impact of that same plan. At the extreme, one can use common sense to make a judgment. A recovery program which requires the diversion of a stream at a cost of $15 million dollars, which will aid the survival of 1% of a species, can be judged as providing insufficient benefit to justify the cost. In another case, a modification of the location of a development for the saving of 40% of species, when done in the planning stage, would clearly be justified. However, in many, if not most, situations the facts are not so clear and the judgment is more difficult. To some individuals, one more eagle is not worth the cost of a good meal, but to others it is priceless. Does the term "benefit" include benefits to humans and other species? As the Kempthorne bill did not ultimately pass into law, a more detailed analysis is not necessary; however, it does underscore the heart of the issue of risk reduction.

CONCLUSION

Judgment about the appropriateness of the balance struck by the ESA in its present form is necessarily a subjective one. It is a judgment that can only be made within the context of the conflicts which exist within any particular country. A different matrix of risk issues might result in a different balance point. Within the United States, conflicts with wildlife do not have a strong component of risk to human safety. Neither does habitat preservation interfere with the human need to collect the fuel and water necessary for individual survival. Nor are wildlife critical to supplying the caloric needs of the vast majority of the

74 Id. at 39.
U.S. population. If these factors were present in the United States, then short term human need might dictate a different balance point.

Judgments about laws such as the ESA must also be made in the context of the risk of implementation that exists within a particular society. Where the risks of implementation are high, the public policy risk may need to be more protective toward species in order to assure that the net result, protection provided to species, is sufficiently positive. While the U.S. has some implementation risks, these risks are modest in relation to those faced in other legal cultures. There does not appear to be any reason to change the ESA to take this point into account.

The wisdom of the present ESA can only be judged after there is reaffirmation as to key premises. Three premises that this author believes continue to be absolutely necessary if we as a society are serious about species protection are: (1) preservation of species should occur at the ecological level, (2) habitat must be protected, and (3) there should be an affirmative duty upon the government to seek the recovery of a species.

The primary species conflict in the United States is the tension between habitat preservation and economic development of private lands. This conflict was not addressed by Congress when the ESA was adopted. The definition of “harm” was extended to cover habitat modification of private land only by subsequent regulation. Therefore, it is fair and appropriate that this issue now be fully discussed in a public, legislative debate. As this rule has been in effect for several decades, factual information should be available to decide what level of interference the present law and regulation has imposed upon individuals, and the benefits the protected species have received in return.

If some modification of the rules is appropriate, the political compromise process of the United States is fully capable of handling this issue. However, using the Kempthorne bill or any equivalent as a starting point is not a fruitful path to pursue. The Kempthorne bill represents such a radical and unjustified change in the policy risk and implementation risk of the ESA that it could not be a useful platform for change. The best approach is to start with a clean sheet of paper and write at the top, “Under what circumstances may the provisions of the ESA limit the economic development of private land owners who may or may not need federal permits for changing the use of their land?” The
answers to this question can readily be transformed into amenda-
tory language of the ESA. With only a few such modifications, the venerable and wisely balanced ESA will be ready for another twenty-five years.