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finding the ways that work

The Endangered Species Act: Success or Failure?

A white paper published by the Environmental Defense Center for Conservation Incentives

Michael J. Bean

Co-director

Center for Conservation Incentives

Michael J. Bean
Center for Conservation Incentives
Environmental Defense
1875 Connecticut Avenue, NW
Washington, DC 20009
202-387-3500
mbean@environmentaldefense.org

The Center for Conservation Incentives

The Environmental Defense Center for Conservation Incentives was launched in 2003 with major support from the Doris Duke Charitable Foundation to further the conservation of biodiversity on U.S. private lands through the use of incentives. The Center works with landowners, conservation organizations and government agencies to develop place-based projects that demonstrate the utility of incentives in conserving habitats on private lands. The Center also works to influence the development and implementation of national and state incentive programs and policies.

Headquartered in the Washington, DC office of Environmental Defense, the Center also has staff in all of the regional offices. We thank the Doris Duke Charitable Foundation and Robert Wilson for their generosity in funding this work.

The Endangered Species Act: Success or Failure?

The worst thing that can happen—will happen—is not energy depletion, economic collapse, limited nuclear war, or conquest by a totalitarian government. As terrible as these catastrophes will be for us, they can be repaired within a few generations. The one process ongoing...that will take millions of years to correct, is the loss of genetic and species diversity by the destruction of natural habitats. This is the folly our descendants are least likely to forgive us.

—E.O. Wilson

Three decades ago, a nearly unanimous Congress enacted the Endangered Species Act. Today, a deeply divided Congress is considering rewriting the Act, with some contending that it has been a failure. The justification they offer is straightforward: Very few species have yet met the law's goal of recovery and delisting.

Last July, the House Resources Committee summed up that view, declaring “after thirty years, the law has recovered 12 of 1300 listed species, for a cumulative success rate of .01% (or a 99.99% rate of failure).”¹ Even correcting for its obvious mathematical error, the statement raises an important issue: Has the Endangered Species Act truly been a failure? To answer that question, one must first address some other questions:

- How long did Congress in 1973 think recovery should take?
- Does the lack of many recoveries after three decades (or less for most species) constitute failure?
- If the Endangered Species Act's successes are few, why is that so?
- Most important for the future, will the proposals of those decrying the Act's failures make the law more successful?

This paper offers some thoughts on these important questions.

How long did Congress in 1973 think recovery would take?

Congress was quite clear in 1973 that the goal of the Endangered Species Act was not simply to avert the extinction of imperiled plants and animals, but to help them recover so that the special protections of the Act would no longer be needed.² In fact, Congress said this quite directly. What it did not say was how long it expected this task to take. But there is plenty of evidence that suggests Congress understood that recovering severely depleted species would require a sustained effort over a prolonged period.

Consider some of the species that were clearly on the minds of those in Congress in 1973. The whooping crane was then, and is today, one of the most well known endangered species. By the time Congress voted on the Endangered Species Act, a widely publicized conservation effort was already under way. In fact, the effort dates to 1937, when the Aransas National Wildlife Refuge was established in Texas to protect the cranes' wintering grounds.

When the refuge was established, the crane population there was nearly at rock bottom. It would eventually bottom out in 1941 at a population of only 15 birds. Between 1941 and 1973, the population of whooping cranes increased to only 48 birds, roughly one bird per year, despite a concerted conservation effort involving international cooperation between the United States and Canada, state and federal law enforcement, captive breeding, restrictions on Air Force bombing near the refuge and a sustained advocacy campaign by the National Audubon Society.



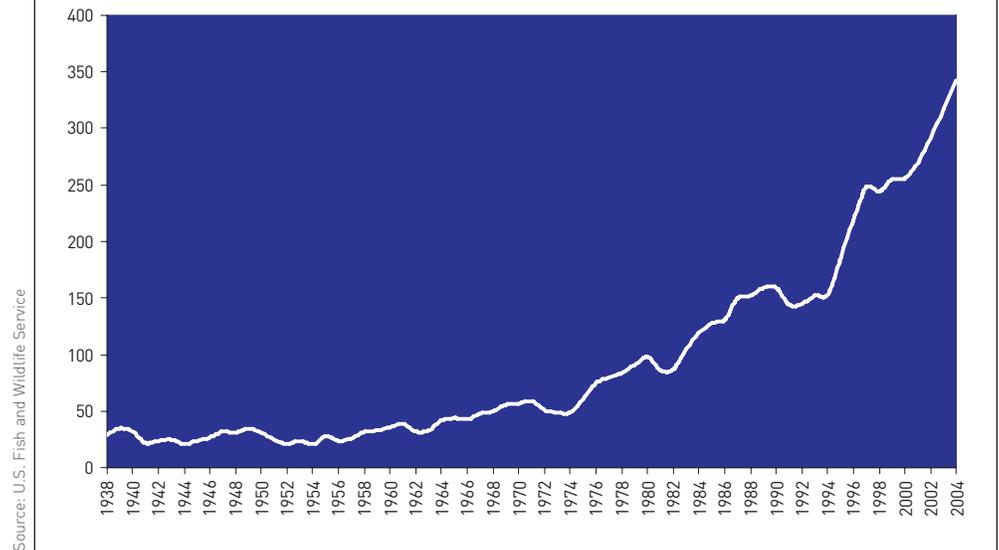
Whooping crane

¹ Press release from the House Resources Committee, July 21, 2004.

² See the Act's definition of “conservation” in Section 3(3) of the Act.

Whooping Cranes in the Wild

1938-2004



Since the Endangered Species Act was passed in 1973, the population has grown nearly tenfold, to 468 birds. Those in Congress familiar with the history of crane conservation certainly understood in 1973 that ensuring the bird's future would require many more decades of sustained effort. Over the ensuing three decades, that effort has been dramatically successful, though the crane is still endangered and almost certainly will remain so for many years to come.

Another species with which the 1973 Congress was undoubtedly familiar was the Kirtland's warbler, which nests only in Michigan, home state of Congressman John Dingell, who steered the ESA through the House. The first spring census of singing males took place in 1951, when a count of only 432 birds triggered alarms for its future. Six years later, the state established Kirtland's warbler management units on state forest lands in an effort to conserve the bird. Despite that and other measures, the warbler declined to only 167 singing males in the spring of 1974, just months after the ESA was enacted.

The warbler faced two known threats and one unknown one. The known threats were brown-headed cowbirds and Smokey the Bear. Cowbirds were a major problem because they parasitize the nests of the warblers, which unwittingly raise the cowbird's young rather than their own. Smokey the Bear was a threat because the habitat the warbler needs is young jack pine forest, which is naturally maintained by frequent fire. Decades of fire suppression meant that most young jack pine forests had turned into old jack pine forests, unsuitable for warbler nesting. The unknown threat was anything that might be happening on the bird's winter grounds in the Caribbean.

Under the ESA, a sustained effort has put fire back on the landscape and controlled cowbirds. The state of Michigan and the U.S. Forest Service played key roles, as did local chapters of the Michigan Audubon Society, which helped with cowbird trapping efforts, and Trout Unlimited, which helped manage private land for the warbler's benefit. After 15 years, however, it was not clear that all this effort was doing any good: The warbler population in 1989 was even lower than in 1974. In fact, the conservation efforts had done a great deal of good, but they would not translate into observable population increases until the 1990s.

By the spring of 2004, the sustained effort had boosted Kirtland's warbler numbers to 1,341 singing males, the highest number ever recorded. In 50 years,

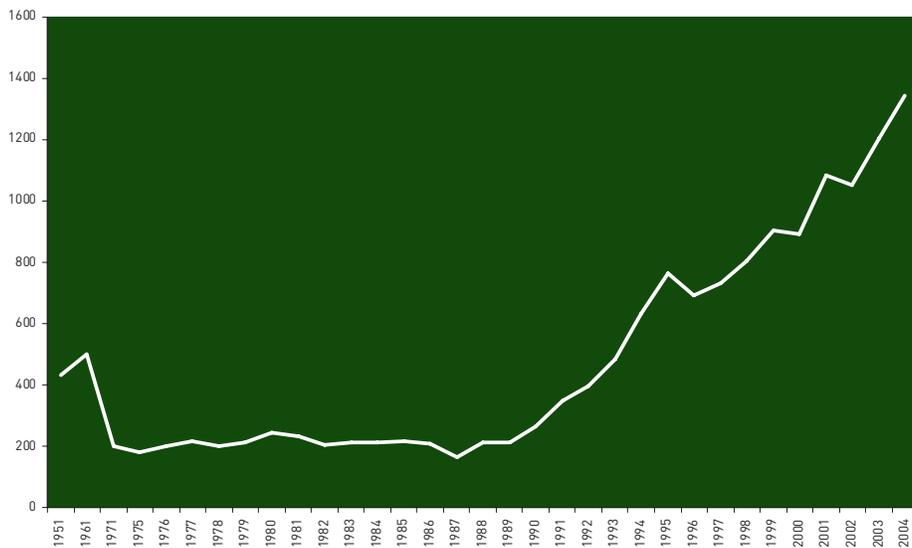


Kirtland's warbler

Lou George/U.S. Fish and Wildlife Service

Kirtland's Warbler Population

Singing Males 1951-2004



Source: U.S. Fish and Wildlife Service

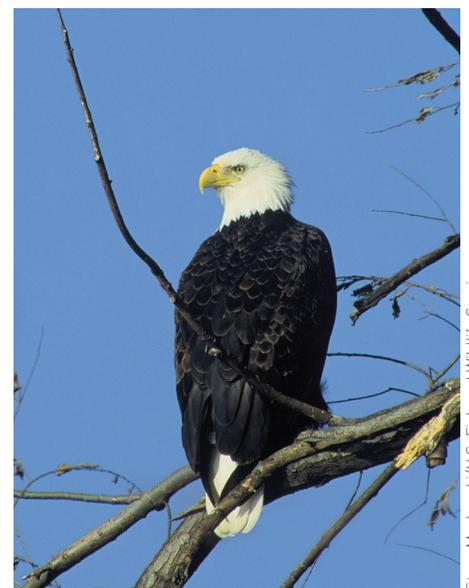
the population of the warbler has more than tripled, but it remains one of the rarest birds in North America. Even if its population continues to grow, the bird will need regular care—in the form of active management—for as long as cowbirds are abundant and forest fires are controlled. Even then, changes in the Caribbean winter grounds could undo everything accomplished here.

The bald eagle was probably also on the minds of Congress in 1973. Two federal laws already protected the species: the Migratory Bird Treaty Act of 1918 and the Bald Eagle Protection Act. Congress enacted the Bald Eagle Protection Act in 1940 under the belief that wanton shooting was driving the eagle toward extinction. Little did Congress realize that a new threat would soon eclipse anything poachers could do.

In 1942, the pesticide DDT came into widespread use. Its persistent residues became dangerously concentrated in certain animals near the top of the food chain. Among them were bald eagles, which, like a number of other predatory birds, suffered DDT-induced thinning of their egg shells and consequent nesting failure. By the mid-1960s, fewer than 500 bald eagle pairs nested in the lower 48 states. To the north, in Canada and Alaska, where DDT was used less, eagles remained more abundant. But in the contiguous United States, their populations plummeted.

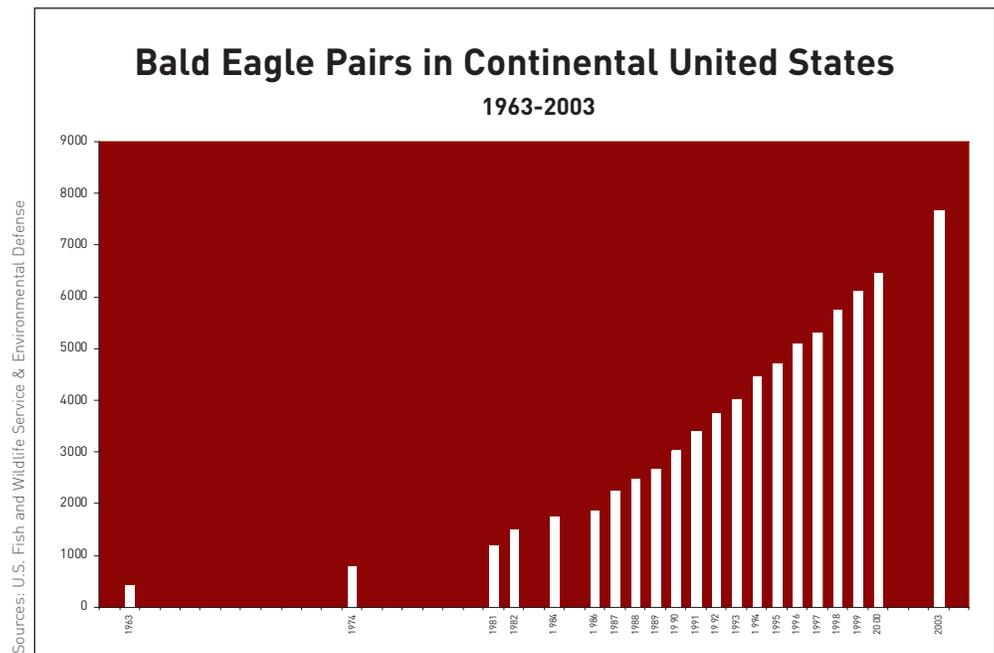
One year before the ESA was passed, the Environmental Protection Agency banned nearly all registered uses of pesticide products containing DDT. The eagle could never have recovered without the ban. But even with the ban in place, it would take decades before the eagle would recover to the point that taking it off the endangered list became a realistic option. The number of eagle pairs in the lower 48 states surpassed the 3,000 mark in 1990, the 4,000 mark in 1993, and the 5,000 mark in 1996. By 1999, when the eagle was formally proposed for removal from the threatened species list, nearly 6,000 eagle pairs nested in the lower 48 states. Today, the number is approaching 8,000.

These and other examples suggest that in 1973 Congress understood that the recovery of highly imperiled species would take many decades. The whooping crane, Kirtland's warbler and the bald eagle already had been the focus of decades of conservation, but each species remained at or near its historic low when the Act was passed. For most of the species that would eventually be added to the



Steve Maslowski/U.S. Fish and Wildlife Service

Bald eagle



endangered species list, serious conservation efforts would not even begin until their listing. Plants and invertebrates, which today make up 70% of all listed species, had received almost no protection prior to the ESA. It seems likely that Congress understood these new conservation efforts represented long, difficult and uncertain challenges.

Does the lack of many recoveries constitute failure?

The July 2004 report of the House Resources Committee counts the whooping crane, the Kirtland’s warbler and the bald eagle as part of the ESA’s “99.99 percent rate of failure,” because none of these species has yet been removed from the endangered list. It is a peculiar notion of failure, given that all three are at their highest levels in more than half a century. So too are other still-listed species.

Take, for example, the northern aplomado falcon. By the mid-20th century, it had been totally extirpated from the United States, the apparent victim of habitat alterations, DDT use and other factors. A captive breeding and reintroduction effort has successfully restored a breeding population of at least 39 pairs in south Texas and adjacent border areas.

Private landowners have been essential partners in the reintroduction effort, thanks to the use of Safe Harbor Agreements. The agreements assure landowners that the falcon’s presence will not force new land-use restrictions on them. The northern aplomado falcon is still exceptionally rare—indeed, wild falcons are about as abundant as Florida panthers—but the important difference between “exceptionally rare” and “totally extirpated” is altogether missed in the House Resources Committee’s limited lexicon, which squeezes nearly everything into the category of “failure.”

If one looks at the Committee’s acknowledged successes, one realizes that these, too, took a very long time, even when the threats confronting a species were few and relatively easy to address. Take for example the Aleutian Canada goose, which was declared recovered and delisted in 2001. The goose’s endangerment came from a single threat. Russian and American fur traders introduced Arctic foxes to uninhabited Aleutian islands in the 19th and early 20th centuries in order to ensure a bountiful supply of this valuable fur animal. Unfortunately, the foxes decimated nesting geese. The collapse of goose populations would be dramatically swift, as on Agattu Island, where foxes were first introduced in

1923. By 1937, the goose population there had plummeted from thousands to only a handful.

Fortunately, one nesting population survived on Buldir Island. These birds formed the basis of a captive rearing effort by the Fish and Wildlife Service. More than a decade earlier, in 1949, the Service had begun to eliminate foxes from the most important of the former breeding islands, making reintroduction of the birds possible. Some early reintroduction efforts failed, but eventually enough succeeded that the goose began to recover. It had finally completely recovered by 2001, some 52 years after conservation efforts began. In 2001, the House Resources Committee counted the goose as a rare success of the Act. But if the Aleutian Canada goose effort was a success in 2001, was it really a failure every year prior to then?

An approach that recognizes only two categories for each listed species—success or failure—doesn't address the complex reality of wildlife recovery. For example, it took 17 years from the time conservationists realized the whooping crane was in serious peril in its Aransas wintering area to discover that the birds actually bred 2,100 miles away in Canada. The information was key to recovery efforts. It also can take time to discern the results of conservation efforts—such as the 15 years that elapsed after prescribed burning and cowbird control efforts were undertaken before Kirtland's warbler numbers began to climb.

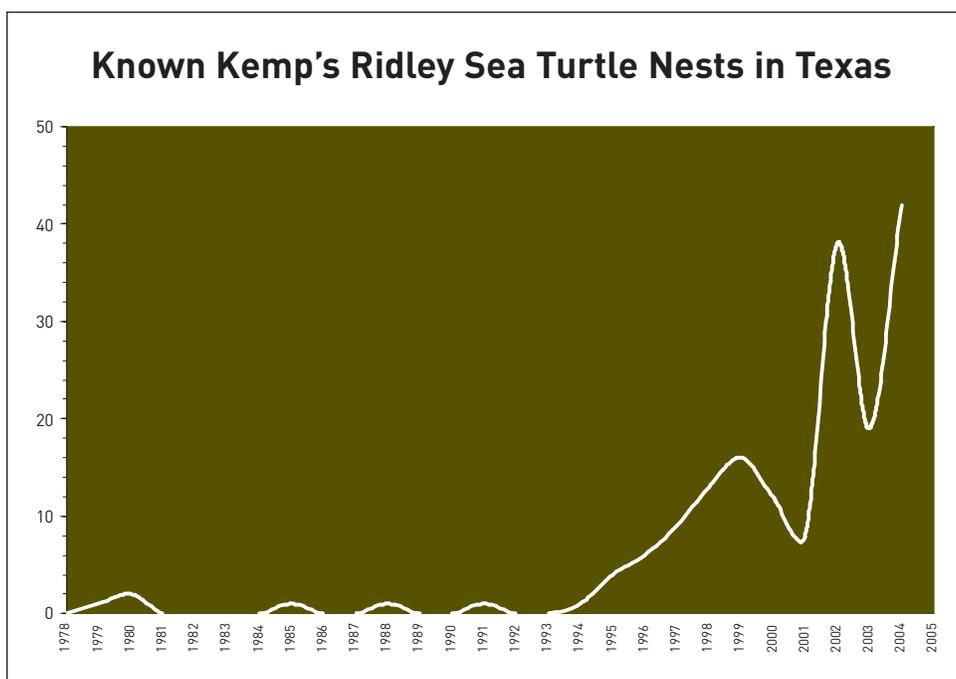
Another example is the effort to establish a new nesting population of Kemp's ridley sea turtles on the Texas coast, where only an occasional nest had been found for many years. Thousands of hatchling turtles were released on Padre Island National Seashore beginning in 1978, in the hopes that some would return to lay their own eggs. Since sea turtles can take more than a decade to reach sexual maturity, the results of this experiment could not have been known for at least 10 years. As it happened, the first returning turtle—and the first evidence that the effort might contribute to the species' conservation—was documented in 1996, nearly two decades after releases began. Only now, as nest numbers increase each year on the Texas coast, do we know that the reintroduction effort was a success.

Finally, the momentum of a species' decline may carry it still further downward before conservation efforts produce a reversal. Such was the case with the



National Park Service

Kemp's ridley sea turtle hatchlings



California condor and the black-footed ferret, both of which continued to decline to near extinction after receiving the protection of the Endangered Species Act. Captive breeding efforts and experimental reintroductions have had some success. It is still too early to say whether those encouraging initial results will lead to success, yet the House Resources Committee writes both species off as failures.

If the Endangered Species Act's successes are so few, why is that so?

To label every species that has not yet recovered a “failure” is misleading at best, particularly for species that are clearly progressing toward recovery. It is also important to note that a majority of the U.S. species on the endangered list were put there after 1990. Thus, most species have had less than 15 years of protection under the Endangered Species Act.

In rebutting those who would exaggerate its failures, however, we must be careful not to exaggerate the Act's success. No one concerned with conserving rare plants and animals can be satisfied with the small number of species that have thus far recovered, or with the larger—but still too small—number of species that are making clear progress. Instead, we must face honestly the question about why the results have not been better.

Some of the answers to that question are easy. For many species, we have waited until they are dangerously close to extinction before giving them the protection of the Endangered Species Act. The lesson of the whooping crane is quite clear: If we wait until only 15 individuals remain before we start conservation efforts, we can be sure that we face decades of work before we have any hope of getting out of the woods. Unfortunately, we have waited even longer to put many species on the endangered species list. In at least a few cases, we have waited until only a single individual remained.

The whooping crane, Kirtland's warbler and the bald eagle can teach us another lesson. Their recoveries are the result of a major, long-term investment of conservation resources involving state, federal and private entities engaged in a host of activities such as habitat management, captive breeding, reintroductions, cowbird control, nest monitoring, law enforcement, research and more. Congress can set lofty goals for the Endangered Species Act, but unless it provides the resources to attain those goals, the responsibility for the Act's ineffectiveness is hardly the Act's alone. To date, Congress has never provided all the resources needed.

Of course, there is a reason that Congress has not given more money for the Endangered Species Act, just as there is a reason that the government has been slow to list many species. Endangered species conservation efforts sometimes generate highly divisive controversies. This has fueled the perception that species' gains can only come at the expense of other goals. Changing that perception will require demonstrating that innovative and flexible approaches to conservation can be undertaken under the Endangered Species Act, and that such approaches can yield successful results. In particular, the administrators of the Act cannot continue only to wield the essential stick of regulation while virtually ignoring the no less essential carrot of incentives.

The Endangered Species Act was supposed to promote a well-integrated and cooperative relationship between state and federal agencies. It hasn't. While there are examples of effective cooperation between the two levels of government, including for many of the species discussed earlier, there are also many examples of the opposite. Regular sniping between the feds and the states is all too familiar. The lack of better integration of state and federal efforts has undermined conservation results.

Diverting scarce resources into unproductive agency “process” has further handicapped conservation. A history of unimaginative, process-preoccupied and ultimately self-defeating implementation of the Endangered Species Act has discouraged opportunities for tangible, on-the-ground improvement. This debilitating process has neither partisan nor ideological provenance; it has stifled effective conservation efforts for endangered species in both Democratic and Republican administrations.

Will proposed “reform” make the Act more or less successful?

Those who have declared the Endangered Species Act a “failure” and “broken” now propose to fix it through a variety of reforms. It is too early to tell which reforms will actually be considered, but there are a few standards by which any reform measure ought to be judged.

There are only two reasons to consider changing the Endangered Species Act, at least if Congress remains committed to restoring endangered species. One is to make it more effective at conserving rare species; the other is to make it less onerous for those subject to its requirements. There is no shortage of advocates for doing one or the other, but too few for doing both. Yet only by doing both is it likely that the needed resources will be made available to produce more conservation successes more quickly. Only by doing both is it likely that landowners and others will be willing to pitch in. Every proposal for change ought to be subjected to rigorous scrutiny that asks how it will lead to a more effective Act and how it will lead to a less onerous Act.

Safe Harbor Success for Endangered Woodpecker

Ten years ago, the red-cockaded woodpecker seemed doomed. Most of its longleaf pine habitat had disappeared from the Southeast, and some landowners, fearful of Endangered Species Act restrictions, were clear-cutting what was left. One North Carolina license plate summed up the prevailing mindset—IEATRCWS.

Today the standoff has become a vast cooperative effort: More than 200 landowners on half a million acres in five states are restoring habitat for the bird, and the Fish and Wildlife Service reports 48 new woodpecker family groups on private lands.

The turnaround is thanks to Safe Harbor, under which landowners agree to improve habitat in exchange for a guarantee of no new restrictions on their land. In the 1990s, Environmental Defense and wildlife officials developed the idea and then set out to build support among family foresters throughout the Sandhills region of North Carolina, where the conflict was most acute.

“We built trust with landowners first, and that was key to Safe Harbor’s initial success,” says Robert Bonnie of Environmental Defense. After hearing our pitch, Dougald McCormick, whose truck sported the notorious license plate, became

one of the first to sign up.

Today the Safe Harbor program has spread to roughly three million acres in nearly 20 states, aiding species as diverse as the Houston toad and the San Joaquin kit fox. “Safe Harbor reverses the tide of habitat destruction, which is the greatest threat endangered species face,” says Ralph Costa, who oversees woodpecker recovery efforts for the Service.



© Greg Lasley

Red-cockaded woodpecker

A Criteria for Reform

Three categories of ideas offer promise for meeting this two-pronged test. The first is creating new conservation incentives. Incentives for conserving rare species are largely missing from the Endangered Species Act, though some creative administrative initiatives have filled at least some of this vacuum. Much more could be done by Congress, particularly with respect to creating economic incentives.

The second is meeting the Act's original goal of fostering a collaboration between state and the federal conservation agencies. Better integration of state agency expertise into Endangered Species Act recovery efforts should benefit both endangered species and people who suffer the delays and frustrations of an overworked and frequently unresponsive federal bureaucracy.

The third is reducing procedural obstacles that have delayed or prevented timely conservation decisions. Congress often addresses perceived problems by adding new process requirements. Some recent proposals to improve the quality of scientific decision-making have taken that tack, but there are other, less cumbersome ways to avoid deficiencies in scientific decision-making. Those ought to be carefully examined before adding new process requirements.

Were Congress to focus on these topics, we could have a much better system for recovering imperiled species. We shouldn't have any illusions about the difficulty of the challenge, however. A sustained effort, carried out over many decades, and backed with sufficient resources, is the only approach that can possibly succeed. The scientist E.O. Wilson reminds us that, once lost, a species can never be recovered. His warning should spur us to face squarely the shortcomings that have hindered our efforts in the past so that we might avoid them in the future.

Note: This paper is adapted from the Robert Minge Brown Lecture given by Michael J. Bean at Stanford University Law School in February 2005.



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National Headquarters

257 Park Avenue South
New York, NY 10010
212-505-2100

1875 Connecticut Avenue, NW
Washington, DC 20009
202-387-3500

5655 College Avenue
Suite 304
Oakland, CA 94618
510-658-8008

2334 North Broadway
Boulder, CO 80304
303-440-4901

2500 Blue Ridge Road
Suite 330
Raleigh, NC 27607
919-881-2601

44 East Avenue
Suite 304
Austin, TX 78701
512-478-5161

18 Tremont Street
Suite 850
Boston, MA 02108
617-723-2996

Project Office

3250 Wilshire Boulevard
Suite 1400
Los Angeles, CA 90010
213-386-5501