THE ENDANGERED SPECIES ACT AND THE COACHELLA VALLEY FRINGE-TOED LIZARD: BIOPHELIA, BIOPHOBIA, OR SOMEWHERE IN BETWEEN?

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Executive Summary

The Endangered Species Act, intended to protect the natural environment, too often has been a destructive bureaucratic nightmare in the human environment. Characteristics of this far-reaching law sometimes include a deplorable federal insensitivity toward affected citizens; administrative and legal disputes that grind on year after year, wearing out landowners or project applicants who have limited means to defend their interests; and excessive burdens on taxpayers. The ESA is an example of the dangerous federalization of land-use policy in America. As now implemented, it can make a mockery of constitutionally protected property rights in affected areas. And it is not just the immediately involved landowners who are at risk. Once an endangered species is found and the often highly inefficient wheels of environmental administration begin to turn, the health of the local economy can be damaged. In addition, the Act tends to create a focus on rigid schemes for saving selected species of insects, tiny fishes, and other little-known creatures -- some of them, quite arguably, not even distinct species at all. Such overly ambitious plans may come at the expense of more realistic, and more public-regarding, conservation efforts. Furthermore, they can interfere with promising steps taken by state or local authorities – and indeed by concerned landowners – who might well have more knowledge of the species in question. In return for all the trouble the Act has caused, few (if any) cases exist in which this "ultimate environmental statute" clearly was responsible for a species' survival. While it would be too much to claim that it has done no good, it certainly has done substantial harm.

Enacted in 1973, the ESA incorporates as a key principle the need to protect any endangered species – or subspecies – that happens to be identified. It explicitly forbids taking

economic effects into account in deciding whether to list a species as endangered. One burdensome feature of the statute is the fact that it has been expanded to protect not only species as such, but also geographically specific populations of species in the case of vertebrates. Another problem involves the difficulty of appropriately defining and managing the "critical habitat" necessary to a species' survival. Yet another serious trouble spot is questionable science; in particular, biased research and an inadequate range of evidentiary input for decisions. Ironically but probably not coincidentally, this cumbersome law remains in effect only because of continued congressional appropriations: Its actual reauthorization, which was scheduled for 1992, still has not occurred. Just as the ESA is too much of a mess for affected property owners, communities, and agencies, it apparently has been too complicated or politicized for renewed authorization.

Among the more striking instances of unreasonableness that are traceable to the Act, in California alone, have been the following:

- An ill-conceived "mitigation" project in the Sacramento Valley – supposed to protect potential habitat for a beetle that never, in fact, was sighted in the immediate area – led to a catastrophic levee failure. Hundreds of homes were flooded, and tens of thousands of residents displaced. Concerned for the nonexistent beetle and its habitat, federal officials substantially delayed necessary repairs.
- In order to save a fly species, ESA-pursuant mandates forced San Bernardino County to shift the location of a veterans' hospital which already was being built
  – and conduct a five-year, half-million-dollar study.

- Due to a ban by the U.S. Fish and Wildlife Service that was intended to protect kangaroo-rat habitat, more than two dozen vulnerable houses in western Riverside County were destroyed by a fire. Homeowners – liable to imprisonment and fines of up to $100,000 – had been told they could not use what proved to be the best means of creating preventive firebreaks, namely, discing land to remove vegetation.

An especially significant example of the ESA's economically problematic nature is the story of the Coachella Valley fringe-toed lizard in central Riverside County. Like some other animals designated as endangered under the ESA, this lizard may not really be a separate species. Nonetheless, it was listed for protection in 1980. As a result, the FWS sought essentially to stop all development in the Coachella Valley. While a less extreme strategy was adopted involving the set-aside of a large lizard preserve and various mitigation efforts, it has been funded mostly by a $600-per-acre fee upon building projects. It has raised about $30 million and spent about $25 million, making it the most expensive single-species habitat conservation plan to date. With the lizard's survival still not ensured by the actions taken thus far, almost $9 million more could be spent on additional land acquisition. The FWS also is considering restrictions on development that could significantly affect the Coachella Valley's economy – an economy heavily dependent on land use, and critical to the rest of Riverside County and to the Inland Empire. Perhaps $85 million or more in development opportunities might be lost.

The history of the Act does include reform efforts. In 1978, the U.S. Supreme Court made clear in the famous Telleco Dam snail-darter case that the law – whose political impetus was the desire to preserve familiar species such as the bald eagle and the grizzly bear – applied, as written, to all species and at any economic cost. Reacting to this ruling, Congress created a

special administrative committee called the "God Squad" to provide exemptions if the panel determined that a federal (but not a private) project's benefits outweighed its costs to endangered species. In 1982, the FWS was authorized to let owners incidentally "take" species as a result of property use if such owners submitted conservation plans – typically including habitat set-asides, fees for the purpose of buying more habitat, and various land-use modifications. In 1988, recovery plans were required to undergo public review and comment. For parcels of five acres or less, administrative modifications have been made with respect to owners' impacts upon "threatened" (though not endangered) species. The Clinton administration's Secretary of the Interior, Bruce Babbitt, initiated some reforms enabling owners to avoid excessive restrictions in return for taking voluntary protection measures. The administration also supported limits on agency ability to designate critical habitat (as distinct from listing a species). Finally, over time, the FWS where possible has focused more on listing species as threatened rather than placing them in the more bureaucratically rigid and onerous "endangered" category.

However, more should be done to reform an ESA that remains unwieldy and too often unfair. Indeed, the Fish and Wildlife Service last November announced a moratorium on new listings – explaining that it was too burdened, financially and otherwise, with lawsuits filed by environmentalists concerning species already listed. Babbitt has urged the Bush administration to revive reforms proposed in 1997 by the late Sen. John Chafee (R-R.I.) which would have reformed the mapping of critical habitat, codified voluntary landowner participation in conservation planning, required scientific peer review of listing decisions, and encouraged participation by state governments. Other constructive changes in the Act might include: cutting off the use of lawsuits to force the listing of species; enacting a full compensation system – as exists in Britain – for economic takings that affect owners; and allowing subspecies designations

and related protections only when non-private property rights are at issue. In addition, firm guidelines for administrative decision making, and provisions for relief in the case of non-timely agency processes, should be considered as ways to reduce control of species protection by entrenched bureaucrats.

More broadly, serious thought should be given to a greater emphasis on incentive-based approaches and the voluntary cooperation of landowners – rather than the divisive, inefficient, and frequently abusive "command-and-control" approach which the ESA represents.

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"Among the hills, when you sit in the cool shade of the white poplars, sharing the peace and serenity of distant fields and meadows - then let your heart say in silence, "God rests in reason."

" And when the storm comes, and the mighty wind shakes the forest, and thunder and lightning proclaim the majesty of the sky, - then let your heart say in awe, "God moves in passion."

And since you are a breath in God's sphere, and a leaf in God's forest, you too should rest in reason and move in passion."

\- Kahlil Gibran, *The Prophet*

INTRODUCTION

Often referred to as the "pit bull of environmental laws," or the "strictest and most stringent environmental law,"[1] and despite anything else that might be said about the biological, environmental or conservationist merits of the law, the Endangered Species Act of 1973 ("ESA")[2] and its implementation, can surely be said to provide a monumental forum for a volatile mix of - and clash between - reason and passion. Reason, in the context of the ESA, in turn, takes on many "flavors" - each with its own cadre of passionate disciples.

[1] House Committee on Resources, *A History and Summary of the Endangered Species Act*, 104th Cong., 2d Sess., 1996, p. 1.
[2] Endangered Species Act of 1973 (Public Law 93-205, 16 U.S.C. § 1531 et seq.)

At one end of the spectrum of philosophical attitudes toward the Act is the concept of "biophobia," which views the Act as a "gratuitous act of insanity,"[3] a belief that God gave the world to human beings to reign over "snail darters and wolves" as we see fit for our own benefit. "Humans are not animals; they rule over animals."[4] Even without necessarily pinning oneself to this perspective, it has been strenuously and repeatedly argued in the halls of Congress that the Act unnecessarily impedes economic development and, more importantly, imposes potentially constitutionally questionable limits and restrictions on the use and enjoyment of private land.

Conversely, there exists the perspective of "biophelia," the "innate, indeed genetic, affinity of humankind for wildlife and the natural world." [5] To many, the deliberate extinction of any species is a fundamentally immoral act that no specie on earth has the right to inflict on another. [6] It has been said that every species is a vital component of nature. "Loss [of a species] becomes analogous to throwing out a bolt fallen from an automobile because the vehicle still seems to be running properly."[7] Or, biologically, yet again mechanically speaking, to "keep every cog and wheel is the first precaution of intelligent thinking,"[8] and, as Ralph Waldo Emerson said, "a weed is a plant whose virtues have not yet been discovered." Thus, it is pointed out that the Pacific yew, an innocuous-looking tree that thrives in the ancient forests of the Pacific Northwest could have been viewed as a worthless weed to be piled up and burned as a scrap by-product of the timber industry harvesting for lumber of more valuable neighboring trees, until scientists discovered that the yew's bark contains high concentrations of taxol, a promising chemical for the treatment of ovarian, breast and other cancers. Supporters of the ESA argue that had the ancient forests been fully harvested by the timber industry in the region, the benefits of the Pacific yew would never have been discovered.[9]

[3] Oliver A. Houck, "Reflections on the Endangered Species Act," 10 *Natural Resources & Environment* 83.
[4] Id.
[5] Id., 12.
[6] Id., 83.
[7] Dr. Thomas Lovejoy, Program Director, World Wildlife Fund. *Congressional Quarterly*. Nov. 11, 1978. p. 3270.
[8] Aldo Leopold, *The Round River*, New York: Oxford University Press, 1993, 145-146.
[9] Some would argue, however, that the tree's medical properties, which might otherwise have been "locked away" in a silent forest, actually have been discovered because of the timber harvesting itself.

In any event, while few would argue against strenuous efforts to protect the bald eagle, the grizzly bear, the Florida panther and the California condor, "biophelia"- biased conservationists assert the protection of much less "glamorous" species is of equal imperative, for, as this position goes, we cannot now know what species will be valuable to mankind in the future. "Had plants of the genus *Cinchona* been permitted to go extinct before usefulness of quinine as an anti-malarial [drug] was discovered," military personnel in Vietnam would have been helpless against the disease as it cropped up during the war.[10] Again pointing to the example of discovering the breast cancer fighting benefits of the Pacific yew, it is argued that preserving wild plants in general might be valuable in a world threatened by famine and disease. Only 3,000 of some 80,000 edible plants have been cultivated for food, and just five percent of known plant species have been screened for possible drug use.[11] In short, there is considerable room to debate the issues between the "biophelics" and "biophobics."

More to the point concerning the legislative delineation of the matter, it has been observed that the ESA, while "not the single, most important federal environmental statute... whether one applauds or deplores [it, it is] ... now a primary obstacle to land development and related activities in America."[12] Efforts to reduce the scope and impact of the Act, in light of numerous examples of its impacts on development and restrictions on the use of private property, many of which involved battles over species of questionable "political" importance such as insects and plants, have been a regular agenda of each Congress since enactment of the Act in 1973. In fact, since its enactment, it has been one of the most controversial of environmental laws. So controversial, in fact, that Congressional authorization of the Act expired **on October 1, 1992**! Rather, Congress after Congress since 1989, through the introduction of sometimes numerous bills from both sides of the aisle, has debated its reauthorization in the midst of input from powerful conservation and economic forces and perspectives. Each fiscal year since 1992, Congress has allowed the Act to remain in force by appropriation. Efforts to both weaken its substantive prohibitions and provisions, as well as efforts to strengthen its terms, have been to no avail for almost ten years.

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[10] Lovejoy.
[11] Larry Light, "Endangered Species Law Itself is Endangered," *Congressional Quarterly*, 11 November 1978, 3270.
[12] George Cameron Coggins, "An Ivory Tower Perspective on Endangered Species Law," 8 *Natural Resources & Environment* 3.

Between the extremes of the debate - or perhaps more accurately, right in the middle - lies the concept of "sustainable development," perhaps best defined as an "attempt to achieve both economic development and a sustainable level of natural resources, the ultimate goal being to ensure that natural resources are not depleted over the long term such that economic prosperity cannot be sustained."[13]

In a general context, this paper first presents an overview of the Endangered Species Act, its legislative and judicial history and its principal substantive prohibitions and requirements. Significant international initiatives related to the ESA and its underlying policies and are also presented. Views of major "stakeholders" concerning the Act are presented, and these perspectives (in turn reflected in various positions concerning the need for amendment (or repeal of the ESA) are summarized. The Act is then placed in the context of emerging national policies for "sustainable development" which are discussed and detailed further as that portion of this paper is developed.

More specifically, the paper presents an historical overview of the ESA applied to some examples of its implementation in southern California generally, as well as the implementation and impact of the Act on development in the Coachella Valley in Eastern Riverside County of Southern California. Most importantly, the paper presents a discussion of issues related to the fringe-toed lizard, its recovery plan and designation of related critical habitat in the Coachella Valley as related to developments under the ESA. This case is then further expanded to include an overview of issues related to the fringe-toed lizard and a more comprehensive multiple species conservation and habitat plan being pursued for the Coachella Valley and large areas of the Inland Empire. Also included is a critique of biological principles underlying the listing and recovery plan for the fringe-toed lizard as well as some reflections on the ESA in the context of sustainable development and its future.

[13] Thomas C Jackson, "Lessons from the Endangered Species Wars," *Natural Resources & Environment* (ABA Section on Natural Resources, Energy and Environmental Law) 12, no. 2 (1997): 105.

LEGISLATIVE HISTORY OF WILDLIFE PROTECTION MEASURES

Historical

National legislative efforts and mandates to protect wildlife date back to the turn of the twentieth century with the passage of the Lacey Act in 1900, which prohibited interstate commerce of animals killed in violation of state game laws. In 1903, President Theodore Roosevelt designated Pelican Island In Florida as the first national wildlife refuge. In 1918, the United States approved the Migratory Bird Treaty Act, which prohibited the taking of certain designated birds protected by a 1916 United States-Canadian agreement, and in 1937 Congress enacted the Federal Aid in Wildlife Restoration Act (commonly referred to as the "Pittman-Robinson Act") to fund habitat restoration in the United States.

In 1962, Rachel Carson's best seller, *Silent Spring*, linked the decline of many species (most significantly, the nation's national symbol, the bald eagle) to increased (and indiscriminate) pesticide use – and in turn to the product of a great post-World War II explosion in the development of industrial chemicals with their ubiquitous every-day uses. It can arguably be maintained that *Silent Spring* itself, and the resulting debate which ensued over it, initiated the present day "environmental movement" that led to the passage of many major pieces of environmental legislation in the late 1960s and early 1970s. Thus, in 1964, the Wilderness Act was enacted to bar development on large tracts of lands designated as wilderness, and in 1966, as a precursor to the Endangered Species Act, Congress enacted the Endangered Species Preservation Act which mandated the identification and conservation of selected species and the acquisition of land for habitat preservation and, in 1969, passed the Endangered Species Conservation Act which added protection for species that were at risk for "worldwide extinction" and prohibited the importation and selling of such species in the United States. This Act also called for an international meeting for the purpose of adoption of a convention on endangered species conservation. In 1973, the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES") was signed at a conference in Washington, DC. CITES restricted the international commerce of plant and animal species that were potentially or actually hurt by commercial trade activities.

Apart from issues related to wildlife protection *per se*, between 1966 and 1973, Congress also enacted a panoply of other environmental laws including the Marine Mammal Protection Act, which targeted the protection of dolphins, seals and other marine mammals; the Federal Water Pollution Control Act (Clean Water Act) primarily to control water pollution to navigable waterways from "point sources"; the Clean Air Act, to establish national air quality standards and regulate sources of air pollution in accordance with the established standards; the National Environmental Policy Act, requiring federal agencies to assess the impacts to the environment of their actions; and the Occupational Safety and Health Act to establish safety measures in the workplace.

Enactment of The Endangered Species Act of 1973

In his message to Congress on February 8, 1972, President Nixon declared that existing federal wildlife law "simply does not provide the kind of management tools needed to act early enough to save a vanishing species". Congress had already accepted the principle that comprehensive management efforts to save certain species were appropriate in its passage of the Marine Mammal Protection Act in 1972.[14] President Nixon's message recommended a similar comprehensive program to protect endangered species by prohibiting their "taking" and requiring federal agencies to promote conservation of endangered species.[15] The stated purpose of the Act thus began as a "comprehensive attempt to protect all species and to consider habitat protection an integral part of that effort."[16] On December 28, 1973, on the heels of the CITES actions mentioned above, President Nixon signed into law the Endangered Species Act of 1973.[17]

[14] 16 U.S.C.§ 1361 et seq.
[15] Id.
[16] M. Lynne Corn, *Endangered Species: Continuing Controversy* (Congressional Research Service, Library of Congress, 21 November 2000): 1.
[17] Endangered Species Act of 1973 (Public Law 93-205, 16 U.S.C. § 1531 et seq.)

The Act, called the "ultimate environmental statute,"[18] formalized procedures under the 1966 Endangered Species Preservation Act for the listing of endangered or threatened species and added a statutory requirement for the designation of critical habitat. It banned the "taking" of an endangered species and required federal agencies to ensure that their actions did not jeopardize the existence of a listed species or impact or modify its critical habitat.

One of the key philosophical underpinnings of the ESA heavily advocated by conservation and environmental interests was the sense that the protection of certain species would be ensured, irrespective of economic costs. Proponents of the ESA argued that the law, unlike prior legislative enactments to protect wildlife, should not contain any vague substantive provisions regarding the need to protect endangered species, no matter what may be a competing impact to an economic need valued by human beings.[19] As we shall see, while many members of Congress during the debate on passage and drafting of the Act may have focused on whales, wolves, bald eagles and grizzly bears, others focused on less "glamorous" species and related economic and land development generally.[20] In fact, the initial director of the United States Fish and Wildlife Service, the agency primarily responsible for implementation of the Act, believed from the outset that Congress had enacted a law that was much broader and powerful that most of its members had imagined.[21] It has been noted that President Nixon himself did not realize the breadth of the law he asked for and signed into being.[22] Nevertheless, the stage was set for the debate which rages today over the Act and its applications.

[18] Kenneth Jost, "Protecting Endangered Species," *The Researcher* (Congressional Quarterly) 6, no. 15 (19 April 1996): 350.
[19] Coggins, "Ivory Tower Perspective on Endangered Species Law," 3.
[20] Id.
[21] Jost, "Protecting Endangered Species," 350.
[22] Michael Bean, "Endangered Species, Endangered Act?" *Environment* 41, no 1 (January/February 1999): 12.

THE ENDANGERED SPECIES ACT OF 1973: WHAT IT PROVIDES, WHAT ITS PROVISIONS MEAN, HOW IT HAS BEEN IMPLEMENTED

Key Provisions of the Endangered Species Act of 1973

The following are the major provisions of the Act as they appear in the United States Code:

1. The Secretary of the Department of Interior, through the U.S. Fish and Wildlife Service ("FWS") has responsibility under the Act for plants, wildlife and inland fishes. The Secretary of Commerce, through the National Marine Fisheries Service ("NMFS") is responsible for implementing the Act regarding ocean-going fish and marine mammals. With regard to the international aspects of the statute, the Department of Agriculture, through the Animal and Plant Health Inspection Service oversees the import and export of endangered species from foreign countries through U.S. ports. Most listed species under the Act are managed by the Secretary of Interior (FWS) and the law assigns the major roles under it to the Secretary of Interior (16 U.S.C. § 1533).

2. Section 3 of the Act (16 U.S.C. § 1532) defines an **endangered species** as "any species (**including "distinct populations"**) which is in danger of extinction throughout all or a significant portion of its range." other than a species of the Class Insecta determined by the Secretary of FWS to constitute a pest whose protection under the Act would present an overwhelming and overriding risk to humans. A **threatened species** is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The statute's protections extends to **all species and subspecies** of animals, including fish, wildlife or plants (and not just birds and mammals), although for vertebrates, further protection under the Act can be given even for **distinct population** segments within a species, and not just for the species as a whole. Therefore, even if a full species or the subspecies in question is abundant, various isolated or regional populations may qualify for protection under the Act.

3. Section 4 of the Act (16 U.S.C. § 1533) states that in order to qualify for protection as either an endangered or threatened species, a species must be placed on a list kept by the Secretary (Interior or Commerce). The Secretary is required to make its listing decision based upon the "best scientific and commercial data available" at the time of listing. A decision to list a species may be based upon a proposal by the FWS (or another federal agency) or by petition of any interested citizen.[23] (The FWS has established a priority system for determining which species to propose for listing with the highest priority being given to those for which the Service has substantial information (on the species' biology and threat) to support its proposal.[24]) The Secretary is required to make a finding on a petition within 90 days as to whether the petition presents substantial information that a listing or delisting is warranted. Within one year after receipt of a petition, which resulted in the Secretary determining that a listing may be warranted, the Secretary must make a determination as to whether a listing actually is warranted or not. If the Secretary denies a listing petition, the petitioner - or any other person - may file suit in the courts. If the Secretary allows a listing to occur, the Act **does not allow** a lawsuit to challenge that decision.

Apart from authority to list a species under an emergency rule, a decision to actually list a species (and determination of a related critical habitat) is subject to a series of specified procedural steps to ensure public participation and a full collection of relevant information. Most significantly, the Act prohibits the Secretary from **taking into account the economic effects that a listing may have on the area wherein the species exists.** This is the only section of the Act that expressly prohibits the use of economic considerations. The Act also permits the petitioning for **delisting** a species or for reclassification it (from endangered to threatened).

If a species is listed, at the time of the listing, the Secretary must also designate a **critical habitat** for the species. This habitat may either be where the species is found or, if not

[23] As of December 2000, 1,792 species of animals and plants (of which 1,244 occur in the United States and its territories with the remainder occurring in other countries) have been listed as either endangered or threatened.

[24] A full discussion of the regulatory implementation of the Act generally is beyond the scope of this paper. However, certain significant regulatory policies of the FWS and their relationship to debates over the impact of the

found there, where there are features essential to its conservation. However, if publication of the critical habitat information may not be "prudent" (e.g. so as to encourage vandals or collectors), the Secretary is allowed not to designate the critical habitat.[25] As noted, designation of critical habitat is subject to a formal rule making procedure. After consideration of information, the Secretary may exclude an area from the critical habitat designation if it determines that the benefits of exclusion outweigh the benefits of inclusion, unless the exclusion would result in the species becoming extinct.

4. The Act, as written, is intended primarily as a restraint on the actions or activities of federal agencies. Thus, Section 7 (16 U.S.C. § 1536) requires that before any federal agency takes an action, authorizes an action, or funds an action which might affect a listed species, it must consult with the FWS or NMFS to ensure that the action will not likely **jeopardize** the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of that species. The consultation requirement applies to all actions to conserve a listed species or its habitat; to the promulgation of regulations by federal agencies; to the granting of licenses, contracts, leases, easements, rights-of-way, permits, or grants-in-aid; or to actions directly or indirectly causing modifications to the land, water or air.

If the appropriate Secretary concludes as a result of the consultation that jeopardy to a listed species will occur should the federal action at issue proceed, he is required to issue a "biological opinion" or "jeopardy opinion" stating whether other reasonable and prudent alternatives can be used that would allow the activity to proceed.

A federal agency may not proceed with an activity that "may affect" a listed species until it has consulted with the appropriate Secretary, nor may it make any irreversible or irretrievable commitment of resources which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternatives legally compatible with the

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Act and efforts to amend it are addressed later in the report.

[25] While any area, whether or not federally or privately owned, may be designated as critical habitat, **private land** is affected by the designation primarily if some federal action (license, permit, loan, etc.) is also involved regarding the land in question. In either instance, federal agencies are required to avoid "adverse modification" of critical habitat, either through their own actions or through activities that are federally approved or funded.

Act.[26]

5. One of the most significant provisions of the Act is found in Section 9 (16 U.S.C. § 1538), which generally prohibits the **"taking"** of any listed species. Taking, defined in Section 3, means to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct." [27] The taking prohibitions of the Act apply to listed wildlife and fish but not to plants. Due to other provisions of the Act requiring federal agencies to consult with the FWS before any action that may affect a listed species, the overwhelming impact of the "take" provisions is on **private property owners**.[28] Other prohibitions under the Act include importing or exporting endangered species, and commercial dealing in endangered species or their parts in interstate or foreign commerce.

While Section 4(d) of the Act purports to establish special protective measures for **threatened**, as opposed to endangered, species, the distinction has been substantially blurred through the regulatory process. The "take" prohibitions of the Act, in practice, apply equally to both endangered and threatened species.[29]

The taking of **plants** is subject to another list of prohibitions, except that the prohibition against a take of a listed plant is generally not applicable to vegetation on private property. However, should a private landowner seek some sort of federal entitlement (permit, loan, etc.), a prohibition on the taking of a listed plant on the property will usually result. Section 11 provides significant **criminal and civil** penalties for violations

[26] An action to enjoin any agency that violates these provisions of the Act has been upheld by the courts. Pacific Rivers Council v. Thomas, 30 F. 3d 1050 (9th Cir., 1994). Thus, for all practical purposes, the FWS or other appropriate agency, through the use of a biological opinion, exercises central "command and control" over all federal actions and agencies affecting a listed endangered or threatened species. The practical results for both public and private sector permit seekers have been lengthy delays, inability to utilize private property, and increased costs. (See footnote 28 for authority concerning this conclusion.)

[27] In 1995, the United States Supreme Court ruled, consistent with an interpretation by the FWS, that even a significant modification to a species habitat was considered a prohibited taking under the law (*Babbitt* v. *Sweet Home Chapter*, 515 U.S. 687).

[28] In practice, the method by which a private property owner is prevented or restricted from using property or carrying out particular activities is usually through a warning that the activity in question may constitute a "take," with the threat of prosecution. House Committee on Resources. *A History and Summary of the Endangered Species, 10*4th Cong., 2d Sess., 1996, *Act*, p. 10.

of the take provisions and establishes enforcement procedures, including a specific procedure for enforcement of the Act by private citizens. Civil fines range from $500 to $25,000; criminal sanctions range from fines of $25,000 to $50,000 and prison sentences between six months and one year. In addition, the federal government may seize any equipment, tools or property used in a violation of the Act.

6. Finally, the Act contains a few less-significant provisions which are still worthy of a brief overview.

a) First, 16 U.S.C. § 1535 (Section 6) requires the appropriate Secretary to coordinate with the states in conserving protected species by entering into cooperative agreements to assist states in their own endangered species programs if those programs meet certain specified standards.[30] If a cooperative agreement exists, the states may receive federal funds to implement the program, usually with a requirement to provide some amount of matching funding (typically 25 percent).

b) Second, 16 U.S.C. § 1534 (Section 5) allows the Secretary to acquire land to conserve and recover listed endangered and threatened species. Monies from the Land and Water Conservation Fund are appropriated for such acquisitions. Also, many private groups and foundations actively engage in the acquisition of lands for the conservation of endangered and threatened species without regard, per se, to the provisions of the Act.

c) Third, Section 8 of the Act implemented the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES") and the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (signed by the United States in 1940). Via Section 5, authority also was provided to acquire lands for listed animals and plants under CITES. It may be worth noting that, while

[29] Id., 8.
[30] California (as have many other states) enacted its own endangered-species legislation in 1984 (*Fish and Game Code* §§ 2050-2116). While the listing of numerous species under California law is similar to the lists compiled pursuant to the ESA, there are some species on the California list not listed under federal law, and vice versa.

CITES parallels the ESA by dividing listed species into groups according to risk of extinction, it focuses only on trade-related issues, and does not have application to issues related to loss of habitat.

Critical Judicial Interpretation of the Act - *Tennessee Valley Authority v. Hill*

Like any environmental statute, the ESA has been the focus of considerable litigation. An analysis of its judicial history is beyond the scope of this paper. But it is impossible to appreciate the Act, its impact and implementation (including subsequent congressional amendments and regulatory interpretations), and the debate which surrounds these issues, without summarizing the dramatic and seminal judicial interpretation of the statute found in *Tennessee Valley Authority v. Hill.*[31]

In the wake of the ESA's passage, a lawsuit was filed against a nearly completed dam being constructed by the Tennessee Valley Authority. While a student at the University of Tennessee Law School, Hiram G. Hill learned of the discovery of a new species of small fish, the snail darter, in the Tennessee River. He learned further that the fish inhabited a branch of the river where the TVA was busily constructing a $110 million dam primarily for recreational purposes. He filed an administrative action to force the Fish and Wildlife Service to list the snail darter as endangered and to declare the river, the only place then known to be a habitat for the fish, as its "critical habitat" pursuant to the ESA. After the FWS completed the listing and habitat designation, the TVA continued to build the Telleco Dam. Hill then filed suit to stop the project. In a 6-3 decision, the United States Supreme Court sided with him and stopped the completion of the project. The Court interpreted the Act strictly, saying it required federal agencies "to halt and reverse the trend towards species extinction, **whatever the cost**" (emphasis added).

[31] 437 U.S. 153 (1978).

Chief Justice Warren Burger noted:

> It may be curious to some that the survival of a relatively small number of three-inch fish, among all the countless millions of species extant, would require the permanent halting of a virtually completed dam for which Congress has expended more than $100 million ... We conclude however, that the explicit provisions of the Endangered Species Act requires precisely that result.[32]

Perhaps anticipating the reaction the decision would get from the public - not to mention Congress, which despite the passage of the Act had happily continued to fund the dam which was but one-fourth complete at the time the ESA was enacted - Burger took pains to point out that the opinion of the Court was based strictly on the law and not upon "some modicum of common sense and the public weal."[33] In fact, in summing up his decision, he "put aside" the question of the "wisdom or unwisdom of a particular course consciously selected by the Congress."[34] He went further, quoting a passage from Robert Bolt's "*A Man For All Seasons"* in which Thomas More states: "The law, Roper, the law. I know what's legal, not what's right. And I'll stick to what's legal."

It has been noted that perhaps the Telleco Dam case was not the best battlefield upon which to test the intent of the law. The TVA was heavily criticized for ignoring and violating the Act by "rushing headlong to complete construction of the dam while the snail darter issue worked its way laboriously through the bureaucracy and the courts." [35] However, despite what certain members of Congress might have had in mind when they voted for the ESA, it was clear that the Act went far beyond bald eagles and grizzly bears. As many conservationists and environmentalists had hoped, it was now clearly meant to protect – **at any economic cost** – endangered species and related habitat irrespective of the "glamour" or the species involved.

[32] *Tennessee Valley Authority v. Hill*, 437 U.S. 153 (1978) at 174.
[33] Id.
[34] Id.
[35] Dick Kirschten, "Acting on Endangered Species," *National Journal*, 22 July 1978, 1176**.**

1978 Amendments to the Act in the Wake of *TVA v. Hill*

The "idea that a tiny fish of no evident value could halt an all-but-finished dam struck many people as preposterous." [36] Many on Capitol Hill were struck that way, too. Numerous amendments to the Act were debated and enacted in 1978, chief among which was the creation of the "God Squad," a federal interdepartmental committee with the power to grant an exemption from the Act's otherwise absolute requirements if a federal project's benefits outweigh its costs to endangered species and the mandate that critical habitat be designated at the time of listing. Economic and other impacts due to designation of the critical habitat were to be required for determining the boundaries of the habitat. In the wake of the *TVA v. Hill* decision, and in its first action after its creation, the "God Squad" addressed the Telleco Dam project and ruled that the costs to endangered species in this case actually outweighed the recreational value of the dam.[37]

When the ESA was first enacted, nothing in it addressed "recovery plans," species-specific documents which establish actions necessary to bring about a recovery (and the delisting) of a threatened or endangered species. It simply directed the federal government to save imperiled species. Recovery planning at the FWS grew out of a need for a systematic way to protect the species it was ordered to save.[38] The 1978 amendments therefore added the concept of recovery plans by directing the FWS to develop such plans for every listed species when it would be "beneficial" to do so. Once a species is listed, Section 4(f) now requires the appropriate Secretary to develop a **recovery plan** for the species. The amendments provided little detail or guidance on requirements for recovery plans, nor do they make the recovery plan binding on federal agencies or others. Yet despite no requirement that a plan actually be implemented, there was also no requirement in developing one that consideration be given to economic or social impacts, the amount of affected acreage, private property rights, or effects on state or local governments. Subsequent amendments to this feature of the Act specify substantially more detail in this regard, spelling out the types of species to which priority is to be

[36] Jost, "Protecting Endangered Species," 350.
[37] As a postscript to the matter, Congress actually required completion of the dam via an appropriations measure in 1980, and the Tennessee biologist who discovered the snail darter in the first instance subsequently discovered new populations of and habitat for the fish. In 1984 the status of the snail darter was elevated to "threatened" from "endangered."
[38] Bean, "Endangered Species, Endangered Act?," 12.

given, required elements to be contained in a recovery plan, cost and time estimates for implementing the plan, and criteria needed for determination of a delisting of the species.

Despite the initial shock and outrage over the blocking of the Telleco project, the ESA continued to enjoy support in Congress. No major successful efforts to amend the Act again occurred until reauthorization in 1982.

The 1982 Amendments

Prior to 1982, if an endangered or threatened species was found on private property (property not otherwise subject to any federal agency action or activity), the landowner's only options were to abandon or limit his use of the property, or risk civil or criminal prosecution under the Act. As a result, many landowners took "preemptive measures to prevent the accumulation of habitat on their property."[39] In 1982, Congress added Section 10(a) to the Act authorizing the FWS to issue an "incidental take permit" to private property owners allowing them to incidentally "take" a listed species as a result of otherwise lawful activity, providing that the property owner, among other things, submitted a properly-prepared **habitat conservation plan** ("HCP"). Thus, for actions on private property, if they otherwise had no federal nexus (loan, permit, grant, etc.), a property owner potentially could escape the devastating "take" provisions of the Act.

An HCP must identify: impacts that will "likely result" from the taking and how the applicant for the incidental take permit will minimize and mitigate the identified impacts; it must provide alternatives and reasons for not pursuing the identified alternatives and list other measures that the FWS may require. If the FWS finds that the plan meets these requirements and that the incidental take will not appreciably reduce the likelihood of survival and recovery for the species and that the requester has adequate funding to implement and maintain the required measures, the FWS **must** issue the incidental take permit.

[39] *History and Summary of the Endangered Species Act*, p. 10.

There are several different types of HCPs. Multi-regional HCPs are usually prepared by state or local governments and focus on a large number of species (as we shall see for the Coachella Valley generally). Such multi-species plans may cost millions of dollars to prepare and may also involve the set-aside of large tracts of land. Costs are often shared among the involved parties, and may include funding from the federal government as well. Inclusion of private property in a multi-species plan is voluntary or mandatory depending upon the value of the habitat at issue. In exchange for the set-asides, the FWS typically allows the state and local governments to issue building permits in non-preserve areas (which might otherwise be off-limits habitat). To pay for the costs of such HCPs, state or local governments may assess development fees or issue bonds. In any event, the end-user of non-preserve land within an HCP pays for the preservation of listed species on the preserve or set-aside lands.

Another typical type of HCP covers take permits which are issued to single, large landowners (such as timber companies) and large-scale developers. The landowner typically is required to set aside critical habitat, pay a mitigation fee that is used to acquire additional land suitable for habitat, or otherwise modify or cease land-use activities as a condition of obtaining permission to utilize its other lands.

The use of the HCP process has been greatly expanded by the Secretary of the Interior over the years, but remains controversial and the subject of litigation. As discussed below, the Secretary has also resorted to several other controversial administrative procedures to facilitate what the department believes to have been the intent of Congress to reduce the Act's impact on private property owners.

The 1988 Amendments

The last successful attempt to amend the Act occurred in 1988 as part of the reauthorization of the statute (Endangered Species Act Amendments of 1988, Public Law 100-478). The reauthorization efforts were delayed due to the efforts of opponents of the reintroduction of grizzly bears and wolves to areas in the West. Nevertheless, several amendments were finally approved by Congress and signed into law by President Reagan.

These included the following two:

1. The monitoring of "candidate" species for listing (and of recovered species) was mandated. Where the FWS found evidence of a significant risk to an unlisted species, the species nevertheless could be listed without prior compliance with the procedural requirements for listing that were otherwise applicable under the Act.

2. As mentioned above, the 1973 Act was very vague as to issues related to recovery plans. The 1988 amendments finally contained certain specifics concerning them. Recovery plans would now be required to undergo public notice and review, and federal agencies would have to give consideration to comments made by the public as part of that review. For species that recovered pursuant to a recovery plan, monitoring would be required for five years. Congress also required that biennial reports on the development and implementation of recovery plans, and on the status of all species with recovery plans, be provided to Congress.

In 1992, the Act was again scheduled for reauthorization. Perhaps due to the intensity and variation of views on the Act, **it was not reauthorized – and to date, it has never been reauthorized**. Instead, Congress has continued to routinely appropriate funds for implementation each year and has allowed the various prohibitions of the Act to remain in force.

Significant Regulatory Policies Under the Act

In addition to four relatively major regulatory policy initiatives (set forth below) designed to reduce the burden of the Act's take provisions (primarily on private landowners), some minor administrative "adjustments" have also been initiated by the FWS which are applicable specifically to small landowners. For example, the FWS has proposed a group of exemptions collectively known as the "five acre rule" which apply only to listed **threatened** species and **not** to **endangered** species. Among these is the "residential exemption," applying to normal activities conducted on a contiguous parcel of five acres or less that is already occupied by a single-family dwelling used mainly for residential, non-commercial purposes. Once granted, the

exemption "runs with the land" and may be transferred from owner to owner.

Another exemption in this group, the "five acre exemption," applies to any activity (including commercial ones) on a single parcel if such activity results in the cumulative disturbance of no more than five contiguous acres of the entire parcel. Only the first five acres to be disturbed qualified for the exemption.

The final minor exemption proposed by the FWS is known as the "negligible effects exemption," such effects being activities that have no significant adverse impacts on threatened species.

The exemptions are mutually exclusive, and if the **cumulative** effects of granting any exemption would be likely to affect a threatened species significantly, the exemption is limited or not granted. Only one exemption can be granted to any particular landowner, and restrictions on granting exemptions exist for lots in subdivided developments.

In light of continuing controversy over the Act and in an attempt to defuse efforts aimed at allowing it to expire without continuing appropriations, the Clinton administration's Secretary of the Interior, Bruce Babbitt, pursued not only the relatively minor administrative adjustments discussed above, but also four more extensive - and controversial - measures: "safe harbor agreements," the "no surprise" policy, "candidate conservation agreements," and limitations to critical habitat designations. One of the primary reasons for these policies was to help landowners get credit for "good deeds" in conserving species by reducing restrictions on the use of their lands. In addition, over time there has been an agency focus on listing species as threatened rather than endangered, where possible, in order to take advantage of the more flexible provisions toward such listed species.[40]

1. **The "No Surprise" Policy**. Under this policy, a provision is added (to a conservation agreement) under which the FWS agrees that if a private owner properly implements the agreement he is assured that there will be no further costs or restrictions on the use of his

[40] Corn, "Endangered Species: Continuing Controversy," p. CRS-5.

property except by mutual consent. While landowners have generally viewed the policy favorably, environmentalists have criticized it as potentially locking in conservation measures that might need to change with changing conditions or new information. Litigation challenging this policy was filed and settled, resulting in the formal regulatory promulgation of the policy.[41] The final rule provides that incidental take permits with "no surprise" provisions may be revoked if the permitted activity would be inconsistent with, or appreciably reduce the likelihood of, survival and recovery of a species ("jeopardy") and steps to remedy the inconsistency are not taken in a timely fashion.[42]

2. **"Safe Harbor Agreements."** A "safe harbor agreement" is one made between a landowner and, usually, the FWS or NMFS. The agreement is voluntary. It differs from a HCP in that it is **not** done as a condition of getting an incidental take permit. Instead, it is an effort to ensure that the "good deeds" by landowners who make voluntary improvements to their property that conserve a listed species and its habitat are not punished by increased restrictions being placed on their lands. The safe harbor agreement is for a period of years, and reflects the owner's commitment to carry out certain activities on his land that would tend to increase the numbers of the species in question. If, at the end of the agreement period, the landowner desires to take actions that might reduce the resulting increased population or the quality or quantity of improved habitat, there will be no penalty under the Act provided the "baseline" conditions reflected in the agreement continue to be met. While some property owners criticize these agreements as not offering landowners enough incentives, conservationist critics have raised concerns that the standard for entering an agreement does not require that recovery be sustained if, in the end, the landowner can return his land to the baseline conditions.

[41] Proposed at 63 Fed. Reg. 8859 (2/23/1998). Modified in the final rule-making at 64 Fed. Reg. 32706 (6/17/1999) 50 C.F.R. § 402.02.

[42] This policy, and the regulatory implementation of it, have been a major impetus for continuing Clinton administration efforts to amend the ESA. However, the policy has been the subject of a suit brought by the environmental community against the FWS questioning the legality of the policy under the Act (*Spirit of Sage Council v. Babbitt*, Civ. No. 1:94CV02503 (DDC).

3. **"Candidate Conservation Agreements."** Under this policy, a landowner enters into an agreement with the FWS or NMFS to conserve a **declining but unlisted** species. Under these agreements, a landowner who carries out the agreed-to measures will receive an assurance from the agency that should the species be listed, no further restrictions will be required beyond those specified in the document. Final rules for these agreements, as for the "safe harbor" and "no surprise" policies, were published in June 1999.

4. **Critical Habitat Designations.** The Clinton administration has supported restrictions on its own ability to designate critical habitat. In soliciting public comment on a proposed policy to "clarify the role of habitat in endangered species conservation,"[43] the FWS has acknowledged its longstanding discomfort with the provision of the ESA, which requires that critical habitat be designated at the same time a species is listed.[44] Under the law (as noted above) only two exceptions are provided which would allow the agency not to designate critical habitat at the time of listing: where it would not be "prudent," and where it is not "determinable" due to lack of data. In fact, despite the clear legal requirement, only about 10 percent of listed species have designated critical habitat, and in every case brought against the agency concerning non-designations - when decided in the courts - the agency has lost.[45] In the agency's view, the designation issue is largely a matter of budget resources and of the fact that the listing process itself offers substantial protection for the species, a protection only marginally improved by designating habitat. While a landowner still might feel some restriction on the ability to manage his land due to the presence of a listed species, the main such impact derives from the Act's prohibitions on "takings." The impact on owners is augmented by the critical habitat designation only occasionally.[46] The agency, in essence, has argued that the cost of making a critical habitat designation - in light of the often-marginal benefits to the species - makes expenditure of limited budget resources on such designations inappropriate. This controversial provision of the Act, and the attitude of the agency toward it, has made the issue ripe for congressional attempts - from all sides of the debate - to amend it.

[43] 64 Fed. Reg. 31871-31874 (6/14/1999).
[44] Corn, "Endangered Species: Continuing Controversy," p. CRS-7.
[45] Id.
[46] Id.

PREVENTION OF MASS EXTINCTION VERSUS SUSTAINABLE DEVELOPMENT

Having detailed the history and development of the ESA, we now turn to framing the policy debate for further analysis. Whether the debate is cast as one between "biophelia" or "biophobia" or otherwise, real-world experience with the Act's implications and impositions involves understanding the goals of - and conflicts between - preventing mass extinction of species and maintaining healthy economic development. In turn, it can be argued that a healthy economic environment is, in the final analysis, an integral (even necessary) part of our ability to protect species. One need not look far beyond the realities in "third-world" nations, and the state of environmental and ecological progress in these countries, to appreciate this perspective.

Mass Extinction of Plant and Animal Species - The "Science" of the Matter

No one knows how many species of animals, let alone plants, have existed on earth since life began almost four billion years ago. Today it is estimated that between ten and one hundred million species exist – a number representing less than 1 percent of all the different species of animals, plants, bacteria, viruses, protozoa and fungi that at one time populated the planet.[47] The rest have become extinct, the vast majority through "natural causes." It is argued, however, that many species have become extinct in recent centuries due solely to the effects of human activity.[48]

Through examination of fossil records, scientists have identified five great periods of prehistoric mass extinction, the most severe of which occurred about 250 million years ago and resulted in the extinction of an estimated 60 percent of all life on earth.[49] The most recent mass extinction occurred about 65 million years ago and claimed about 11 percent of all species, including the dinosaurs.[50] While scientists debate several theories as to why these mass extinctions occurred, most agree that each time the earth took tens of millions of years to

[47] Jost, "Protecting Endangered Species," 346.
[48] Edward O. Wilson, *The Diversity of Life*, New York : W.W. Norton, 1993: 4.
[49] M .J. Benton, "Diversification and Extinction in the History of Life," *Science* 268 (7 April 1995): 52-58.
[50] Id.

recover.[51]

Human beings (*homo sapiens*) began to populate the earth long after the last great mass extinction. Yet from analysis of the fossil records since the last ice age some eleven thousand years ago, it is argued that the rate at which species are disappearing is "rapidly increasing" because of man's activity.[52] It has been said, with great alarm, that "in fact there is a cataclysm: us."[53]

More recently, it has been noted that North and South America witnessed some of the greatest man-made impacts on wildlife. Some scientists paint a picture of a "fantastic continent-sized bestiary" populated, before the coming of man, by camels, rhinoceroses, cheetahs, lions, elephants, bear-sized beavers, "bison with horns six feet across," and a "four-foot turtle that weighed a ton."[54] The fossil records indicate that these animals disappeared with the arrival of "paleo-Indians" who entered the hemisphere about twelve thousand years ago. Within the space of between two hundred and two thousand years, "species vanished by the score."[55]

In like manner, it has been observed that the creation and expansion of the United States caused similar extinctions through over-hunting and habitat destruction. Wolves were virtually eliminated from New England by 1800, the Atlantic gray whale disappeared in 1750, and other extinctions included those of the Eastern elk (1880), Southern California kit fox (1903), sea mink (1903), giant deer mouse (1870), and Gulf Island and Louisiana voles (1895 and 1905).[56] Perhaps most notorious of all was the demise of the passenger pigeon, once a common bird in North America. The last of its kind died in captivity in the Cincinnati Zoo in 1914.[57]

As noted in the discussion of the legislative history of the ESA and other laws designed to protect wildlife, federal legislation concerning species began to emerge at the turn of the

[51] Wilson, *Diversity of Life*, 4.
[52] Charles C. Mann and Mark L. Plummer, *Noah's Choice: The Future of Endangered Species*, New York: Knopf, 1995**,** p. 27.
[53] Id.
[54] Id., 14.
[55] Id., 46-47.
[56] Charles Bergman, *Wild Echoes: Encounters With the Most Endangered Animals in North America*, New York: McGraw-Hill, 1990: 249-265.

twentieth century. Laws and treaties aimed mainly at protecting birds and establishing the nation's first wildlife refuges came about in the early 1900s. Yet significant extinctions continued to occur. Among these were the disappearances of the grizzly bear from California in 1925, of eight wolf species from the Southwest, West and Alaska between 1925 and 1970, and of two species of trout from Colorado (1910) and New Hampshire (1930s). Hawaii alone has continued to lose native bird species at an alarming rate.[58]

But the question remains: Is extinction "normal"? If it is, one can forcefully argue that government has no business intervening in the process, despite the "sex appeal" of a particular species. While it is perhaps uncontested in the scientific community that the vast majority of species that have ever lived on earth are extinct for purely natural reasons, the real question perhaps is whether the **current rate** of extinctions is different from "background" or "normal." And if so, by how much?

Calculating current rates of extinction and comparing those rates with the past is a daunting task. Those who attempt it generally base their calculations and assumptions on what they characterize as "conservative" premises.[59] Thus, a current conservative estimate of the number of species becoming extinct each year is about seventeen thousand worldwide. While this number may seem quite large, one needs to consider that it includes insects, fishes, plants and invertebrates as well as mammals. Estimates of the number of **total species** on the planet range from 5 million to 100 million, while corresponding estimates of **background extinction rates** range from one to ten species, per million, per year.[60] Doing the math from this perspective results in a conclusion that current extinction rates range from **100 to 10,000** times background or "normal" extinction rates. The late Julian Simon, a professor and economist at the University of Maryland, called these calculations "statistical flummery," while most biologists counter that studies prepared by wildly differing groups which use different methods and protocols nonetheless result in similar estimates. Such so-called "robust" results are

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[57] Jost, "Protecting Endangered Species," 347.
[58] Id., 349.
[59] Corn, "Endangered Species: Continuing Controversy," p. CRS-3.
[60] Id.

considered generally sound within the scientific community.[61]

For the sake of analysis, then, it is probably appropriate to conclude that there appears to be consensus that species are becoming extinct today at greater-than-background rates. But at this point, one might ask: "So what?" Furthermore, is the ESA able to do anything meaningful about it? Before addressing these questions, it is important to look at the other side of the equation - the reality that no matter what our instincts and perspectives might be in answering these questions, human beings continue to populate the earth in ever-increasing numbers, and to develop and consume large amounts of land and other resources in the process. Development of earth's resources by humans is a reality; as much a reality as the relationship between population and resource consumption among non-human species. What standard, then, for appropriate or "normal" human development might serve as a measuring stick for addressing the questions presented? Or, stated differently: "How should we view the cumulative impact of thousands of development projects on nature as a whole; and who should decide what limits, if any, should be placed on development?"[62]

Sustainable Development

In his speech to a special session of the United Nations General Assembly in 1992, on the fifth anniversary of the Rio Earth Summit, President-elect Clinton noted that "five years ago in Rio, the nations of the world joined together around a simple but revolutionary proposition: that today's progress must not come at tomorrow's expense."[63] Sustainable development is an idea following in the path established in 1983 by the World Commission on Environment and Development of the U. N. The chair of this commission, Norwegian Prime Minister Gro Harlem Bruntland, stated that "a new developmental path" was required, one which sustains human progress in "not just a few places for a few years, but for the entire planet into the distant future." Sustainable development is defined as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." In 1992, the Earth Summit reinforced the concept with a statement of principles for implementing sustainable

[61] Id.
[62] Jackson, "Lessons From the Endangered Species Wars," 105.
[63] Jonathan Lash, "Toward a Sustainable Future," *Natural Resources & Environment* 12, no. 2 (1997) p. 83.

development across economic sectors in both industrialized and developing countries.

In 1996, the President's Council on Sustainable Development (PCSD) said that at the heart of the concept for the United States is the attempt to secure both economic development and a sustainable level of natural resources, the ultimate goal being to ensure that natural resources are not depleted over the long term such that prosperity and development themselves cannot be sustained.[64]

> The paradoxical challenge that the United States and world face at the end of the 20th century is to generate individual economic opportunities and national wealth necessary for economically health societies while, at the same time, lessening the environmental risk and social inequities that have accompanied past economic development ... The challenge of sustainable development is to find ways to meet those needs without destroying the resources upon which future progress depends.[65]

The essential framework of "command and control" regulation[66] was, as noted earlier, put in place beginning in the 1970s as the governmental basis for prohibiting or controlling private activity. But, as noted by Thomas Jackson, this system **"assumes** that market forces will achieve a health economy, while the role of government is to check those market forces where necessary in order to ensure that the impacts of market-driven activity on human health and the environment are held to **acceptable levels**"(emphasis added). The PCSD has implicitly recognized that the command-and-control system of federal regulation must evolve if further progress is to be made toward sustainable development. Perhaps the question that needs to be asked and answered, then, is whether the Endangered Species Act and its implementation keep market-driven activity to "acceptable levels" within the context of command and control and sustainable development.

The command-and-control system generally "represent[s] something of a blunt instrument and may not represent the most efficient and effective means to achieve sustainable

[64] Jackson, "Lessons From the Endangered Species Wars," 105.
[65] PCSD, p. 6.
[66] Most notably, the Clean Air Act, Clean Water Act and Endangered Species Act.

development."[67] At the very heart of sustainable development is the notion of simultaneously achieving both economic development and environmental protection. Thus, for example, under typical programs for command and control pursuant to the Clean Air and Clean Water acts, the economic activity at issue may be limited or restricted in location, design or operation. But essentially, when the day is over, the activity goes forward: The refinery or power plant is built, the dry cleaner's store opens, and the service station pumps gas to customers. On the other hand, the ESA's stated - and single - goal is the preservation of species, an absolutist mission wherein economic costs associated with stopping an activity are not a factor. Moreover, as Jackson remarked, the "framework of the ESA is such that [it] seeks to save species **one species at a time**" (emphasis added). In contrast, sustainable development emphasizes "biodiversity as a whole, not necessarily the protection of each and every species."[68] Thus, the PCSD itself acknowledges the "ecosystem" approach to natural-resources management as one of its policy recommendations, noting that it makes sense to change from "managing a single resource or a single species to managing an ecosystem for a variety of resources, including the maintenance of its biodiversity ..."[69] The sustainable development approach in the PCSD has recognized that even with command-and-control systems like the ESA, the "ecological integrity of the nation's natural systems will continue to depend on private choices."[70] It has also recognized a need to look beyond command and control by promoting stewardship and encouraging collaborative planning processes that involve all "stakeholders" in a particular area.[71] In short, it may well be that the traditional approaches taken under the ESA impose constraints on economic development that might not otherwise be imposed in a sustainable development-oriented national program.[72]

It is no wonder then, that given the **international** "flavor" of the issue and the strong arguments set forth in the PCSD, the Clinton administration has explored - and implemented - policies and programs designed to promote private stewardship and collaborative solutions such as the "safe harbor" and "no surprise" policies.

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[67] Jackson, "Lessons From the Endangered Species Wars," 106.
[68] Id., 107.
[69] PCSD, 117.
[70] Id., 111.
[71] Id., 7.
[72] Jackson, "Lessons From the Endangered Species Wars," 107.

In 1995 the Keystone Center sponsored a dialogue among environmental group representatives, members of federal and state government, and a variety of representatives of industry and private landowners to discuss incentive issues under the ESA. This "Dialogue Group" concluded that "endangered species protection is a public concern and should not unfairly burden individual landowners ... [I]t would be highly desirable to further the goal of conserving endangered species through greater voluntary participation and involvement of the public sector and by providing positive incentives that reward landowners for taking action to protect or conserve endangered or threatened species and their habitat."[73] In large measure, the FWS policies concerning "safe harbor" and "no surprises" seem to be at least a partial response to the recommendations of this group.

But apart from overall principle and common sense, a key continuing obstacle to a credible concept of stewardship and collaboration is that people must be convinced that a particular species is worth saving to begin with. While few would dispute the merits of saving the grizzly bear or bald eagle, preservationist zeal and public understanding and support wane when dealing with the conservation of insects and many plants. This consideration, in turn, leads back to the overall notion of "normal" versus "abnormal" extinction. At the outset of this section, we asked: "So what?" Perhaps an answer to that question, in political reality, involves a common-sense look at the cases and species that have occupied the attention, energy, and resources of our government and affected communities.

An Overview of Actual Cases and Implementation of the Act

We have already addressed the Telleco Dam and snail darter story and the ensuing reaction to it. The following subsection presents a summary of some additional case studies, often used by opponents of the Act as examples of governmental excess and the need for major changes to the statute. Admittedly, the cases do not reflect a real "sympathy" for the ESA and its implementation.[74] However, as we shall see, after nearly thirty years under the Act, one is hard-

[73] "The Keystone Dialogue on Incentives For Private Landowners To Protect Endangered Species," Keystone, CO: The Keystone Center, 1995, iv.

[74] In the interest of fair disclosure, many of the anecdotal examples that follow have been taken from the National

pressed to present real cases wherein endangered species have been saved from extinction and have recovered from threatened or endangered status **due to the policies of the ESA itself**.

Nevertheless, it has been argued that at least one species - the whooping crane - has been saved from extinction as a result of actions taken under the ESA.[75] And advocates of the Act's ability to actually prevent extinction point to the need for "patience."[76] After all, it is argued, how can we expect to undo three hundred years of damage in just thirty? FWS reports state that approximately 9 percent of listed endangered species are improving in status, 27 percent are stable, and 31 percent are of indeterminate status.[77] Supporters of the Act maintain that inadequate funding and weak enforcement lead to the less-than-striking results achieved under it.[78] Perhaps so, but apart from the positive experience claimed with the whooping crane, it would be difficult to uncover significant success stories attributable to the Act itself.[79] This recovery, moreover, is overwhelmingly attributable to the prohibition on the use of the pesticide DDT throughout the agricultural lands comprising the whooping crane's primary range in the central plains region. The bald eagle has flourished and has never been threatened in its range in Alaska, where DDT was never used. It is quite arguable that the ESA itself, in imposing criminal and civil sanctions for any taking of the species, had absolutely nothing to do with the recovery of our national symbol. And, most case studies of the ESA in action tell a very different story.

1. **The Valley Longhorn Elderberry Beetle.** In 1995, the Yuba County (California) Water District requested permission from the federal government to begin restoration work on thirty miles of levees along the Yuba and Feather rivers. The Army Corps of Engineers began involvement in the project and produced an Environmental Impact

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Endangered Species Act Reform Coalition, a group which is concerned about perceived excesses of the Act - especially as regards the use and development of private property - and which seeks "moderation" of its impacts. Unlike many other advocacy interests, however, it does not seek to have the ESA repealed or its programs generally extinguished.

[75] David S. Wilcove (Senior Ecologist, Environmental Defense Fund), "The Promise and Disappointment of the Endangered Species Act," *New York University Law Journal* 6 (1988) 275 et. seq.

[76] Id.

[77] Id., 277.

[78] Id.

[79] It is important to note that recovery of some significant species has occurred during times relevant to experience under the Act. The dramatic recovery of the bald eagle in the continental U.S. is one example.

Statement pursuant to NEPA. They concluded that numerous elderberry bushes, which had grown up and around the levees since the time of their construction, would be disturbed by the restoration efforts. After consulting the FWS, it was concluded that while elderberry bushes were not of regulatory importance under the Act, Valley Longhorn elderberry beetles might be an issue. The FWS accordingly demanded that this **potential** habitat for the beetle needed to be protected despite the fact that **no beetles had ever been seen in the bushes**! $1.9 million was spent to construct an eighty-acre "mitigation site" and a large habitat pond near the levee. The local reclamation district objected strenuously, noting that the construction of the pond near a levee would have the effect of weakening it. Nevertheless, the pond was constructed and, as feared, leakage occurred resulting in a catastrophic failure of the levee in 1996. **Five hundred homes and 9,000 acres of prime farmland** were flooded and **35,000 people** displaced, with substantial negative impacts on the four largest employers in the area.

To make matters worse, the FWS prohibited local governments from making needed repairs until spring out of a concern for the nonexistent beetle and its habitat. Because of this, many people did not return to their homes or local businesses for fear of more flooding. In addition, the flooding caused $400,000 in damage to the mitigation site itself, which the FWS required to be repaired.

As a result of this experience, the Corps of Engineers has identified several additional levee sections in the region in need of major maintenance and has required that further mitigation costs be paid as part of the restoration work – which is needed to prevent catastrophic flooding in the region. It is estimated that **mitigation costs** alone, for repairs to twenty-nine miles of levees, have amounted to $4 million thus far.[80]

2. **The Piping Plover.** On July 5, 1997, several hundred campers at Shinnecock Park East near Southampton, New York, were prevented from driving out of the park for an entire day while wildlife officials awaited the hatching of three piping plover chicks in dunes in the park. The only way out during the "vigil" was for campers to attempt to scale a steep

[80] Testimony of the National Endangered Species Act Reform Coalition, 105th Cong., 1st Sess., 7 April 1997.

cut in the dunes - too risky a venture for the one hundred large camping vehicles held "hostage" to the situation. Some campers were livid over having to spend an additional day at the park while officials awaited the hatching of the chicks and for the birds to leave their nests.

3. **The Kanab Amber Snail.** Brandt Child bought five hundred acres of property in Utah in 1990, intending to build a campground and golf course near its three lakes. After the purchase, the FWS informed Mr. Child that he could not use his property for his intended plans because the nearby lakes were inhabited by federally-protected, thumbnail-sized Kanab amber snails. The only difference between the amber snail and an ordinary snail lies in the golden color of the former. Child subsequently discovered domestic geese near his ponds, which unfortunately, as geese apparently are wont to do, had eaten some of the snails. This fact was reported to FWS personnel, who proceeded to institute an enforcement action seeking to impose a **$50,000 fine per snail** on him. A wildlife agent and local highway patrol officer arrived on the scene intending to shoot the geese, examine the contents of their stomachs and proceed to levy fines accordingly. Because of the involvement of a local newspaper reporter who arrived on the scene to photograph the slaughter, the decision to kill the geese was abandoned in favor of forcing the geese to vomit. No snails were found in the resulting mess. While the geese are now safe, Mr. Child is still unable to use his property, resulting in an estimated loss of $2.5 million, none of which the government has agreed to compensate.

4. **Concho Water Snake.** Little was known about the Concho water snake, but because it was thought to exist in low numbers, the state of Texas had listed it as endangered in 1977. Also in that year, the Colorado River Municipal Water District applied to the Texas Water Commission for a permit to impound water at a site near the town of Stacy.

In an effort to better understand the actual state of affairs concerning the snake, the FWS conducted a survey in 1979 and 1980. Only 135 of the snakes were found. Based upon this information, the FWS informed the Corps of Engineers in 1983 that the construction of the planned reservoir could threaten the continued existence of the snake - a species

not yet even listed under the ESA. After more surveys were completed, and with the vociferous urging of various environmental groups and a college professor from New Mexico, the FWS finally listed the snake as threatened in 1986.

In late 1986, the FWS issued a biological opinion, which reiterated its position that building the reservoir would threaten the snake's existence. It required ten specific actions by the water district to mitigate against the threat. These alternatives alone cost the district $9 million to implement and included a requirement that the district conduct a ten-year, $1.5-million study on the snake. From the beginning of the study up to its conclusion in 1996, the district found that not only was the snake not in danger of extinction - it was actually flourishing in many of the man-made structures which environmentalists who urged its protection thought were fatal to the creature. More alarmingly, the survey team itself handled almost **14,000** separate snakes during the survey. The study concluded that perhaps as many as **70,000** Concho water snakes existed throughout West Central Texas. Of course, the costs of the study were passed on to the customers of the water district.

5. **Cave "bugs."** In approximately 1990 Mrs. Mary Davidson and her family bought 1.45 acres of property twenty miles outside of Austin, Texas, with intentions of constructing a home. After purchasing the property, they delayed building the house while they saved the necessary money. In 1992, they began construction of their home on the property. They were informed by the FWS that they needed to secure an "incidental take permit," because, according to the agency, it had been determined to be "biologically necessary for the continued existence of the golden cheeked warbler, black-capped vireo, and/or the cave invertebrates." Needless to say, Mrs. Davidson and her family had not saved the funds to conduct the long and expensive studies necessary to support issuance of the permit. But more troubling, there was **no** evidence whatever that any of these species **even existed** on the land that she wanted to develop into her home. What is more, just a mile down the road, there was a new subdivision with thirteen individual lots merrily moving along under construction. Upon learning her story, the House Resources Committee invited her to tell it to Congress. After Davidson's testimony, the FWS

moved quickly to revisit the issue, and she was allowed to build her home without the once- "necessary" take permit.

6. **Vail Ski Resort and the Lynx.** In late 1999, an environmental group took credit for starting several fires at the popular Vail, Colorado, ski resort. The fires destroyed over $12 million in property, although no lives were lost. The stated reason for such "eco-terrorism" was that they disagreed with the decision of the federal government to allow an expansion of the resort. They maintained that the resort was encroaching into an area that needed to be kept free of human activity in order to protect habitat for the lynx, an animal proposed for listing under the ESA that had not been seen in the area **since 1973**.

These anecdotal cases are but a few of many; by no means do they reflect the totality of excesses thought to have resulted under implementation of the ESA. At least two more notorious examples of perceived excess under the Act have occurred in Southern California – and the Inland Empire in particular.

7. **The Delhi Sands Flower-Loving Fly.** In the early 1990s, in the city of Colton in San Bernardino County, a state-of-the-art, half-billion dollar county hospital was under construction when the FWS discovered, in the vicinity of the project, the presence of the Delhi Sands Flower-Loving Fly - a large orange and black fly which feeds on flower nectar. While according to entomologists, the fly is but one of over 80,000 species of flies in the world, it was legally unique in the United States as the **only** one listed as an endangered species under the ESA. Because of the fly's protected status, the county was required to move the location of the already-under-construction hospital 250 feet, to set aside eight of the project's sixty-four acres as a preserve surrounded by a link fence with "no trespassing" signs, and to conduct and finance a five-year, $480,000 study of the flies in the preserve. In addition, the city of San Bernardino was required to spend almost $3.5 million in mitigation for the presence of **eight flies**.

In the wake of a far-reaching U. S. Supreme Court decision - *United States v. Lopez,*[81] in which the Court held that Congress had exceeded its Commerce Clause authority when it adopted the federal Gun-Free School Zones Act of 1990 - many legal practitioners and commentators recognized that the Court's decision had potential implications beyond the literal bounds of its focus. Several legal challenges to a wide variety of federal laws followed.[82] In due course, a coalition of developers and local governments in Southern California brought suit[83] against the Department of the Interior challenging the takings provisions of the ESA. They argued that Congress and the Interior Department did not have authority to regulate the use of non-federal lands in order to protect the Delhi Sands Flower-Loving Fly, which is found only in California. The Court of Appeals for the District of Columbia held, in a divided opinion citing the *Lopez* decision, that the takings prohibitions in the ESA were a valid exercise of Congress' authority to regulate interstate commerce because the prohibition against takings is needed to enable the government to control transport of endangered species in interstate commerce, "to keep the channels of interstate commerce free from immoral and injurious uses."[84] The Supreme Court refused to hear an appeal of that decision.

8. **Fires, the Stephens' Kangaroo Rat, and the Gnatcatcher.** In 1992, in western Riverside County, the FWS told homeowners that due to the presence of the Stephens' kangaroo rat habitat in the area, they could not create firebreaks around their homes by discing the land to remove vegetation. They were informed that discing could lead to criminal and civil penalties, including imprisonment and fines up to $100,000.

In October 1993 a serious fire broke out in the area. Twenty-nine homeowners who followed the instructions of the FWS and mowed their property instead of discing lost their homes to the fires, which spread without break over the properties. As reported in the *Wall Street Journal*,[85] ABC television's "20/20" and "Eye to Eye With Connie

[81] *United States* v. *Lopez*, 514 U.S. 549 (1995).
[82] Frona M. Powell, "Property Rights, Federalism, and the Endangered Species Act," 29 *Real Estate Law Journal* 13 (2000).
[83] *National Association of Home Builders* v. *Babbitt*, 130 F.3d 1041 (D.C. Cir. 1997).
[84] Id. at 1046.
[85] Ike Sugg, "California Fires - Losing Houses, Saving Rats," *Wall Street Journal*, 2 April 1993, 12(A).

Chung" (March 1995), at least one individual – Mr. Michael Rowe, who defied the mandates of the FWS and plowed under his land in the face of the oncoming conflagration – saved his home from destruction.

The *Journal* article also pointed out other destruction from fires, which were attributable to the FWS' anti-brush clearance rules. One such case occurred in Laguna Beach in Orange County. Rules against clearing brush had been imposed due to the presence of a listed species, the California coastal gnatcatcher. The story documented the fact that but for the FWS restrictions, the fire could have been stopped before consuming many of the homes in the area.

In closing this section of the report, it is appropriate to give at least an overview of what role "sound science" has in the debate between the prevention of species extinction and sustainable development. In addition to perhaps an alarming amount of plain "bad judgment" exhibited by the FWS in some of the examples discussed above, there also is - a least implicitly - the issue of what science the agency employed. This issue necessarily permeates the ESA and its implementation - from the listing decision itself, through a potential exemption or incidental take permit, and finally through the development of critical habitat designations, recovery plans and habitat conservation plans.

Sound Science, Extinction, and Sustainable Development

As mentioned earlier, the FWS is required to list a species as endangered or threatened **solely on the *"best scientific and commercial data available."*** The Act contains no definition or guidance to determine what constitutes "best available data." It imposes no affirmative duty for the FWS to seek new or additional data in order to confirm or refute the scientific bases for a listing, nor must the data actually used be subjected to any scientific verification or peer review. Nevertheless, the FWS has maintained that its "standard practice" is to subject its decisions to "independent expert review."[86] According to the agency, "decisions concerning a species range, abundance, status, and threats that may be present are made subsequent to either formal or

[86] *History and Summary of the Endangered Species Act*, p. 5.

informal review by experts in the field."[87] These experts are often employed by colleges or universities, work for other federal or state agencies, or may be within some other division of the FWS.[88]

In 1994, the agency published a policy statement indicating the procedures for how it would conduct scientific decisions. The policy requires the FWS to solicit expert opinion from three "appropriate and independent specialists regarding the scientific or commercial data and assumptions relating to the taxonomy, population models, and supportive biological and ecological information for species under consideration for listing." It is not, however, required under this policy to actually use such expert opinions.[89]

In the related area of recovery-plan preparation, the FWS' policy toward scientific expertise is more proactive. It not only solicits the input; it actually requires itself to utilize it.[90]

Despite the stated policies of the agency, and in light of the "horror stories" of implementation under the Act (some noted above), it is probably fair to question to what extent "sound science" really occupies a regular and consistent role in implementation of the Act. In one of the most thorough reviews of the issue and experiences under the Act, Dr. Robert J. Taylor, Director of Wildlife Ecology for the California Forestry Association in Sacramento, sees a troubling "mix" of science and politics in the decisions of the FWS. For example, Dr. Taylor notes:

> For years the political community regarded the scientific community as an impenetrable but useful black box that swallowed money and bright young people and regurgitated truth and clever gadgets. It has come as a recent disappointment for many to learn that science is often inattentive to social needs and in some cases does not even seem to be a reliable window on the truth. In few fields of the natural sciences is this of more immediate concern than in the application of the biological sciences to species

[87] Id., 5.
[88] Id.
[89] Id.
[90] Id.

preservation under the [ESA].[91]

Also:

> Problems with these sciences are manifest in two ways. Because many ecological scientists work in politically sensitive government agencies, their work has **historically been influenced by nonscientific bureaucratic and political pressures** ... When these measures take the form of research projects meant not to solve problems but to support pre-existing short-term political and bureaucratic goals, the methodology of science is distorted ... The long history of political micro-management of science in the state and federal agencies that manage lands and wildlife means that the quality of research by their staff biologists is wildly uneven ... The second expression of the problem occurs within [the] relatively insulated ranks of university ecologists. A number of questions of basic importance to the effective administration of the ESA have been ignored by academic biologists ... Through its control of the National Science Foundation, the basic science community has managed to isolate itself from social problems to the point that it feels little pressure to justify its work in terms other than intellectual curiosity.[92]

Despite this relatively strong statement of concern over the scientific integrity of actions taken in the implementation of the ESA, Taylor's analysis goes on to place in perspective his views as to genesis of the problem:

> The source of the problem is not bureaucratic incompetence. The ESA asks something of biologists that they have not traditionally been prepared to provide: a clear definition of what constitutes an important variant within a species. The legal and policy communities must understand that with the exception of true species all taxonomic units in biology are somewhat arbitrary.[93]

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[91] Robert J. Taylor, "Biological Uncertainty in the Endangered Species Act," 8 *Natural Resources & Environment* 6. Admittedly, Taylor is not an unbiased observer of the ESA. However, as will be seen in an overview of commentary on the law, it has few unbiased observers.
[92] Id., 6.

Taylor concludes his analysis by stating:

Congress and the courts must accept that the immaturity and somewhat checkered history of the sciences supporting the ESA are such that ... [leaders of the "scientific community"] ... may not have a clear understanding of where their scientific expertise ends and their personal and institutional goals begin ... The sad fact is that ... twenty years into endangered species protection, we still do not have a clear definition of what it is we are trying to protect.[94]

The Congressional Research Service also has looked at the Act's overall effectiveness as a technical or scientific proposition, and has noted in response to its query:

The answer to this question depends very much on the choice of measurement. Since a major goal of the ESA is the recovery of species to the point at which the protection of the Act is no longer necessary, this seems a good starting point. If this is the only standard, the Act could be considered a failure, since only eleven species have been delisted due to recovery, as of November 16, 2000. Seven species were determined to be extinct since their listing, and twelve have been de-listed due to improved data ...

Even so, since some scientific studies demonstrated that most species are listed only once they are very depleted ... another measure of effectiveness might be the number of species that have stabilized or increased their populations, even if the species is not actually delisted. If this is the only standard [of effectiveness], the Act could be considered a success since a large number (41 percent of listed species, according to one study) have improved or stabilized their population levels. Other species (e.g., red wolves and California condors) might not exist at all without ESA protection, and this might too be considered a measure of success, even though the species are rare.[95]

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[93] Id.
[94] Id., 59.
[95] Corn, "Endangered Species: Continuing Controversy," p. CRS-2. See also Robert J. Noecker, "Endangered Species Act List Revisions: A Summary of Delisting and Downlisting," CRS Report 98-32, January 5, 1998.

Even from this perspective, it is easy to understand the criticisms expressed by Dr. Taylor, since from a scientific or technical standpoint, it is difficult to gauge the effectiveness of the Act given that it is not clear, technically speaking, what the measuring rod ought to be. No doubt some good science is employed for many specific cases and species in implementing the Act. To secure a properly fashioned national agenda and priority for sustainable development, and balance it with a like-minded agenda for preventing extinction of species, it seems that the role of "good science" needs to be looked at more closely, and an appropriate technical standard for evaluating the balance between these agendas relative to the ESA must be articulated. It is somewhat disconcerting that even with Congress' research resources, an appropriate point of departure for evaluating the Act's effectiveness cannot be determined. The picture of why the Act has not been reauthorized in almost ten years grows clearer.

However, the real question here might be how effective the Act is from a **political perspective**, irrespective of whether it employs and engenders "good science" or provides a readily available measure of its effectiveness from a technical perspective. If engendering a wide variety of "reasoned" and "passionate" expression is a measure of political effectiveness or importance, then the ESA, unlike any other environmental law on the books, is far and away the most politically "effective." The following section outlines some of the major advocacy positions, pro and con, concerning the Act and its implementation.

THE ESA: THE STAKEHOLDERS AND THEIR POSITIONS

The preceding sections provided some information concerning a critique of certain of the Act's provisions and implementations. What follows is a summary discussion of additional perspectives held by various interest groups. Frequently, these perspectives have been offered in pursuit of amendments to the ESA. By no means is this summary meant to be comprehensive, for the Act has inspired numerous passionate supporters and opponents. Rather, it is a short discussion of positions espoused by a number of groups and individuals having significant experiences with it.

Observations of Some Supporters of the Act

1. **Michael Bean, Environmental Defense Fund.** Credited with authorship of the Act itself, Mr. Bean has long been an ardent supporter of the ESA and its implementation. Nevertheless, he has stated that there is "increasing evidence that at least some private landowners are actively managing their land so as to avoid potential endangered species problems," emphasizing that these actions were "not the result of malice toward the environment ... but fairly rational decisions, motivated by a desire to avoid potentially significant economic constraints." Bean characterized such actions as a "predictable response to the familiar perverse incentives that sometimes accompany regulatory programs, not just the endangered species program but others."[96]

2. **Mark Van Putten, President of the National Wildlife Federation**. Citing the recovery of the whooping crane and the preservation of California condors, red wolves and black-footed ferrets, Mr. Van Putten noted in a recent issue of *Congressional Quarterly*: "[B]ut the Act is not an assembly line which can be run on the cheap. Recovery takes time, and comebacks like the bald eagle are rare ... Fairly judging the ESA means considering its full influence on wildlife. Before passage, factoring wildlife into land development plans was rare; now it is routine ... The ESA alone is not responsible, but it has been the catalyst for a profound change in how we view and treat the land ... The ESA is keeping the wild alive. It is a success." [97]

3. **The Society for Integrative and Comparative Biology**. Representing a collective membership of some thirty thousand scientists, the SICB advocates reauthorization of the Act requiring, among other things, a hardened mandate that critical habitat for any species be designated at the time the species is listed, and that recovery areas should be designated which are "greater than that needed for minimum viable populations ..., that the harming of listed species through the 'incidental take' permitting process should be prohibited because it is considered to be inconsistent with the recovery of listed species

[96] Transcript of speech by Michael Bean at U.S. Fish and Wildlife Service seminar, November 3, 1994, Marymount University, Arlington, VA.
[97] Mary H. Cooper, "Mass Extinction," *Congressional Quarterly Researcher* 10, no. 31 (15 September 2000): 735.

… [and that] there should be no economic considerations or 'cost-benefit analyses' associated with listing decisions, critical habitat designation, jeopardy determinations, or recovery plan development and implementation."[98]

4. **Pacific Coast Federation of Fishermen's Associations.** In calling for a reauthorized Act that would enhance habitat protection efforts, maintain a definition of "species" which recognizes distinct population segments and subspecies, and provide "better science" and more public input into listing and recovery-planning processes, the group noted: "[F]aced with a nation-wide aquatic crisis, there is little question that ESA protection will be necessary, when all else fails, to at least keep many of these fish species from extinction while we try to figure out how to save them ... [S]ince we are an industry that is going to be heavily regulated under the ESA anyway ... it is our duty to press Congress for an ESA that **actually works**!!"[99]

5. **The Nature Conservancy.** This group (which, as we shall see played a major facilitative role in the Coachella Valley and the fringe-toed lizard issue) advocates reauthorization of the Act with an emphasis on joining forces with communities and private agencies in a cooperative approach to conservation which will help identify and protect "the most threatened plants, animals and natural communities."

6. **Endangered Species Coalition.** Citing the Act as "one of the finest expressions of love for the Earth and all its inhabitants ever to come out of any legislative body" while noting that "the law is not perfect," the ESC supports three fundamental improvements: 1) changing the scientific standard of the Act that "declares the goal to be recovery to biological health and removal from the list"; 2) guaranteed funding for species protection and recovery-plan monitoring;[100] and 3) offering better incentives for species protection on private land, including tax breaks and outright grants to landowners who agree to effective monitoring of habitat conservation plans and risk opening up such plans should

[98] SICB Conservation Committee (Fraser Shilling, Chairman) Conservation Resolution, (1995).
[99] Glen Spain and Zeke Grader, "A Fishermen's Agenda for the Endangered Species Act," *Fishermen's News*, December 1995.
[100] The issue of increased funding for the Act is a pervasive one seen throughout the research for this paper, lying at

a species decline or vanish.[101]

Observations of Some Opponents of the Act

1. **Political Economy Research Center.** Chief among the concerns raised by PERC about the Act is the lack of compensation to landowners for perceived takings of private property, and the fact that the courts have not recognized the regulatory burdens of the ESA as a taking entitled to "just compensation" within the meaning of the Fifth Amendment to the U. S. Constitution:

> It is ironic that the Constitution explicitly forbids the U.S. Army, even in the name of national defense, from requiring that a citizen quarter a soldier ... Yet the government can require the same citizen to quarter a grizzly bear, a spotted owl, or any other member of a threatened or endangered species, at the landowner's expense.[102]

The group believes Congress should consider suggestions to pay landowners "bounties" or "rewards" for long-range habitat protection, or the payment of "rent" for land that is to be designated as habitat. PERC also suggests that eliminating or modifying some of the penalty provisions of the Act might actually result in private individuals and organizations taking initiatives on their own to protect species. In fact, the group considers such private action to be more cost-effective than FWS regulatory action. "[T]he Endangered Species Act in its current form is a roadblock to creative environmental protection. It not only imposes unnecessarily high costs on landowners; it has also created animosity between environmental groups and landowner groups."[103]

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the heart of many advocates' positions on improvements to the ESA and its implementation.

[101] Brock Evans (Executive Director of Endangered Species Coalition), "The ESA Anniversary," Winter 1998/1999.

[102] Richard L. Stroup, *Endangered Species Act: Making Innocent Species the Enemy*, PERC Policy Series, no. PS-3 (April 1995): 9.

[103] Id., 11.

2. **The National Endangered Species Act Reform Coalition.**[104] Maintaining that "not a single species has been recovered as a result of actions taken under the ESA," the NESARC seeks amendments by Congress which would codify the "no surprises" policy, increase the role of state and local governments, increase public input into all phases of the Act, ensure the use of "best possible science," and improve the recovery-planning and implementation processes "to make the law easier for people to live with ... [and to] work better for the species it was designed to protect."[105]

3. **Frontiers of Freedom.** This group, generally created to "maintain and restore" the "American system of limited government and individual rights," advocates that the public in general bear the costs of habitat protection and that Congress repeal the ESA's authority to regulate private landowners. Frontiers of Freedom points out that in December 1994, the General Accounting Office reported that 77 percent of listed species under the Act depended upon private land for all or part of their habitat requirements, and that an update of this statistic by the National Academy of Sciences estimated the proportion at 90 percent. The group concludes that the ESA "has failed to achieve its ends," noting that 71 percent of Americans believe establishing incentives and rewards for species protection is a better course than "command and control" regulation under the ESA.[106]

4. **The Heritage Foundation.** Citing numerous "horror stories" and the lack of success in protecting endangered species under the Act as implemented, the Heritage Foundation concludes that the ESA should be modified to encourage, not discourage, provision of habitat for endangered species. It recommends four principal changes:

    1) Clarifying the definition of "harm" to require the use of "sound, objective, and unbiased scientific evidence that proves the actions of an individual caused death

[104] Many of the "horror stories" described earlier in this paper come, as noted already, from a compendium of such information kept by the NESARC. The discussion here sets forth a general overview of the organization's concerns with the Act.
[105] James A. McClure (Chairman, National Endangered Species Act Reform Coalition), "ESA Reform in 2000 and Beyond," *Engineered Wood Journal*, (October 2000).
[106] Malcolm Wallop, "Save Species, Repeal the Act," Frontiers of Freedom: *Freedom At Issue* (December 2000): 2.

or physical injury to a physically identifiable endangered species on the property";

2) Ensuring that property owners are "compensated in full" for any loss that results from a taking to protect an endangered species;

3) Requiring that the FWS employ "sound, objective, and unbiased science ... and examine the economic consequences of their actions in the decision-making process"; and

4) Creating incentives that make landowners "partners in the government's effort to save" species from extinction.[107]

5. **Competitive Enterprise Institute.** In a scathing opinion on the propriety of the ESA, R.J. Smith, Senior Environmental Scholar for the Competitive Enterprise Institute, says: "If someone had deliberately set out to create a law that would have harmed wildlife, destroyed habitat and discouraged private landowners from protecting wildlife on their lands, it would have been difficult to surpass the Endangered Species Act."[108] Smith notes that the "fatal flaw in the Act is that government uses it primarily as a means of cost-free, national land-use control, rather than as means to protect rare species."[109] He concludes his critique by urging that the only appropriate action for Congress to take is to replace the existing "compulsory, regulatory act with a voluntary, incentive-based law ... After 25 years, we don't need any more lessons in the unintended consequences of bad legislation ... The nation's underpinning of private-property rights and our natural heritage of bountiful wildlife can no longer afford it." [110]

[107] Alexander F. Annett, *Reforming the Endangered Species Act to Protect Species and Property Rights,* Heritage Foundation *Backgrounder*, no. 1234 (13 November 1998): 2.
[108] Mary H. Cooper, "Mass Extinction," *Congressional Quarterly Researcher* 10, no. 31 (15 September 2000): 735.
[109] Id.
[110] Id.

Arguments Concerning the Economic Impact on Development

Throughout the various positions voiced on amending the ESA is the continuing theme that the Act has had a significant economic effect on development. Advocates for dramatic changes in the Act have pointed to the controversies over habitat for the Northern Spotted Owl (listed as endangered in 1990) and related impacts on forestry and lumber operations. Accordingly, they have argued that in addition to local economic dislocations caused by the exclusion of large tracts of federal and private timber lands (and related effects on timber industry jobs and local economies) due to the listing of the species and protection of its critical habitat, there are also potentially severe economic impacts to "end users" as well – home buyers and consumers who purchase products made of wood (furniture, etc.)[111] While the legal authority of the FWS to establish the multi-million acre habitat for the spotted owl was settled in 1995,[112] the debate over the economic consequences of the action has continued.

However, at least one observer has attempted to address the claimed economic impacts to the real estate and home-building sectors of the economy and has concluded that:

1) "[W]hatever the true impact of the spotted owl listing on Pacific Northwest timber production ..., it is dwarfed by the more fundamental cycle in the market relationship between timber supply and housing demand" and that

2) "[T]he evidence is consistent and strong that the ESA is not driving real estate markets down. On the contrary, the modest positive associations suggest that the converse is true: booming real estate markets are driving species populations down and endangered species listings up."[113]

In fact, Professor Meyer concludes that no negative relationship exists between home

[111] David Heinly, "Industry Leaders Warn of a 'Regulatory Recession,' " *Professional Builder and Remodeler*, 1 June 1990, 36.
[112] *Babbitt* v. *Sweet Home Chapter*, 515 U.S. 687 (1995).
[113] Stephen M. Meyer (Professor of Political Science and Director of Project on Environmental Politics and Policy, Massachusetts Institute of Technology), "The Economic Impact of the Endangered Species Act On The Housing and Real Estate Markets," 6 *New York University Environmental Law Journal* 450 (1998): 456 and 476.

construction rates and ESA listings: "[N]ew single-family housing starts did not slow with higher numbers of listed species."[114] He notes that since the ESA has been in force for more than twenty years, "one would think that some systematic sign of harm to real estate markets and property values would be easy to find ... Instead, none can be found."[115]

A problem with this analysis, however, might lie in its "macro-economic scale" approach, which looked to large geographical areas (i.e., an entire state). And despite his "macro" conclusions, Meyer does allow for the possibility that local economic dislocations could result from the Act's impacts: "These results do not negate the fact that individual development projects can run afoul of the ESA ... Some projects may be slowed, redesigned, scaled back, or abandoned as a result of the ESA."[116]

While this analysis is interesting, it is important to recognize that its focus is macroeconomic – and that perhaps the worst is yet to come, especially when one considers that the analysis was done during a period of unprecedented economic growth and vitality. Furthermore, it may be possible to conduct a similar study for even a major natural catastrophe in an area as large as a state and still get a similar result. For example, despite severe damage caused by a hurricane, one probably could conduct an overall analysis of the economic vitality of the state hit by such a storm and show negligible **statewide** impacts. Of course, the effects on the particular area devastated by the hurricane could still be quite substantial.

Finally, it is useful to look at an interesting approach that suggests that the Act focuses on "hot spots" - places having the greatest concentration of endemic species while at the same time experiencing exceptional habitat loss. These places are said to be the "front line in the battle to save biodiversity."[117] The promoter of the approach, Dr. Russell A. Mittermeier, president of Conservation International, notes that as many as 44 percent of all plant species and 35 percent of vertebrate species live in twenty-five "hot spots" in the world comprising but 1.4 percent of

[114] Id., 474.
[115] Id., 476.
[116] Id., 477.
[117] William K. Stevens, "The 'Hot Spot' Approach to Saving Species," *New York Times*, 14 March 2000, 3(D).

the earth's land, predominantly in tropical forests.[118] Based on credible scientific estimates, the promoters of the approach feel that in protecting the plants and animals in the hot spots, we would also protect the majority of insects in such areas. Dr. Mittermeier estimates that $500 million spent over five years could go a long way toward protecting all of the hot spots on the planet. By extrapolation, one might also consider applying such a theory to species protection in the United States. In short, for lack of a better description, it appears that the hot-spot approach is a reasonable mechanism for prioritizing resource commitments - something that seems to be on the agendas of all who are concerned about the ESA.

THE COACHELLA VALLEY AND THE FRINGE-TOED LIZARD

Before moving to a discussion of final conclusions concerning the Act in general, this portion of the paper addresses yet another real-world experience under the law – issues related to the fringe-toed lizard in the Coachella Valley of eastern Riverside County in Southern California.

The Coachella Valley fringe-toed lizard, *Uma inornata,* gets its name from elongated fringe-like scales on its hind legs which provide traction, not unlike snowshoes, on the sand - its natural habitat. Also known as the "sand-swimmer" for its ability to dive through sand dunes, it has a heat sensor on the top of its head that looks like an eye, warning the lizard when the temperature is too hot. Under these circumstances, or when the lizard feels threatened by natural predators, it can dive through a sand dune to escape the heat or predator. It is superbly adapted to its environment, having a wedge-shaped, tool-like snout with a "trapdoor" that prevents sand from entering its nose and lungs, and a double set of eyelids, one vertical and the other horizontal, which locks out sand when the lizard dives and burrows into a dune. Round scales on its skin reduce friction as it "swims" on and through the sand. It is able to "torpedo" through the sand with its front legs tucked against its body and remain submerged there indefinitely, breathing air trapped between the grains of sand. But the fringe-toed lizard is very particular about the type of sand it prefers to inhabit - loose "blow-sand," with grains no smaller than one-

[118] Id.

tenth of a millimeter and no larger than one millimeter in diameter.[119] In short, it is uniquely adapted to the harsh desert climate and environment. Unfortunately for the lizard, only about five percent of the nearly one hundred square miles of dunes that once dominated the Coachella Valley - its prime habitat - remains. Over the years, the valley has become a magnet for those seeking its pleasant winter climate and beautiful desert scenery, and development has exploded. Today, nearly all of the remaining viable blow-sand habitat for the lizard exists in a preserve established for it under the ESA.

It should be noted that despite studies which maintained that the Coachella Valley fringe-toed lizard was biologically synonymous with the Colorado Desert fringe-toed lizard (*Uma notata*) and the Mojave fringe-toed lizard (*Uma scoparia*), Dr. Wilbur Mayhew of University of California, Riverside, successfully argued that the Coachella lizard be given stand-alone species status. This conclusion may not derive from a thorough scientific analysis of the biological facts.[120] The biological status of the Coachella Valley fringe-toed lizard has varied over time and in different studies, but despite the complexity and uncertainty of its taxonomic history, today it is generally thought to be a species distinct from the Colorado Desert and Mojave lizards.[121]

Habitat Conservation Plan for the Fringe-Toed Lizard

In the early 1970s Dr. Mayhew, a zoologist, realized that the lizard's days would be numbered as increasing development in the Coachella Valley resulted in the construction of numerous windbreaks that prevented blow-sand from impacting development projects, something that stopped the flow of this loose and fine sand which is essential to the lizard's survival. By 1980, almost half of the Coachella Valley's 267 square miles had been consumed by urban or agricultural development, and the remainder was undergoing degradation.[122] Studies concerning the apparent decline of the fringe-toed lizard in the region concluded that there had been – and continued to be – a drastic reduction of population due to habitat loss from urban and

[119] Dr. Allan Muth, Director of the Deep Canyon Research Center of the University of California at Riverside. *New York Times*, June 6, 1989. Section C. p. 4.
[120] See Appendix A to this Report by Donald A. McFarlane, Ph.D., "Taxonomic Status of the Coachella Valley Fringe-Toed Lizard --*Inornata* Group, Genus *Uma* (Reptilia; Iguanaidae)."
[121] *Coachella Valley Fringe-Toed Lizard Recovery Plan,* U.S. Fish and Wildlife Service, 1985.
[122] Jane E. Brody, "Near Desert Resorts, a Threatened Lizard Gets its Own Refuge," *New York Times*, 6 June 1989,

agricultural development, as well as from related blow-sand control projects and off-road vehicle use.[123] In 1978, the lizard was proposed for listing under the ESA as threatened. The FWS also proposed, as part of its listing decision noticed in the Federal Register, roughly 170 square miles of land in the Coachella Valley as a critical habitat. As might be expected, that proposal - effectively proposing a moratorium on development in the Valley - met with opposition from developers, the county, and the cities of the Valley as a serious impediment to growth and related needs in the region.

The Coachella Valley fringe-toed lizard was finally listed as threatened, and its designated critical habitat was declared reduced, under the ESA in September 1980. It was also listed as endangered under the California law in 1980.

With the passage of amendments to the ESA in 1982 that promoted the concept of habitat conservation plans for facilitating development on private property (with the related "incidental take" permitting process), efforts which had begun in the late 1970s to address the destruction of critical habitat for the Coachella Valley Fringe-Toed Lizard were now focused on efforts to design an HCP for the fringe-toed lizard.

In the fall of 1977 the Coachella Valley Fringe-Toed Lizard Advisory Committee, composed of professional scientists and resource managers, was formed to address conservation methods for the species. The outgrowth of the committee's work was an effort to acquire an "ecological reserve" to preserve a viable and sustaining population of the lizard as well as other plants and animals occurring within the same habitat.[124] The critical habitat for the species designated in September 1980 consisted of 11,920 acres of private land, and 690 of federal property managed by the U.S. Bureau of Land Management. The designated critical habitat included lands extending beyond the lizard's distribution but necessary for maintaining essential blow-sand habitat.

4(3).

[123] A.S. England and S.G. Nelson, *Status of the Coachella Valley fringe-toed lizard (Uma inornata),* Inland Fisheries Admin., Report no. 77 (1976).

[124] Id.

While Riverside County, nine cities in the Coachella Valley, and the Coachella Valley Association of Governments sought to develop a HCP for the species, the Nature Conservancy took the lead role in 1983 of actively acquiring property – much of it from private individuals – to establish the preserve within the critical-habitat area designated. It began by purchasing 1,900 acres within the critical habitat for $2 million, with further acquisitions by the Nature Conservancy and the federal government occurring thereafter. Riverside County, several Coachella Valley cities, and the local Building Industries Association agreed to impose and collect a $600 per acre fee on development, which was combined with other potential funding sources to buy additional lands for the preserve. The payments must be paid each month by local governments to the Nature Conservancy as administrator of the HCP, and are based upon the development in their communities. A recovery plan for the species was finalized by the FWS in September 1985. Among the first of its kind in the nation, the Coachella Valley fringe-toed lizard habitat conservation plan was finalized and "put into production" in 1986.

The HCP and recovery plan note that habitat destruction "represents the greatest threat to this species."[125] Key to the recovery plan are the following required actions:

1) Securing of habitat with the establishment of two or more large-scale reserves.

2) Studying related biological requirements of the species.

3) Monitoring lizard populations throughout the Coachella Valley.

4) Studying the effects of habitat modifications (i.e., windbreaks and vegetation).

5) Studying the feasibility of habitat restoration and rehabilitation.

6) Developing public information and education programs.

7) Enforcing existing laws and regulations, and investigating for new or modified ones.

[125] *Coachella Valley Fringe-Toed Lizard Recovery Plan,* U.S. Fish and Wildlife Service, 1985, 19.

Coachella Valley Preserve

As noted above, initially after the listing in 1980, the FWS attempted to stop all development in the Coachella Valley. However, a unique group of environmental, development, and governmental interests combined to establish a preserve for the lizard, and a mechanism for continued management of and enhancements to the preserve. By 1986 the Nature Conservancy, Bureau of Land Management, state Department of Parks and Recreation, FWS and the state Fish and Game Department joined forces to purchase 13,000 acres for $25 million to establish the Coachella Valley Preserve.[126] As noted, as part of the establishment of this area, anyone who now wishes to build in the Coachella Valley must pay a fee of $600 per acre.

The Preserve today has over 20,000 acres, consisting of an entire ecosystem of flora and fauna common throughout the Coachella Valley. It actually encompasses three separate preserves to ensure that should an ecological "disaster" befall one of the units, adequate habitat will still remain.[127] The largest unit, some 17,000 acres, is centered on Thousand Palms Canyon, which cuts through the Indio Hills on the northern edge of the valley. The Oasis (a part of the canyon – once the setting for Cecil B. De Mille's 1924 silent classic "King of Kings") features the second-largest collection of native California fan palms, hiking trails, and a visitor center which formerly was a pump house on an 80-acre estate once owned by a local nature writer, Paul Williams (whose father bought the estate in 1906 from a renowned local prospector, Albert "Alkali" Thornburg).

As part of the Preserve's mission and consistent with the principles set forth in the recovery plan, there are various ongoing research projects to investigate the intricacies of sand-dune ecology and the long-term potential success in protecting the Preserve ecosystem. These include:

[126] This preserve has been reported to be the most expensive single-species effort of its kind under the ESA. John McKinney, " Hiking: Taking a Hike for Lizard's Sake at Desert Oasis," *Los Angeles Times*, 21 April 1991, 16(L).
[127] Information provided by The Nature Conservancy, Southern California Region.

1) A study into the dietary patterns of the lizard.

2) A study investigating the local sand dunes and the viability of species they support.

3) A study of how to restore sand dunes once they are taken by development.

4) A study on the presence and ecosystem effects of Saharan Mustard, an exotic, ubiquitous and somewhat new vegetative entrant to the local desert.

Hailed as a unique "success story" in the annals of experience under the ESA, the HCP for the fringe-toed lizard has not been without its problems. After a May 1994 audit, it was revealed that the plan was being threatened by "slow and sloppy collections" of developer fees payable under it.[128] Problems stemming from poor record keeping, lack of oversight, "revolving bureaucrats and conflicting interpretations among local governments participating in the program" were identified as hampering the effectiveness and administration of the HCP.[129] The audit was also critical of the FWS for not examining the effectiveness of the program since its inception, and for not providing clear interpretations of the underlying agreement to assist the affected city members.[130] In 1997 the Nature Conservancy decided to transfer ownership and management responsibilities over the Preserve. The FWS and the Center for Natural Lands Management now manage it.

Not satisfied with simply the success - and related limitations - of the HCP for the fringe-toed lizard, and facing ever-mounting pressure from environmental and conservation groups to expand the scope of species protection in the area,[131] the Coachella Valley Association of Governments, Riverside County and nine cities of the valley began in 1994 to develop a more

[128] Gary Polakovic, "Cities late with fees for lizard habitat: Money from developers is supposed to help maintain a desert preserve," *The Press Enterprise*, 8 July 1995, 1(B).
[129] Id.
[130] Id.
[131] In March 2000, a coalition of environmental groups sued the Bureau of Land Management (BLM) seeking stricter protection for the bighorn sheep, desert tortoise and 22 other species. They alleged that the BLM's management of the 10.2-million acre California Desert Conservation Area - a region shared by campers, off-road vehicle enthusiasts, miners and ranchers - had imperiled threatened and endangered plant and animal species. A main allegation of the suit complains that the Bureau did not consult with the Fish and Wildlife Service, as required by the ESA, regarding its policies for livestock grazing, off-road vehicle use and other human activities.

comprehensive "Coachella Valley Multiple Species Habitat Conservation Plan" for an anticipated thirty-one target species, **including the fringe-toed lizard**, and twenty-four related habitat types within the valley and their jurisdiction. The proposed area encompasses over **1.2 million acres (1,885 square miles)** in central Riverside County. It is generally bounded by the ridgelines of the San Jacinto, Santa Rosa, and Little San Bernardino Mountains, extending to the Imperial and San Diego County lines and including portions of the Salton Sea on the southeast. About 45 percent of the lands in the planning area are under BLM management, with private lands amounting to about 43 percent. The remainder of the area includes Indian, state and other quasi-public lands. As estimated by one of the proposed plan's proponents, Bill Havert of the Coachella Valley Mountains Conservancy (a state agency charged with preserving natural habitat), some 100,000 acres **of private land** will likely have to be set aside as part of the final multiple-species HCP.[132] Some of the funds for the plan, in addition to the now-traditional developer fees, would come from a $1 per ton fee placed on the disposal of solid wastes to the Eagle Mountain Waste by Rail site in eastern Riverside County – approximately 100 miles from the Coachella Valley.

In June 2000, the FWS provided notice in the Federal Register of the preparation of an Environmental Impact Statement concerning the multiple-species HCP. Public hearings were held on the draft EIS throughout the summer. Among the alternatives being considered in the EIS are:

1) A "no project" alternative, which would require incidental take permits to be handled on a case-by-case basis, with the attendant cost and uncertainty of the incidental take permit process.

2) An existing-preserve basis, which would keep the focus - and keep related land-development decisions – focused only on existing target species (i.e., the fringe-toed lizard.

[132] Gray Scott, "Nature Plan to Help Builders Map Desert Future," *The Business Press* (California), 22 May 2000: 7.

3) A "core habitat" plan and an expanded habitat plan, each of which to varying degrees would focus on protecting core habitat areas of sufficient size to take care of target- species communities.

4) Acquisition of remaining viable habitat lands - for all target species of concern – within the existing preserve system, with little remaining incentive for private landowner participation in conservation planning and implementation.

Approaches being considered by the FWS as part of the multiple-species HCP include "zoning overlays," General Plan amendments, ordinances, development fees and "mitigation ratios," along with the immediate purchase of "at-risk" lands as well as the tried-and-true method of mixing public and private funding through grants and "mitigation fees" imposed on developments **outside** the conservation area itself.

In addition, part of the underlying reason for adopting such an ambitious plan is the sense that the Coachella Valley fringe-toed lizard HCP is inadequate because it did not adequately preserve all of the dunes in the region. Recently, as part of their consideration of whether to allow the Nature Conservancy to continue to use developer fees to buy hundreds of acres of land in the valley, the Riverside Board of Supervisors inquired about the apparent criticisms emanating from the FWS, noting:

> We have been aggressively pursuing multi-species planning ... and one of the things we have held up as a model is the fringe-toed lizard plan, as an example of what has worked ... For [wildlife officials] to come out of the blue and say, "Oh no, we want some changes," doesn't speak well for the efforts we have been putting into multi-species planning ... We are hoping to resolve this. If we can't, then I think the multi-species planning effort is in danger.[133]

Where all of this might ultimately lead is hard to tell. On the one hand, there is a tremendous bureaucratic inertia associated with the approaches being pursued. On the other

[133] Supervisor Roy Wilson, to the *Press Enterprise*, July 31, 2000.

hand are serious economic interests, with serious concerns, looking to the reauthorization - or repeal - of the ESA as a means of stopping what to them appears nothing short of "madness." As noted by Ed Kibbey, executive director of the Building Industries Association (Desert Chapter), for years the environmental and command-and-control regulatory community has looked to the building and developer community to pay for species protection - even though every American enjoys the benefits of setting aside private and public lands for that purpose. Perhaps it is, indeed, time that "state and federal governments will recognize their responsibilities to provide funds to help in the acquisition of land necessary for the conservation of endangered and threatened species."[134]

Before the concluding remarks, the next section looks at the economic issues related to the fringe-toed lizard. We have noted that the ESA is one of the most far-reaching and controversial pieces of legislation passed in the last thirty years. While environmental activists argue that this law does too little to protect endangered species, proponents of private property rights argue that the ESA infringes on constitutional protections for private property, creates perverse incentives, and threatens future economic growth and prosperity. The strong opinions on both sides lead to debate and conflict over the value of current environmental laws. This debate carries with it economic issues as well.

To the economist, however, the issues for debate are easier to frame. Do the benefits of protecting endangered species outweigh the costs? If the answer is yes, then environmental protection is efficient. If the answer is no, then environmental protection is not efficient. While it is easy to determine the relevant question, it is sometimes difficult to answer the question. The economic solution is to allow for sustainable development while protecting species habitat. In most cases, a clear trade-off exists between the two. Extreme environmentalists believe the benefits of attempting to protect a species from extinction are infinite and that it is immoral to take efficiency criteria into account when considering potential extinction. At the other end of the spectrum, some believe that making any concession to the protection of snails and beetles produces no measurable social benefits. While the costs of protecting species are easier to

[134] Ed Kibbey, "Builders and Environmentalists: A Partnership for the Future," *California Biodiversity News*, CERES, (Fall 1999).

measure and more readily agreed upon, there are also controversial elements in measuring these costs.

In addition to the disagreements concerning these costs and benefits, the ability to reach efficient solutions is further complicated by the ESA's provision that species must be protected no matter what the cost. It is this provision that has drawn the most criticism from Congress and the public at large. As we have shown, while the public is willing to protect charismatic species (e.g., eagles, falcons or panthers), it is less sympathetic to saving rats, reptiles and insects when the protection of these species precludes economic development.[135] Moreover, the ESA has created an environment in which individual property owners face punitive punishments if a threatened or endangered species is found on their land. As a result, individuals who may otherwise be willing to create or maintain existing habitat have the incentive to destroy any habitat that might attract the species. Policy makers are beginning to recognize these problems and are making changes to the existing regulatory structure in order to minimize economic impacts. However, reform of the ESA still has a long way to go if both species and property rights are to be protected.

The Coachella Valley fringe-toed lizard is a classic example of the problems with the ESA. The habitat conservation plan developed for its protection is one of the first and most expensive plans for the protection of environmental species to date. However, the plan so far has failed to effectively ensure the species' survival, and the FWS is now considering imposing even more stringent restrictions on development. The costs of further such restrictions could have a significant negative effect on the economy of the Coachella Valley, with no guarantee that the lizard's status will appreciably improve.

This section of the paper presents a detailed discussion of the costs and benefits associated with protecting endangered species in general. A discussion of the status of ESA protection of the fringe-toed lizard follows, with some preliminary estimates of the costs and effects of protecting the lizard.

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[135] See Coursey (1998) and Metrick and Weitzman (1996).

The Economics of Endangered Species Protection in the Coachella Valley

An Economic and Demographic Overview

Table 1 provides an overview of the Coachella Valley's population. The Valley comprises 8.17 percent of the Inland Empire's population and 17.34 percent of the population in Riverside County. It continues to have an increasing share of Riverside County's and the Inland Empire's population.

Table 1: Historical City Population Estimates of the Coachella Valley

City/County	1991	1992	1993	1994	1995	1996	1997	1998	1999
Blythe	8,550	11,900	12,800	12,850	16,450	18,350	20,750	21,050	20,950
Cathedral City	32,000	33,500	33,850	34,250	34,900	35,450	35,450	36,000	36,750
Coachella	17,500	18,100	19,200	19,600	20,200	21,050	21,350	21,850	22,200
Desert Hot Springs	12,350	13,150	13,850	14,100	14,550	14,850	15,050	15,300	15,400
Indian Wells	2,720	2,860	2,950	3,040	3,030	3,080	3,190	3,270	3,410
Indio	38,100	39,700	40,450	41,300	41,400	42,100	42,800	43,750	44,500
La Quinta	12,900	14,550	15,350	16,300	17,100	18,050	19,200	20,450	21,750
Palm Desert	23,700	24,350	25,950	26,750	32,750	33,450	34,150	35,150	36,300
Palm Springs	40,550	41,100	41,600	41,650	41,300	41,700	41,900	42,650	42,900
Rancho Mirage	9,975	10,250	10,400	10,500	10,450	10,550	10,700	11,050	11,400
Coachella Valley	198,345	209,460	216,400	220,340	232,130	238,630	244,540	250,520	255,560
Riverside County	1,223,220	1,268,735	1,304,500	1,331,890	1,355,655	1,381,830	1,400,390	1,440,970	1,473,410
Inland Empire	2,687,995	2,777,510	2,844,300	2,891,140	2,928,305	2,968,980	3,005,390	3,072,370	3,127,610
Coachella Valley as % of Riverside County	16.21%	16.51%	16.59%	16.54%	17.12%	17.27%	17.46%	17.39%	17.34%
Coachella Valley as % of the Inland Empire	7.38%	7.54%	7.61%	7.62%	7.93%	8.04%	8.14%	8.15%	8.17%

The continued growth and development of the Coachella Valley is critical to the future success of the region.

Table 2 shows population growth in the Valley. From 1991-1999, the area accounted for 22.87 percent of the growth in Riverside County and 13.01 percent of growth in the Inland Empire. All the cities in the Coachella Valley have grown over this period, and most have grown faster than the rest of the county and the Inland Empire.

Table 2: Population Growth in the Cities of the Coachella Valley

City/County	Population Growth 1991-1999	Percentage Population Growth 1991-1999
Blythe	12,400	145.0%
Cathedral City	4,750	14.8%
Coachella	4,700	26.9%
Desert Hot Springs	3,050	24.7%
Indian Wells	690	25.4%
Indio	6,400	16.8%
La Quinta	8,850	68.6%
Palm Desert	12,600	53.2%
Palm Springs	2,350	5.8%
Rancho Mirage	1,425	14.3%
Coachella Valley	57,215	28.8%
Riverside County	250,190	20.5%
Inland Empire	439,615	16.4%
Coachella Valley Growth as % of Riverside County's Growth	22.87%	
Coachella Valley Growth as % of Inland Empire's Growth	13.01%	

Table 3 indicates that relative to Riverside County and the Inland Empire, the Coachella Valley has a larger Native American population and larger fraction of its population of Hispanic origin.

Table 3: Ethnic Groups in the Coachella Valley

City	White	African American	Asian	Native Amer. and Other	Hispanic Origin
Blythe	73.3%	16.2%	1.0%	9.5%	55.8%
Cathedral City	89.3%	2.6%	5.8%	2.3%	31.1%
Coachella	61.0%	3.6%	1.3%	34.1%	97.9%
Desert Hot Springs	90.1%	4.8%	2.7%	2.5%	23.9%
Indian Wells	96.5%	0.1%	2.6%	0.9%	8.6%
Indio	78.1%	6.2%	2.8%	12.9%	81.1%
La Quinta	90.0%	3.2%	1.8%	5.0%	36.8%
Palm Desert	96.0%	1.0%	2.1%	0.9%	11.2%
Palm Springs	87.5%	6.9%	3.8%	1.8%	20.8%
Rancho Mirage	94.9%	1.0%	4.0%	0.2%	7.7%
Coachella Valley	85.3%	4.6%	3.2%	6.9%	40.1%
Inland Empire	81.0%	9.1%	5.6%	4.3%	33.7%
Riverside County	83.2%	7.2%	5.4%	4.2%	32.4%

Given the concentration of retirement communities in the Coachella Valley, it is not surprising that the median age is higher than in Riverside County and the Inland Empire, as indicated in Table 4. Almost 18 percent of the valley's population is 65 or over, while only 13.5 percent of Riverside County and 11 percent of the Inland Empire is 65 or over. More surprisingly, a larger share (32.8 percent) of the Coachella Valley's population is under age 18 than in Riverside County (28.9 percent).

Table 4: Age Distribution in the Coachella Valley

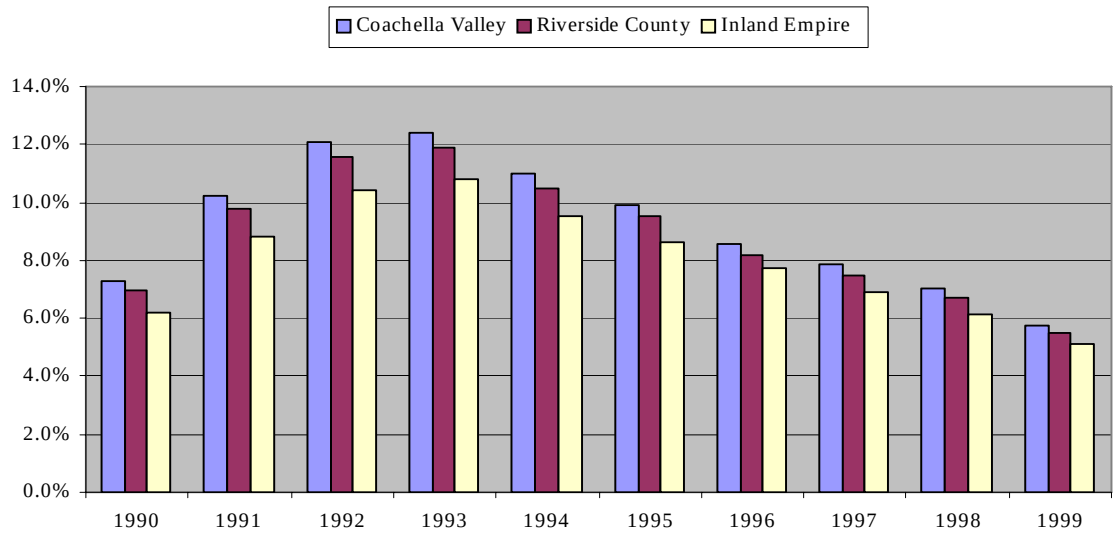
City	Median Age	Under 18	Age 18-64	65 and Over
Blythe	30.9	34.4%	56.2%	9.4%
Cathedral City	40.3	22.5%	57.4%	20.1%
Coachella	22.8	42.2%	52.1%	5.7%
Desert Hot Springs	33.3	28.8%	56.2%	15.0%
Indian Wells	53.6	10.6%	60.3%	29.1%
Indio	27.4	34.4%	57.7%	7.9%
La Quinta	30.2	34.1%	60.4%	5.4%
Palm Desert	48.2	16.0%	57.1%	26.8%
Palm Springs	45.2	16.9%	58.1%	25.0%
Rancho Mirage	52.6	11.5%	54.5%	34.0%
Coachella Valley	38.1	32.8%	49.2%	17.9%
Riverside County	34.8	28.9%	57.7%	13.5%
Inland Empire	32.7	30.4%	58.6%	11.0%

The Coachella Valley accounts for over 15 percent of Riverside County's labor force. The unemployment rate in the Valley for 1999 was 5.73 percent, just above the 5.5 percent for Riverside County.

Table 5: 1999 Labor Force Information for Places in the Coachella Valley

City	Labor Force	Employed	Unemployed	Unemployment Rate
Cathedral City	19,510	18,560	950	4.90%
Coachella	9,150	8,020	1,130	12.40%
Desert Hot Springs	6,550	6,180	370	5.70%
Indio	21,780	20,090	1,690	7.80%
La Quinta	7,510	7,150	360	4.80%
Palm Desert	15,980	15,470	510	3.20%
Palm Springs	25,900	24,810	1,090	4.20%
Coachella Valley	**106,380**	**100,280**	**6,100**	**5.73%**
Riverside County	**687,800**	**650,100**	**37,700**	**5.50%**

Figure 1: Unemployment in the Coachella Valley



The unemployment rate in the Coachella Valley has continued to decline since the early-1990s recession. While unemployment remains above that in the rest of Riverside County and the Inland Empire, the local economy continues to improve and is currently performing very well. The future economic success of Riverside County is dependent on the success of the Coachella Valley's economy.

The Valley is home to some of the leading retail centers in the Inland Empire, as noted in Table 6. Palm Desert, Cathedral City, and Palm Springs are all among the largest producers of retail tax revenue in the Inland Empire. As a whole, the Coachella Valley accounts for 23 percent of total taxable sales in Riverside County. Events that have adverse effects on the Valley's economy or slow down development there will have lasting economic effects on the county and the region.

Table 6: Taxable Transactions in the Coachella Valley

Cities	(in $1,000s)									
	First Quarter 1998 Taxable Transactions		Second Quarter 1998 Taxable Transactions		Third Quarter 1998 Taxable Transactions		Fourth Quarter 1998 Taxable Transactions		Year 1998 Taxable Transactions	
	Retail Stores	Total All Outlets	Retail Stores	Total All Outlets	Retail Stores	Total All Outlets	Retail Stores	Total All Outlets	Retail Stores	Total All Outlets
Blythe	23,592	27,346	24,538	28,977	23,334	27,067	25,263	28,347	96,727	111,737
Cathedral City	97,400	120,196	102,916	126,435	98,064	120,813	112,681	138,561	411,061	506,005
Coachella	17,896	25,106	20,074	27,299	16,122	22,693	16,214	23,155	70,306	98,253
Desert Hot Springs	11,489	13,215	11,877	13,400	10,209	11,478	13,284	14,892	46,859	52,985
Indian Wells	7,793	23,209	4,939	15,104	3,006	8,421	4,219	18,143	19,957	64,877
Indio	69,685	87,171	71,059	88,322	61,670	79,649	73,299	93,536	275,713	348,678
La Quinta	42,043	58,660	42,216	57,504	31,914	40,170	41,551	57,639	157,724	213,973
Palm Desert	207,023	249,063	175,485	214,016	145,517	166,171	238,494	282,947	766,519	912,197
Palm Springs	100,421	141,003	96,190	128,762	69,387	92,456	100,602	133,699	366,600	495,920
Rancho Mirage	57,711	80,604	50,094	63,067	39,510	44,975	55,363	63,793	202,678	252,439
Coachella Valley	635,053	825,573	599,388	762,886	498,733	613,893	680,970	854,712	2,414,144	3,057,064
Riverside County	2,150,122	3,074,515	2,305,906	3,287,945	2,233,344	3,160,172	2,572,216	3,611,227	9,261,588	13,133,859

The Coachella Valley has some of the Inland Empire's wealthiest communities. However, median household income is below that in Riverside County and in the Inland Empire. This due to the lower median household income in some of the valley's cities and the age distribution of the valley, as previously noted. The larger fraction of retired people in the Coachella Valley results in lower incomes, but not necessarily lower levels of wealth.

Table 7: Median Household Income in the Coachella Valley

City	1999 Median Household Income
Blythe	$30,120
Cathedral City	$44,850
Coachella	$26,939
Desert Hot Springs	$27,146
Indian Wells	$108,439
Indio	$32,692
La Quinta	$50,318
Palm Desert	$56,486
Palm Springs	$37,050
Rancho Mirage	$76,741
Coachella Valley	$42,698
Riverside County	$45,322
Inland Empire	$44,427

The Coachella Valley contains almost 24 percent of the single-family housing units and 17.3 percent of the multiple housing units in Riverside County. However, the vacancy rates in the valley are higher than the vacancy rates in the Inland Empire. Continued economic growth will require an increase in the number of housing units and other construction that comes with economic growth. Any limitations of further development in the valley will result in an economic slowdown.

Benefits of Preserving the Habitat of the Coachella Valley Fringe-Toed Lizard

The Coachella Valley fringe-toed lizard (*Uma inornata*) has evolved characteristics that are almost perfectly adapted to its environment. As a result, the lizard requires loose blow-sand with grains between one-tenth of a millimeter and one millimeter, as noted earlier.[136] Also as noted, a debate exists in the scientific community about whether this fringe-toed lizard is a unique species or is biologically synonymous with the Colorado Desert fringe-toed lizard (*Uma notata*) and the Mojave fringe-toed lizard (*Uma scoparia*). The benefits of preserving a species are greater if it is biologically unique. However, as mentioned above, the high protection costs expended by of federal and state government agencies, and surveys of the general population have indicated that protection of a lizard species does not generate much benefit to the human population at large, even if the species is unique.[137]

It should be pointed out that there is no guarantee that further mitigation actions will result in the species' survival. The habitat conservation plan developed by representatives from local governments, state and federal agencies, the Aqua Caliente tribal government, the local community, and environmental groups was put into place in 1986. Despite the activities to create and enlarge the preserve, the Coachella Valley fringe-toed lizard population has not experienced a significant recovery. The primary reason is that the original HCP did not provide for sufficient sources of blow-sand in the areas set aside for the protection of the species.[138] There is no guarantee that additional actions will result in a significant increase in the lizard's chances of survival.

[136] See *Coachella Valley Fringe-Toed Lizard Recovery Plan* for a more detailed discussion of the species and its habitat requirements.
[137] See Coursey "The Revealed Demand for a Public Good: Evidence from Endangered and Threatened Species." GNYELJ 411. 1998. p. 427.
[138] Memorandum of Understanding Regarding Measures to Minimize and Mitigate and Take of the Coachella Fringe-Toed lizard, 4 October 2000.

The Costs of Protecting the Coachella Valley Fringe-Toed Lizard

The purchase and operation of the Preserve, and mitigation efforts, have been funded primarily by a $600-per-acre fee on all development taking place on any of the 70,000 acres in the HCP not included in the preserve.[139] The cities and counties within the HCP collect and forward the fees.[140] To date, the plan has raised approximately $30 million and spent about $25 million. This makes it the most expensive single-species HCP to date.[141]

Due to the initial preserve's failure to provide adequate sand resources to enhance the lizard's chance of survival, there is an ongoing discussion about increasing mitigation efforts. The memorandum of understanding between the involved government parties has suggested buying an additional 978.75 acres at a cost of $5,279,000. In addition, the memo has indicated that an additional 866.23 acres may also need to be purchased at an estimated cost of $3,671,900. Finally, the plan calls for development restrictions in the Thousand Palms Sand Source Area. Owners of properties would be allowed to have a "development envelope" of 18.3 percent of the first two acres, 5 percent of acres 2 to 4, and only 2 percent of the land area over four acres. Additional restrictions would be placed on the type of development owners may undertake within the envelope.[142]

The total cost of these activities includes the possibility of spending almost $9 million on additional lands, and the costs of lost development opportunities in the Sand Source Area. Also, there is no guarantee that more development restrictions will not be required for additional sand source areas if the new plan fails (like the first plan) to protect the lizard adequately. In addition, there is the new **multiple-species** HCP being considered for Riverside County. Suppose the added restrictions for the lizard affect 20,000 acres, resulting in an average of 15 percent of each acre being developable under the envelope restrictions. If the average value of the land when fully developable is $5,000 per acre, then the total cost would be (20,000

[139] The fee dropped to $100 per acre in 1999, but there is discussion of increasing it back to $600 to fund further mitigation efforts.
[140] See Thomas and Schweik. "Regulatory Compliance Under the Endangered Species Act." 21st Annual Research Conference – Association for Public Policy Analysis and Management, Washington, DC, Nov 4-6, 1999.
[141] McKinney, "Hiking: Taking a Hike for Lizard's Sake at Desert Oasis."
[142] See Appendices A and B of the "Memorandum of Understanding Regarding Measures to Minimize and Mitigate and Take of the Coachella Fringe-Toed lizard," 4 October 2000, for further details of the plan.

acres)*(85%)*($5,000/acre) = $85 million in lost development opportunities. This figure is based on conservative estimates of the total acreage affected, the percentage of the land outside the development envelope, and the value of each affected acre. If land values continue to rise in the Coachella Valley, if the affected parcels are over 4 acres in size, and if a large area is affected in order to provide sand source, then the costs could run into the hundreds of millions of dollars.

In addition to the direct costs borne by government entities and private citizens, the local economy loses the benefits associated with the economic activity that otherwise would have occurred if the land had been developed. The government loses tax revenue when the protected habitat cannot be used, both directly from the non-development of this area and indirectly by losing the additional economic activity that would occur if development were allowed. Finally, the lizard and other threatened or endangered species may suffer as a result. Property owners who have, or might have, habitat that would support an endangered species will have an incentive to eliminate the habitat in order to avoid use restrictions.

The threat of lost development in the Coachella Valley is particularly severe. The local economy depends heavily on land use in the form of resort hotels, recreational facilities, golf courses and retirement communities. If more restrictions are placed on land use or additional fees are imposed on development activities, then developers will become more leery of planning projects in the valley. Given that the FWS is seeking to modify the original HCP for the lizard, what is to prevent the government from imposing additional restrictions and charges if the new restrictions also fail to work? What guarantees property owners of additional and tighter land-use restrictions will not be forthcoming due to multi-species protection areas?

It is important to remember that these costs are borne almost exclusively by residents of the Coachella Valley. Any benefits from the protection of the fringe-toed lizard are spread across the world and across generations. The costs of protecting the species – with no guarantees that such protection will enhance its survival chances – may have significant negative long-run economic effects on the residents and local governments of the Coachella Valley.

Economic Impact Conclusions

The Coachella Valley finds itself at a crossroads of environmental decision-making. The threatened fringe-toed lizard has had resources in the range of $30 million devoted to its survival – expenditures which may not have guaranteed the attainment of their goal. To increase protection, more restrictions on development are being considered, and modest estimates of these costs are in the tens of millions of dollars. Higher estimates are in the hundreds of millions.

The Coachella Valley remained less developed and more isolated than the rest of Southern California for much of the last two centuries due to extreme weather conditions. Over millions of years, animals had evolved that were able to survive in the Valley's unique climate. Technological progress in the late twentieth century made it possible for human beings to enjoy the benefits of the Coachella Valley more easily, able to deal with the extreme summer heat and the lack of rain. The result is that humans have come into contact with the habitat of many highly specialized species such as the Coachella Valley fringe-toed lizard. Similar events took place in many other areas of California and the United States long before the ESA. The Coachella Valley is in the position of suffering large relative losses simply because portions of it have remained undeveloped for a long period of time.

It is beyond dispute that the Endangered Species Act stands in the way of the future development of the valley, as it does in many other areas of the country. The economic question is whether it makes sense to eliminate future development in order to further protect endangered species and their habitat. The current legal environment, one of protecting species regardless of the cost, is beginning to give way to a more balanced approach: weighing the costs of foregone development against the benefits of species protection. For the Coachella Valley to maintain such a balance, it is important that a reasoned economic approach, one considering both costs and benefits, be the basis for any deliberate action.

CONCLUSIONS

One can only wonder whether passion has indeed far outstripped reason in the debate over implementation of the ESA. It has been said that the Act "is not half as bad as its detractors claim and it's twice as bad as its best defenders contend."[143] That might well be a gross understatement on both ends of the spectrum. And "saving every cog in every wheel," like having "a chicken in every pot," might make for interesting political polemics but impossible public policy.

But the fact remains that neither supporters nor detractors of the law see much legitimacy in the other's position. This is perhaps best exemplified by the polarized nature of congressional reaction and by Congress' inability to enact any substantive amendments to the statute in almost ten years. What is more, there may be little prospect for the impasse to end until both camps "acknowledge that both sides have legitimate concerns."[144]

Interestingly, unlike the previous president and vice president, President George W. Bush (while Governor of Texas) has had substantial experiences with the ESA and dealt with one of the most contentious issues involving the Act in the entire nation – environmentalists attempting to preserve habitat for the golden-cheeked warbler in the hill country around Austin. The attempt – heavily fought by developers who wanted to build much-needed housing to accommodate increased population in the region – gave then-Governor Bush firsthand experience with how difficult issues under the ESA can be. With his election to the presidency, substantial changes to the Act may in fact result. But environmental protection has long been a hot potato for any legislator to handle. Perceived attempts at gutting the Act are unlikely to earn much support even from Republicans. While the president has taken no public position on the Act and its reauthorization, one might expect his administration would take a different approach from that of the last one, which sought to significantly expand the ESA's impact while it developed some policies attempting to minimize effects on small landowners.

[143] Dennis Murphy (Director of Stanford University's Center for Conservation Biology).
[144] Bean, "Endangered Species, Endangered Act?," 15.

Moreover, it has been noted that Americans seem to support **real** reform of the ESA. They care about wildlife, and they care about protecting endangered species. However, recent polls indicate that two-thirds of registered voters believe landowners should be compensated when their land is devalued by the ESA. And nearly half of registered voters would support abandoning the ESA's land-use controls altogether in favor of a voluntary, incentive-based approach.[145]

But what are the merits of making substantial changes to the Act?[146] Before answering this question, we must look at a bigger picture – a picture extending beyond the ESA and acknowledging the existence of a vast network of federal and state agencies charged with regulating society's environmental impact. While these agencies are well intentioned and were created to address real problems, the practical result of their various actions and policies is to stop – or cause great delay to – many development projects. The ultimate result is the "federalization," and socialization, of land-use policy in America. Nowhere is this result more apparent than under the ESA. Even the FWS, in its proposed environmental impact statement for the Riverside County multiple-species HCP, has made it clear that governmentally imposed land-use planning is an acceptable way to implement its policy choices. This, simply stated, is facilitated mainly by abrogating private property rights. Technically, one can argue that this cannot be done under our Constitution. However, because many in our country understand neither the Constitution nor the reasons behind its principles, one need only establish a great need to save the earth against an impending evil in order to ignore constitutional protections against government tyranny.

Constitutional abuse, of course, is rarely official agency policy. But with no attention paid to observing constitutional mandates, and no formal action by Congress to legislate concern over the taking of private property, abusive regulatory behavior becomes *de facto* policy – *de facto* constitutionally forbidden action. Without congressional sensitivity to the issue, resort to

[145] *Issue Brief: Endangered Species Act*, Environmental Briefing Book, Washington, D.C. Competitive Enterprise Institute, 1 March 1999. p. 3.

[146] Substantial contributions to the conclusions of this paper have been provided by Gary Kovall, a principal author of the paper and a practicing environmental attorney in California for almost 30 years. Kovall is a former vice chairman of the Environmental Quality Committee of the ABA's Section on Energy, Natural Resources and Environmental Law.

the courts – and their historically varied and uncertain rulings – may be the only real resort. Fighting such abuses in court might be fruitful. There have been several recent and stunning Supreme Court decisions reaffirming states' rights and private property rights. Unfortunately, no court has yet ruled that the HCP process (for example) is a prohibited constitutional taking, but there have been analogous rulings in related arenas.

Nevertheless, administration of the Act, in concert with other federal regulations such as the Clean Water and Clean Air acts, symbolizes a return to the feudal system of government – in which the state owns and controls the land, and the peasants are allowed or forbidden to occupy it at the state's discretion. This was exactly what the founding fathers tried to avoid in drafting the Constitution and the Bill of Rights. Also unfortunately, precious few landowners have the money, time, or resolve to pursue challenges to regulatory "freelancing" and to object to the real slipping away of private property rights and individual liberties associated with ESA implementation. It is not uncommon for challenges to take three to ten years to work their way through the system.

By now it should be apparent that the Endangered Species Act is truly the "granddaddy" or "pit bull" of all environmental regulations. It is the most important and effective tool used to impose the will of the few on the will of the many. It unreasonably limits the freedom of the individual, contrary to the theme of the Constitution. And it does so, often at the arrogant behest of so-called "scientists" who wait at the federal and state money trough for project grants while naturally pandering to the goals of the elitists who run the bureaucracy.

As noted by the U.S. Fish and Wildlife Service, there are 1,244 species of plants and animals listed in the U.S. as either threatened or endangered as of December 2000. Many more species are considered for listing every month. These listings are responsible for a tremendous growth in bureaucracy, and a major growth industry staffed by attorneys, consultants, planners and biologists has developed to deal with this new government behemoth.[147] All this unwittingly

[147] As noted in a *Los Angeles Times* article of December 21, 1992, for example: By 1993, of $10 million spent by Riverside County officials to protect the Stephens' kangaroo rat, "half has gone to attorneys, biologists and administrators." Maura Dolan, "Endangered Species Act Battles for its Own Survival," 1(A).

conspires to create a cumbersome and complex process that deprives individuals and communities of fair and reasonable use of their property. Needed public facilities such as power plants, an enhanced power grid, water storage facilities, safe roads, pipelines, and schools are delayed or abandoned due to the excessive costs of complying with environmental regulations. The average cost of homes escalates beyond the reach of prospective homeowners due to the uncontrollable and unpredictable expense of compliance. The astronomical amount of money and effort feeding the bureaucracy and the legal/consulting industry sucks dry the treasuries of large and small communities alike.

Particularly distressing is the fact that it can be effectively argued that not a single endangered or threatened species has been recovered as a result of this almost thirty-year-old-law. Furthermore, dire predictions of massive extinctions over the past twenty years have not materialized. Yet the devastation visited upon local communities and jobs directly attributable to ESA regulations can easily be documented. All that can truly be said about ESA's impact upon endangered species is that we have become experts on how to spend money to manage a listed species, but not on how to recover it.

As if presenting taxpayers and landowners with extraordinary bills for programs that fail to protect or recover species is not bad enough, administration of ESA can easily result in escalating harm to sensitive species. Listing a plant or animal as threatened or endangered typically interferes with the efforts of the state or local authorities who have expertise on the species, and with a private landowner who might – and often does – care about the wildlife living on his land.

Moreover, interference with states' rights over the environment within their jurisdiction raises yet another serious concern: that the federal intrusion violates the Tenth Amendment, the part of the Bill of Rights protecting the states from federal efforts to overrule state authority. This seems especially true of species that, due to their geographic isolation, should not be subject to the Interstate Commerce clause of the Constitution - the only legal justification for the federal government's asserting jurisdiction in the states. Despite this logic and the decision of the Supreme Court in *U. S. v. Lopez* discussed earlier, efforts to challenge the ESA on constitutional

grounds – in particular, arguments that the Act itself is beyond Congress' powers to regulate interstate commerce - have been unavailing to date.[148] Confronted with a factual setting wherein purely private property rights are severely affected by the presence of an isolated species, the courts might reach a different conclusion and the Supreme Court might decide to rule in favor of the private property rights. While such a decision might not reach the constitutional validity of the ESA itself, perhaps given a case with an "unglamorous" creature in an isolated area which poses a near-total loss of use to the private property owner, the Court might find that a taking which merits "just compensation" has occurred. But this has yet to happen.

Also significant is the fact that the ESA has become a serious deterrent to cooperative agreements between property owners and the government. For decades, thousands of acres of sensitive habitat have been set aside and managed for wildlife through the voluntary efforts of private owners, businesses and organizations. The ESA has significantly curtailed this. If a landowner enhances his property to provide wildlife habitat for a few years, or intends to rotate portions of his property's land use to accommodate habitat, he can **permanently** lose all or part of his ability to use his land if the government discovers that a listed species has moved in. Even his ability to manage the land for the benefit of the listed species is limited or forbidden. Instead he must follow the dictates of the FWS or another federal agency in making land-use decisions. Often, the "experts" employed by these agencies know far less about the species than the landowner, or they do not have the time or resources to devote to its management at all. Consequently, owners have considerable incentive to maintain their land bare of habitat, or to destroy any vestige of the species before anyone finds out about it. Even worse, this and other failed but brutal policies foster a contentious relationship between the landowner and the government, one that results in such antagonism that even government suggestions beneficial to both parties are rejected by the owner and his landowning friends.

While most of this paper has focused on a fairly objective review of the Act, its implementation, and the attitudes of supporters and detractors, there is a day-to-day human side of the story as well. Additional realities, including bureaucratic ones, must be factored into our analysis. FWS staffers are known to complain that they are overwhelmed with work. As a

[148] See *National Home Builders Association v. Babbitt*, 524 U.S. 937.

consequence, applicants who are required to address endangered-species issues on their land have difficulty getting agency staff to return phone calls or to arrange timely meetings, let alone obtain permits. Unsupervised staff members routinely overstep their jurisdiction into issues on which they have no legal authority or expertise. They make unverifiable claims of impacts on listed species, and if applicants challenge the efficacy of agency positions, they can be subjected to threats of criminal prosecution or long delays. Agency staff members are often incapable of prioritizing, spending as much time on minor issues as on large ones. They will not take outside expert testimony as factual, preferring instead to question every detail of data provided by the applicant. As approvals are delayed, new projects come in the door every day. If decisions are rare, and staff members rotate in and out of ongoing projects before they are completed, it is no wonder federal agencies become overwhelmed. They seem unconcerned with the expense of project delays or lost opportunities, both financial and environmental. The applicant frequently is asked to wait for weeks, or months, for meetings or official comments. The actual permit may take years to complete, even though the review process should take no more than a few months.

Let there be no doubt that agencies know that time kills the resolve of applicants. It is extremely costly to carry financing for a project that goes on for months without progress. The applicant must write monthly checks to consultants, engineers and attorneys to represent him at agency meetings where volumes of information are requested, even when it is obvious that the data are rarely read or continually lost. Finally and importantly, the process wears down the applicant in a mental sense to the point where it is almost better to have a financially unstable project than to attend one more meeting with demanding and unrelenting public servants. Few, if any, actually take their grievances to a court of law to challenge an agency's lack of diligent decision-making. Even when they do, the standard applied by the courts gives great discretion to the agency. And a court only forces or upsets the agency's will if it finds there was "arbitrary and capricious" behavior - a tough standard indeed.

What is more, the ESA does not even define a standard by which projects should be evaluated. With no standards, the agencies do not recognize a well-designed project when they see one. No matter how much of a project is left as open space, no matter how much its design or mitigation contributes to the welfare of wildlife resources, the agencies work hard to exact

even more from the applicant. **No** project is simply approved with a pat on the back for good work. Demands for more mitigation are clearly not geared toward conserving an endangered species or its habitat, but instead to make the applicant suffer his "fair share" of financial or property loss. Applicants respond by submitting "scorched earth" projects because they know they probably will be forced to redesign and give up more development: better to start from this point and give up land during negotiations to appease the agencies' punitive mentality. After this long process concludes, the project is likely to be close to what the developer would have agreed to at the outset, had everyone just been looking for a good design. This expensive, mind-numbing choreography worsens the poor relationship between the government and applicants. It also wastes precious resources, ones that otherwise could be used to improve environmental conditions or the local economy. Those who truly try to design an environmentally sensitive project are almost always penalized for being proactive. Those who attempt to skirt responsible planning, and exhibit a less-than-cooperative attitude, many times do much better in the end. The incentives are quite backwards.

Once the ESA has run its course with the applicant still standing, other agencies can enter the process and require yet more mitigation or redesign -- or even suggest that the entire deal made with its sister agency is contrary to the standards of their agency. Naturally, landowner requests for early participation by these agencies fail because they, too, are overwhelmed with work and cannot be proactive. In short, there are many ways to deter development even when the law is on the side of the applicant.

On a more substantive level, it is clear that one of the major failings of the ESA is the listing process itself. The oft-asked question "What is an endangered species?" has varying answers depending who is asked. There is little realistic or unbiased peer review of scientific data or peer review of rationale for listing or managing sensitive species. As noted, scientific review may in fact be biased by political motives. Examples abound of agency demands upon applicants to give up development because of someone's opinion or fear about what might happen to a listed species, whether it is present on the land or not. Any staff member, even the most inexperienced, has the freedom to postulate a theory (and then require applicants to address that theory) without needing to offer any proof whatsoever of its validity. No amount of

empirical data is sufficient to persuade the staff that the idea is specious. When presented with data demonstrating a clear lack of correlation between their theory and reality, they simply dismiss the data and claim the decision is theirs alone to make. When a researcher with expert credentials petitions the FWS to list his favorite plant or animal, the agency liberally cites his data in support of the listing in its recommendation. Curiously, once the plant or animal is listed and the same researcher tries to suggest to the Service reasonable ways to address conflicts with development, his opinion is dismissed. The FWS then relies on unnamed staff members within the organization who have little or no expertise on the organism. Senior officials will go so far as to tell the applicant that such an action by the staff is not appropriate and not agency policy, yet the lower staffers are not directed to reverse their decision.

Beyond **how** something is listed, there is the issue of **what** gets listed. It is clear from the history of the ESA that the weight of political energy behind its passage was occurred because people were concerned about the plight of the bald eagle, peregrine falcon, grizzly bear, sea otter, and other easily identifiable species. It would be un-American to speak against these icons of our natural heritage. However, even though the ESA expired in 1992, no form of life is exempted from its purview today. Hundreds of insects, invertebrates, and simple forms of plants are now protected under the Act. People no doubt would be surprised to learn, for example, that in California a nectar-loving sand fly enjoys the full protection of the federal government, and even jeopardized construction of a needed community hospital. Another example - an especially egregious case not covered in this paper – involves an invertebrate called the fairy shrimp. Millions of these tiny organisms, some as small as the head of a pin, populate thousands of acres of ponds and vernal pools across the West. The shrimp seem to be everywhere: stock ponds, vernal pools, even tire ruts that fill with water for a few days. Yet the FWS used undisclosed data from a very narrow geographic area to postulate that very few of them are left in the West. Several species of fairy shrimp were listed as endangered, yet the average property owner across California seems to have no trouble finding them on his land. This type of action gives the federal government land-use control over vast regions where such control previously was held by the local governmental agencies.

Other **non-legislative expansions** of the ESA have occurred as well. Now **populations** of species are being protected under the Act, whether or not the species as a whole is really endangered or threatened. Thus, even if a species is common or widespread, if someone finds a population of that species in a geographically isolated condition, or at the edge of its normal range, the population can be listed as threatened or endangered -- even if genetically identical to its kin across other parts of the region.[149] All the regulations, policies, and administration of the Act apply to this population just as they do for species that indeed are edging toward extinction. The fact remains that biology is an inexact science. Ascertaining what is, and what is not, a species or critical habitat can involve considerable subjectivity. Understandably, such authority in the hands of federal agencies gives many people cause for concern, based upon the government's inclination to exceed its jurisdictional authority. Yet the federal government routinely discourages development on property that often has no (or a dubious) record of occupancy by listed species.

After all is said and done, the effort and resources expended in this cumbersome and expensive process have done little to benefit the environment – while spurring the development of a large cottage industry. Tremendous energy is spent to address a wide range of plants and animals; some of which are not threatened at all, others of which are lost causes no matter how much is spent on them. In the final analysis, the historical record of the earth shows that species extinction is fundamentally a natural process. This is not to say that man's activities are not responsible for accelerating the extinction of some species, but we must learn to better prioritize our available resources to protect the species with a reasonable chance of recovery. Further, there must be a way to enlist the resources of economic growth and to respect private property rights rather than engage in a futile struggle to stop growth – a result that, itself, would extinguish the very economic resources needed to continue a proper quest. Astronomical sums of money are spent fighting for the life, or death, of a project rather than fixing or preventing environmental damage. In short, environmental interests in and out of government must choose their battles more wisely. Biophelia and biophobia run head-to-head, with little real progress to show for the conflict.

[149] As has been suggested, a serious scientific argument can be made that this is the true state of the issue concerning the Coachella Valley fringe-toed lizard.

To be sure, unscrupulous and uncaring people will always be with us, and we need tough laws to control them where appropriate. But most people want to do the right thing, and would benefit from a cooperative relationship with environmental interests. The first thing we should do is agree to reform the ESA by replacing knee-jerk, junk science and demagoguery with reasoned, consensus-building initiatives that really do preserve our environment for future generations. Further, respecting property rights by strengthening the "safe harbor" and "no surprises" concepts – and by finding a public funding mechanism to compensate for takings under the Act – seems sensible. As to the fringe-toed lizard, it might well be that a few solid amendments to the ESA itself could obviate the need to develop the monstrous bureaucratic and economic empire contemplated in the current debate over the 2,000-square-mile multiple-species habitat conservation plan now being considered.

APPENDIX

Taxonomic status of the *inornata* group, Genus *Uma* (Reptilia; Iguanaidae).

The *inornata* group of the genus *Uma*, ("American sand lizards") has a varied taxonomic history, summarized below:

Publication date	**Authority**	**Conclusion**
1858	Baird	First description of genus. One species; *U. notata*
1895	Cope	*U. inornata* described as separate species.
1916	Camp	*inornata* collapsed into U. *notata* as a subspecies.
1922	VanDenburgh	Supports collapse of *inornat*a into U. *notata*
1941	Heifetz	*inornat*a resurrected to species status
1958	Norris	Genus reviewed; *inornata* reduced to subspecies of *notata.*
1963	Carpenter	*inornata* closely related to *notata*
1964	Mayhew	Resurrects *inornat*a as a species
1977	Adest	*inornata* reduced to subspecific status.
1980	Zalusky et al.	Supports subspecific status of *inornata.*

Although authors have differed in their assessment of the validity of *inornata* as a separate species, the quality of evidence called to bear on the issue has varied. The *inornata* group was collapsed into a subspecies by two independent, early 20th century reviewers and not resurrected until the review by Heifetz in 1941, who stated "The close resemblance of *U. inornata* to *U. n. notata* might lead one to suspect that the former should be placed as a subspecies of the latter, since the only real distinction between them is the invariable and complete absence on the ventrolateral blotch in *inornata*." Heifitz was influenced in his decision to resurrect inornata as a full species by the "apparent isolation of the colony". Two subsequent studies, including Norris's monographic and exhaustive review rejected Heifetz's reasoning, and reduced *inornata* to subspecific

status. In 1964, Mayhew sought a basis for resurrection specific status in a study of *Uma* physiology, noting that "[morphological, external] characteristics should not be relied upon alone in making the final determination.". Mayhew found no difference in temperature utilization curves for *inornata* and *notata*, nor between right testes volumes, but argued for a significant distance in left testes volume. Unfortunately, the data is difficult to evaluate because equivalent body mass volumes are not given and basic statistical parameters are omitted.

In 1977 Adest applied the principles of modern molecular systematics to the problem for the first time. Generally, molecular systematics can be expected to resolve small differences between cryptic species; in this case gel electrophoresis was used to identify 18 gene loci. Genetic distances between *inornata*, *notata* and a third nominal species, *scoparia* averaged 0.02. This compares with an average genetic distance of 0.25 between two Mexican populations (*U. paraphygas* and *U. exsul*) which have been universally regarded as full species by previous workers. This ten-fold difference in degree of divergence between population-level heterozygosity and species level heterozygosity was considered to be typical of the pattern seen in other lizards. This assessment was confirmed by a detailed phenetic clustering analysis of cranial osteology by Zalusky et al. (1980). Thus, two independent reviews utilizing modern methods have both conclusively established the subspecific status of inornata.

In 1984, the US Fish and Wildlife Service considered the taxonomic status of inornata as part of the Recovery Plan (USFWS). The Service rejected both modern studies, noting simply that the status of *inornata* "...has varied, depending on each investigators interpretation.." without regard for the thoroughness of the earlier reviews or the improvement in the techniques of objective systematics provided by molecular genetics. The USFWS conclusion was that "At the present time most biologists familiar with this genus regard the CVTL as a separate species", although supportive data was not provided. In the commentary supporting the listing of *inornata* as a Threatened Species, the USFWS rejects the genetic evidence, noting that there are "other compelling reasons for recognizing *inornata* as distinct". Principle amongst these was the statement that

since the populations are allopatric “gene flow would be extremely difficult to demonstrate”.

The USFWS position represents a misunderstanding of the process of speciation. Whilst interruption of gene flow is a definitive requirement for allopatric speciation, allopatric speciation requires both reproductive isolation and divergence. Simple isolation does not in itself generate new species; European Starlings introduced into New York in 1891 have spread through the U.S. and have been reproductively isolated from their European ancestors for more than a century, but no one would suggest they represent anything more than an isolated population. The isolation of the *inornata* group likely occurred in the mid to late Holocene, and modern systematic studies have established beyond reasonable doubt that divergence has not yet proceeded beyond levels routinely considered ‘subspecific’ in the discipline.

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