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Fulfilling the Promise of the Endangered Species Act:

The Case for an Endangered Species Reserve Program

by Brian Seasholes

Reason Foundation

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Executive Summary

The Endangered Species Act (ESA) has become one of the most controversial pieces of U.S. environmental legislation. Proponents claim the ESA is a success because it has saved many species from extinction. Others question its record, especially in terms of conserving species on private lands.

Controversy over the ESA increased significantly following the 2011 settlement of a lawsuit between the U.S. Fish and Wildlife Service and several environmental pressure groups, under which Fish and Wildlife is required to consider for listing under the Act a total 757 species by 2018. There is a significant risk that, in response to the threat of these listings landowners will make their lands inhospitable to endangered species, as they have in response to other listings. That would be a truly perverse and unfortunate outcome.

The Endangered Species Act, passed in 1973, aims to help prevent rare species from going extinct and improve their prospects. Since then, it has become apparent that:

1. On private lands, which comprise the main habitat for the majority of endangered species, the Act's strong penalties have turned endangered species into financial liabilities. As a result, landowners seek to rid their property of endangered species and their habitat.

2. Reforms ostensibly enacted to address this problem, for example by adding incentives and giving landowners assurances against future regulation, have fallen short because they ameliorate but leave largely intact the Act's perverse and counterproductive penalties.
3. Published research and other evidence point away from the Endangered Species Act's punitive approach by showing that landowners are generally willing to conserve imperiled species so long as they are not punished for doing so, their autonomy and rights are not substantially infringed, they are compensated, and people they trust are involved.

This study proposes a new approach, called the Endangered Species Reserve Program, which would be a far more successful approach for conserving endangered species. The Endangered Species Reserve Program would remove the counterproductive penalties and replace them with an entirely voluntary system in which landowners are compensated for investing in habitat and species conservation.

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Introduction

The Endangered Species Act (ESA) has become one of the most controversial pieces of U.S. environmental legislation. Proponents claim the ESA is a success because it has saved many species from extinction, including high-profile species such as the whooping crane, California condor and black-footed ferret. Others question the ESA's record, especially in terms of conserving species on private lands.

The Endangered Species Act was passed with the best of intentions: to help prevent rare species from extinction and improve their prospects so they would no longer need the Act. This study seeks to assess whether it has achieved those intentions in the most effective way possible. In so doing, it draws on a wealth of literature, case studies and candid insights from some of the most important individuals involved in the Act's development and implementation.

The study looks in detail at the implementation of the ESA on private land and seeks to understand how the Act's penalties, in particular, affect the incentives of landowners to conserve species. By analyzing these effects in detail, the study is able to propose some changes to the way the Act is currently implemented that would dramatically improve its effectiveness.

Part 1

A Missouri Fish

To understand how the Endangered Species Act affects conservation on private land, consider the case of the grotto sculpin, a three-inch fish that lives in limestone caves on private property in Perry County, southeastern Missouri, and that was recently listed as "endangered" under the Endangered Species Act (ESA). By imposing unfunded obligations on the owners of land beneath which the sculpin resides, the listing under the Endangered Species Act unfortunately creates perverse incentives that actually harm the fish's prospects.

Grotto sculpin

Credit: Brad Probst/Missouri Department of Conservation

Consider the emblematic experience of Craig Schindler, a third generation farmer in Perry County who is deeply attached to the gently rolling hills of his land, including the mile-long cave that runs underneath it. Like many rural landowners, he is a good steward of his property, a friend of wildlife, and generous toward outsiders. Since his grandfather's day, Craig's family has allowed people to access the cave. Cavers, kids and scientists all have been allowed in free of charge.

All that changed in September 2012, when the U.S. Fish and Wildlife Service (hereinafter "Fish and Wildlife") proposed to list the grotto sculpin as endangered. Based on an economic impact analysis carried out for Fish and Wildlife, the 18 acres Craig estimates he will have to sacrifice for the sculpin is worth some $90,000 and produces approximately $7,000 in crops annually.[1]

"They're cutting my living down," Craig told the local *Perryville News,* "I have cattle and grow crops, but if you take 18 acres away from a guy, that's quite a bit."[2]

Perry County and Missouri

Source: http://commons.wikimedia.org/wiki/File:Map_of_Missouri_highlighting_Perry_County.svg

Fish and Wildlife also proposed to place buffer zones around sinkholes that lead to caves with sculpins. Under the listing, Craig could face up to $100,000 and/or a year in jail for killing or injuring just one sculpin, or even harming its habitat. So, in addition to losing the use of 18 acres, he will have to spend thousands of dollars to fence the buffer zone in order to prevent livestock on the rest of his ranch from inadvertently harming the sculpin. "I'm going to have to pay for this fence out of my pocket, and lose the ground for cattle to graze on," he said.[3] But even that will not immunize him from prosecution under the ESA because local Fish and Wildlife personnel have the power to decide if his uses of other land, such as fertilizing crops and grazing livestock, harm the sculpin. Craig has reason to worry because Fish and Wildlife is notorious among American

landowners for being very unpredictable when deciding what constitutes "harm."

In addition, Fish and Wildlife proposed to designate the sculpin's entire habitat as "critical habitat," a provision under the Endangered Species Act that many dealing with the law have focused on because it can bring increased land-use restrictions, and the term "critical" sounds significant. In reality, critical habitat brings little additional restrictions because even without the designation of it the Act's existing restrictions are already so significant and onerous. David Owen, law professor at the University of Maine, conducted what is likely the most detailed study of the impacts of critical habitat. The study "found little evidence that critical habitat designations make any difference in the level of protection" afforded species under the Endangered Species Act.[4]

With the proposed listing of the grotto sculpin, Craig Schindler discovered the upside-down world of the Endangered Species Act. In return for harboring rare wildlife, he was to be punished by having his property turned into a *de facto* federal wildlife refuge but paid no compensation.

This situation is in stark contrast to most other government "takings" of private property. For example, when the government wants to convert private land for a public good, such as a highway or military base, it pays landowners the market value for the land taken. It is legally required to do so because of the "takings clause" of the Fifth Amendment of the Constitution which states, "nor shall private property be taken for public use without just compensation." The takings clause seeks, "to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole," according to a 1960 Supreme Court decision.[5] But in a 1994 decision, the Supreme Court ruled that "partial" takings of the sort that Craig would experience as a result of a listing of the grotto sculpin are not protected by the Fifth Amendment.[6] To add insult to injury, if the grotto sculpin were to be listed under the ESA, Craig would still have to pay taxes on the land he would not be able to use.

William Ruckelshaus, administrator of the Environmental Protection Agency from 1970–1973 and 1983–1985 and widely respected expert on environmental policy, grasps that landowners are treated unequally under the Endangered Species Act and should be compensated:

> *"If I'm a landowner and someone is running a highway through my land, I may not like it, but at least I'm being compensated for it. If I'm*

> *forced to put buffers alongside streams that run through my land in order to protect salmon, sometimes those buffers take a significant amount of my land, and I think they should be compensated for that. If that's a public good and it's being asserted against a private property owner, then why shouldn't the public pay for it the same way they do with a highway? But we don't."*[7]

Faced with the prospect of not being compensated for protecting the grotto sculpin, Craig Schindler took a sensible and understandable approach. He stopped anyone from going into the cave, including the scientists who want to list it under the Act. "Even if they decide not to have this fish listed as endangered…they're going to find other things to put on the [endangered species] list," he remarked. Craig also feels betrayed by the scientists he let on his land and Fish and Wildlife for wanting to list the sculpin. "They're not worried about the average Joe," he said. "They're worried about some fish that nobody knows about [and] if they had their way, this town would fall apart."[8]

This is the reality of how many people victimized by the Endangered Species Act feel. They perceive their ability, and sometimes that of their communities, to make a living is being sacrificed for the protection of animals and plants, and they are upset that they are forced to bear this burden. Those affected by the Endangered Species Act often think of themselves as honest, hard-working people who play by the rules, pay their taxes, and keep up their end of the social contract by being good citizens. Yet in return they are punished for conserving what is regarded as the public's wildlife. Landowners affected by the Endangered Species Act often have a hard time understanding why their government is targeting them, but they are understandably angry and feel a deep sense of betrayal.

Then, in September 2013, Fish and Wildlife fulfilled Craig Schindler's worst fears by declaring the grotto sculpin endangered. Critical habitat was not designated because Fish and Wildlife deemed that Perry County's conservation plan to conserve the sculpin, which took a significant amount of time and money to write, provides sufficient protection. While residents of Perry County were relieved, their comfort may be short-lived. As noted, in reality critical habitat adds little in the way of additional regulation because the Endangered Species Act's punitive land-use control provisions are already so formidable. Also, Fish and Wildlife can change its mind at any time and designate critical habitat. Since Fish and Wildlife biologists and their supervisors frequently rotate to new jobs, it is entirely possible that future Fish and Wildlife personnel will reverse the decision not to designate critical habitat. Furthermore, the agency is constantly

under pressure from litigious groups to designate critical habitat, so this pressure—or even a court decision—may well result in critical habitat being designated for the grotto sculpin.

The decision by Fish and Wildlife to list the grotto sculpin under the ESA has had a very real impact already. Craig Schindler will never again allow scientists into his cave. This matters because monitoring is essential to wildlife conservation; it allows people to learn more about species, which provides insights into how to conserve them more effectively. Monitoring is especially important for endangered species because their small populations are more vulnerable to the effects of anthropogenic and natural habitat destruction and degradation. The authors of a 2007 study on monitoring concluded, "Our results provide a strong practical case in favor of the argument that investing a sufficient amount of time and resources into designing and implementing monitoring programs that carefully address detectability and spatial variation is critical for the conservation of endangered species."[9] Without monitoring, species, especially vulnerable species such as the grotto sculpin, have decreased chances of survival.

Unfortunately, the type of lose-lose situation facing the grotto sculpin and Craig Schindler is endemic to the Endangered Species Act's punitive approach to conservation, which violates people's property rights without compensation and undermines incentives to conserve habitat and species.

Many landowners respond more aggressively than Craig. Some engage in the "shoot, shovel, and shut-up" solution—seeking to rid their land of endangered species. Others pursue a "scorched earth" strategy, destroying habitat in order to make it unsuitable for endangered species. This is the most damaging because habitat destruction is the leading cause of imperilment for species in the U.S.[10] Not only are imperiled species harmed by ESA-induced habitat destruction but so are many more common species that depend on the same habitat.

Habitat can also be rendered unsuitable for endangered species through benign neglect because the habitat for many species requires active management. A classic example is the red-cockaded woodpecker that lives in the southern U.S. It requires mature pine forests that are kept open and park-like through prescribed burning or some sort of mechanical or chemical means. If this is not done, shade-tolerant deciduous species create a thick understory, and woodpeckers abandon the site or don't occupy it in the first place.

Other landowners, including some of Craig's neighbors who have been less generous with access to scientists, keep quiet out of fear, hoping Fish and Wildlife won't look for rare species on their property and take the use of their land away. In all these ways, the ESA actively discourages monitoring and encourages the elimination of endangered species and their habitat.

It's not hard to understand why the Endangered Species Act is so feared by landowners. The Act makes otherwise normal and legal forms of land and resource use illegal. When this became apparent in the early 1980s, following an amendment to the Act, "a forest landowner harvesting timber, a farmer plowing new ground, or a developer clearing land for a shopping center potentially stood in the same position as a poacher taking aim at a whooping crane," stated Michael Bean, then with the Environmental Defense Fund, currently a senior official at the Interior Department and widely recognized as one of the leading authorities on the Endangered Species Act.[11]

The ESA's penalties are severe: $100,000 and/or 1 year in jail for individuals committing misdemeanor harm to a fish, bird, or even its habitat, which increases to $250,000 for a felony. For corporations the jail time is the same but the fines double to $200,000 for a misdemeanor and $500,000 for a felony. When these fines are combined with two other factors—that there are no objective standards for what constitutes harm to species habitat so the process by which the federal government determines this is necessarily arbitrary and unpredictable for landowners, and federal regulatory agencies have the ability to use the ESA to lock-up vast amounts of land and resources—the Act's fearsome reputation becomes apparent.

It only takes one landowner like Craig Schindler getting clobbered by the Endangered Species Act for the news to spread—by word-of-mouth at the local grocery store, after church, at kids' school and sports events, at meetings of groups of farmers, ranchers, home builders and forest landowners, in the weekly newspapers many rural landowners rely on for information, and increasingly by email and instant messaging. Multiplying Craig Schindler's situation across hundreds of thousands of landowners and huge portions of the U.S. provides an indication of how corrosive and harmful the Endangered Species Act is to the very species it is supposed to protect.

Unfortunately, there are going to be increasing numbers of landowners like Craig Schindler because in the coming years hundreds of species are going to be listed. Controversy over the Endangered Species Act has increased significantly following the 2011 settlement of a lawsuit between the U.S. Fish and Wildlife

Service and several environmental pressure groups. Under the settlement, Fish and Wildlife is required to consider for listing under the Act 757 species by 2018.[12] As more of these species are listed, one of which is the grotto sculpin, there has been growing controversy over the accompanying land and resource use restrictions. Yet listing all these species will likely be detrimental for their conservation, as landowners try to evade the Endangered Species Act's regulations by making their lands inhospitable to endangered species, going silent, and barring access to their property to scientists and personnel from regulatory agencies.

Part 2

How the ESA Harms Species

One need only to visit regions with endangered species, especially "hot spots"—such as the Hill Country of central Texas, much of the southeast, the Pacific Northwest, as well as southern California and the state's Central Valley—to witness the Endangered Species Act's bitter harvest. Agricultural fields are not allowed to lie fallow, trees are cut on faster rotations, brush is cleared in efforts to deny habitat to wildlife, and questions to landowners about whether they have endangered species on their property are met with stony silence.

2.1 California Farmers Discing and Going Silent

Farmers in California's Central Valley and elsewhere have taken a number of actions to avoid the ESA, including: continually discing their land, instead of letting it lie fallow, in order to deny habitat to endangered species, such as the blunt-nosed leopard lizard; and keeping quiet out of hope regulators will not discover the endangered species on their land.

> *"Because of the Endangered Species Act we disc everything, all the time. We are afraid of an endangered species moving in. It costs $25 per acre [to disc]. It's not cheap. But the risk of not doing it is too great."*—Fred Starrh, a farmer in Kern County, commenting to the *Daily News of Los Angeles*[13]
>
> *"There is good cause to be afraid. I know many, many farmers who are aware of what's on their land and are scared to death that [government agents] are going to find out about it."* —Shawn Stevenson, a farmer in Fresno County, stated to the *Los Angeles Times.*[14]
>
> *"If we did leave it fallow, we might put ourselves in more of a financial crunch."* —Cindy Domenigoni, farmer in Riverside County, commenting to the *Los Angeles Times* on the fact that she and her husband disc their land rather than leave it fallow in an effort to deny habitat to the endangered Stephens' kangaroo rat[15]

Blunt-nosed leopard lizard

Source: http://www.blm.gov/pgdata/etc/medialib//blm/ca/images/images/bakersfield_images/lokerngzpj.Par.8feoc2c6.Image.647.472.jpg

2.2 Pacific Northwest Panic Cutting

According to the Fish and Wildlife Service:

> *"Despite their normal practices, however, the small landowners of the Northwest have resorted to "panic cutting" over their fear of Federal restrictions to protect [spotted] owls… this concern or fear has accelerated harvest rotations in an effort to avoid the regrowth of habitat that is useable by owls."*[16]

One such example of panic cutting is Vincent Shaudys, a retired university professor who owns a 24-acre parcel of hemlock and fir in Washington. "We had owls on three sides of our property; that's kind of scary," he told the *Seattle Times*.[17] Due to the potential for the spotted owl to take up residence on his land, he clearcut it in 1995 long before he intended. Both he and the owl lost. He lost money because if he had let the trees continue to grow another 10 years as planned, the timber would have been more valuable. And the owls lost much-needed habitat. While 24 acres may not seem significant, extrapolated across the millions of acres of spotted owl habitat it strongly suggests the enormous amount of habitat destruction caused by the Endangered Species Act.

Another example is Greg Pattillo who owns a 700-acre tree farm in southern Washington that consists of douglas fir and western hemlock. Greg used to work for a timber company, but over the years he saved enough money to realize his dream of purchasing land and being his own boss. He carefully managed his land, which included harvesting at most 10 acres per year when trees reached about 70 years of age. When federal biologists thought they had heard spotted owls calling on a neighboring property in 1992, everything changed. For the next year Greg worried constantly that owls would be found and that if this happened some of his property would likely fall within an "owl circle."[18] The area of land known as an owl circle is the 2,605 acres within a 1.8-mile radius around each nest that is locked-up as a result of the ESA.[19] At the time, the price of timber was $10,000–$40,000 per acre.[20] Thus, one owl circle could cost a landowner $26,050,000–$104,200,000. Faced with the prospect of losing a significant portion of the land that provided his livelihood, Greg reluctantly had to increase massively the amount of timber harvested in an effort to deny owls habitat. In 1994 Greg clearcut 70 acres that contained most of the suitable habitat for spotted owls, but was very upset because he felt the federal government forced him to make a decision he didn't want to, as he explained to the *Los Angeles Times*:

> *"I'm not looking for a reward. But to use a club and tell me that I may not be able to use my forest simply causes me to panic and causes me to harvest prematurely and harvest more than I would have. All they're saying to me right now is if I grow that kind of [spotted owl] habitat, I may be penalized."*[21]

2.3 Clearing Trees Deep in the Heart of Texas

After Fish and Wildlife listed the black-capped vireo in 1987 and the golden-cheeked warbler in 1990, landowners in the Hill Country of central Texas began clearing thousands of acres of its ashe juniper (known locally as cedar) habitat used by the birds.[22]

> *"I am convinced that more habitat for the black-capped vireo, and especially the golden-cheeked warbler, has been lost in those areas of [central] Texas since the listing of these birds than would have been lost without the ESA*."—Dr. Larry McKinney, Director of Resource Protection for the Texas Parks and Wildlife Department, in a report by Defenders of Wildlife.[23]

Golden-cheeked warbler

Source: http://digitalmedia.fws.gov/cdm/singleitem/collection/natdiglib/id/40/rec/1

Black-capped vireo

Source: http://www.fws.gov/uploadedImages/Region_2/NWRS/Zone_1/Balcones_Canyonlands/Images/BCV-SteveMaier_NOCopyright.jpg

Given that approximately 95% of the land in Texas is privately owned, the perverse incentives created by the Endangered Species Act that encourage landowners to destroy endangered species habitat are very problematic in this state.

2.4 Clearcutting Southern Forests

Throughout much of the pine forests of the southern U.S., landowners have clearcut trees and taken other actions to prevent occupation by endangered red-cockaded woodpeckers. One such instance occurred in the town of Boiling Springs Lakes, North Carolina when landowners raced to sterilize their land ahead of the impending release of U.S. Fish and Wildlife Service maps of the locations of woodpecker colonies. As a couple residents of Boiling Springs Lakes noted in a story in *The News & Observer*:

- *"I have not a single pine tree left. Folks around here are terrified of the prospect of losing their property. That causes people to get out there and find out what they can do to protect themselves."*—Bonner Stiller, then a North Carolina state representative and owner, for 20 years, of two lots he bought as investments but clearcut to deny habitat to red-cockaded woodpeckers.[24]
- *"People are just afraid a bird might fly in and make a nest and their property is worth nothing. It's causing a tremendous amount of clearcutting."*—Joan Kinney, mayor of Boiling Springs Lakes[25]

There is perhaps no better illustration of how the Endangered Species Act harms species than the case of Ben Cone Jr., a landowner in North Carolina. While Cone's case is likely the most cited example—in scholarly literature and by the media and non-governmental organizations—of how the Act can harm species, virtually all of these accounts contain errors, and none have reported critical aspects of the case, such as the interaction between the Endangered Species Act and the Estate Tax.

In the 1930s Cone's father bought 8,012 acres in southeastern North Carolina with the aim of making it a private hunting and fishing preserve where family and friends could enjoy relaxing weekends and holidays. The land was in sorry condition, having been mostly cut-over for timber. Ben Cone Sr.'s friends and family poked fun at him for purchasing such poor quality land, but he embraced the idea and humorously named the property Cone's Folly. The property consists of two parcels; the 7,200 acre Cone's Folly and a separate 812 acre tract. Together, the properties contain about 6,000 acres of pine forest (600 acres

of longleaf pine and 5,400 acres of loblolly pine), with the remaining land consisting of bottomland forest and swamp bordering the Black River.[26]

After purchasing the land, Cone and his father worked very hard to rehabilitate it over the ensuing decades, planting countless native pine trees, conducting prescribed burning to maintain a healthy forest, and planting food crops for various game species. The result was a wildlife paradise of the open, park-like, old-growth pine forest favored by a wide variety of wildlife, such as bobwhite quail, deer, turkey, black bear and the endangered red-cockaded woodpecker.[27]

From a biological and ecological standpoint, all of Cone's land represents extremely high quality and important habitat. In 1995 Defenders of Wildlife published a report that identified the 21 most endangered ecosystems in the U.S., two of which are represented on Cone's property: southern forested wetlands and longleaf pine forests.[28]

The 2,000 acres of Ben Cone's land bordering the Black River is so ecologically significant that the Nature Conservancy expressed strong interest in acquiring it. Cone declined but promised to protect his land so long as the Conservancy did theirs (which the organization is still doing on its Black River Preserve). This portion of the Black River, which includes Cone's property, contains bald cypress trees 780–1,600 years old, making them what "is considered to be the oldest stand of trees east of the Rocky Mountains," according to the Nature Conservancy.[29]

The remaining 6,000 acres of Cone's land consists largely of old-growth southern pine forest, a habitat type that has gradually disappeared over the past century. The 600 acres of longleaf pine on Cone's Folly is especially significant. Defenders of Wildlife identified this type of forest as one of the top 21 most endangered ecosystems in the U.S. because "only two percent remains."[30] Ironically, as Cone's case demonstrates, one of the reasons this ecosystem is under such duress is habitat destruction induced by the Endangered Species Act. As Michael Bean points out:

> *"Because red-cockaded woodpeckers tend to prefer longleaf pine over other species, landowners thinking about what species to plant after harvest or on former forest land, I think regard the choice of planting long leaf as a foolish choice because of the greater potential for having woodpecker problems in the future."*[31]

Following the wildlife-friendly practices established by his father, Ben Cone Jr. would cut 50–80 acres of timber every six or seven years to generate income for managing the property and to show that the land was profitable, thereby maintaining the tax advantages of having land categorized as forest. However, timber harvesting was always done to be compatible with wildlife management, two aspects of which included cutting trees selectively or in relatively small blocks, and cutting trees on 70–80 year rotations instead of the 30–40 year rotations that is the timber industry norm in the South.[32] Ben Cone would also sell pine straw—dead pine needles from longleaf and loblolly pine trees that is used throughout the South as landscaping mulch. And he sold deer hunting leases to locals because they liked to hunt deer and he did not. Cone also reasoned that if he didn't sell the leases some people would trespass and hunt illegally so it was better to allow people he knew on the property rather than those he did not. Cone valued hunting quail and turkey so much that he did not sell these hunting rights but retained them for family and friends.[33]

Cone's Folly generated about $40,000 annually: $20,000 from timber (which was an average of the value cut every 6–7 years) and about $20,000 from pine straw and deer leases. This did not offset Cone's annual expenses of $60,000 for managing the land, the largest portion of which was for a fulltime caretaker who lived on the property.[34]

Ben Cone was very aware that as a non-resident landowner in a poor, rural part of North Carolina there was potential for him to be resented as a wealthy outsider. So he tried very hard to be a good neighbor, which included letting Boy Scouts camp on the property free of charge, selling the deer hunting leases at very nominal rates, and generally having his property manager foster good relations with the community.[35]

In 1991 everything changed when, in preparation for a timber cut, Cone discovered he had red-cockaded woodpeckers on his land due to the ideal habitat created over the preceding decades. As a result, the U.S. Fish and Wildlife Service put off limits 1,121 acres worth $1,425,000 for the woodpeckers, which represented about 20% of the timber on the property.[36]

In response, Cone did several things. First, he contacted Fish and Wildlife and asked to be compensated for his lost property value due to federal protection of the woodpeckers, which amounted to 85% of the land's value. The agency refused.[37]

Red-cockaded woodpecker

Source: http://commons.wikimedia.org/wiki/File:Picoides_borealis_-Mississippi,_USA_-feeding-8.jpg

Then he contacted the Internal Revenue Service to request a reduced tax assessment based on the value of the land taken by Fish and Wildlife for the woodpeckers. The IRS refused to acknowledge this and still taxed him at the pre-woodpecker rate.[38] This also complicated Cone's plans to help his two children, both sons, avoid as much of the Estate Tax as possible—another federal initiative that does enormous harm to wildlife by forcing the sale and destruction of habitat in order to pay the tax. The tax is "highly regressive in the sense that it encourages the destruction of ecologically important land in private ownership," according to Michael Bean, then with the Environmental Defense Fund, and one of the foremost experts on U.S. wildlife law.[39] "Federal estate tax requirements are destroying some of the largest and most important endangered species habitats in private ownership."[40]

The negative effects of the Estate Tax on wildlife habitat are considerable. A 2002 study by a number of experts at the U.S. Forest Service, universities and private consultancies found that due to the Estate Tax, each year in the U.S. roughly 2.4 million acres of forest are harvested and 1.3 million acres sold. Of the acres sold, some 400,000 are converted to uses less friendly to wildlife, such as houses and shopping centers.[41]

The damage to wildlife habitat caused by the Estate Tax is especially pronounced in the southern U.S. where 87% of forestland is privately owned, compared to about 55% nationally.[42] Furthermore, 60% of the forest in the South is known as "private non-industrial," which generally means smaller landholdings.[43] Of the private non-industrial forest, 95% is owned by what the World Resources Institute refers to as "family forests," which are smaller plots. According to World Resources, three million forest landowners in the South have holdings of nine acres of less.[44]

Cone, his wife and sons were desperate to keep the land in the family and retain as many of its environmental values as possible, but the Estate Tax presented an overwhelming obstacle.[45] In the early-to-mid 1990s, the Estate Tax rate was 55%, after a $600,000 exemption for each heir. This was little help to the Cone family because the value of just the 6,000 acres with timber was around $9,000,0000. This meant that upon inheriting the land Cone's sons would have to clearcut essentially all of the merchantable, or salable, timber to pay the tax. In recent years, the Estate Tax exemption has increased considerably and the tax rate dropped, but this is irrelevant to Cone's case as it was playing out in the 1990s.

Ben Cone also sent certified, registered letters to all adjacent landowners informing them he would not be liable if red-cockaded woodpeckers from his property took up residence on their land. In response several landowners immediately clearcut around 500 acres of pine forest, some of it directly across the road from Cone's Folly.[46] Driving down that road presented a shocking and sobering illustration of the destruction caused by the Endangered Species Act: on the left was the verdant forest of Cone's Folly; on the right the "moonscape" that remained after being clearcut.

Most significantly, Ben Cone did something he would have preferred not to do. In response to the federal government's refusal to compensate him or reduce his tax burden for the land devalued by the red-cockaded woodpecker, Cone broke with the land ethic established by his father that would have promoted wildlife.

Cone was heartbroken, as he explained to the *Associated Press*:

> *"Here's the tragedy of it—I cannot afford to let these woodpeckers take over the rest of the property. So I'm going to start massive clearcutting. I'm going to go to a 40-year rotation instead of a 75- to 80-year rotation."*[47]

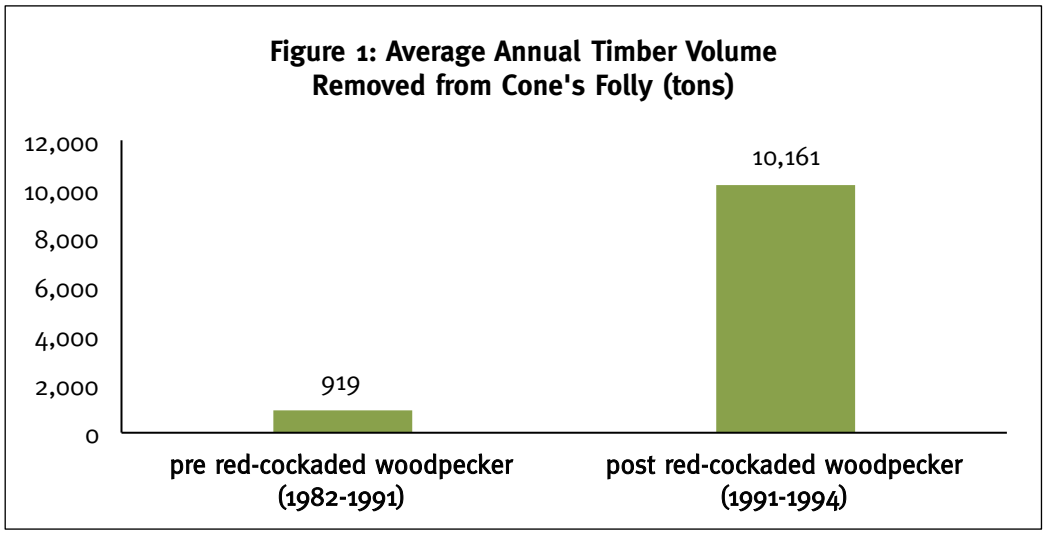
He also began clearcutting due to the Estate Tax for two reasons:

1) To stockpile funds for the tax bill his heirs would find much more difficult to pay due to the inability to cut timber on the 1,121 acres occupied by woodpeckers that would be assessed by the IRS at its highest value, as if no woodpeckers existed.[48]

2) To prevent woodpeckers from occupying any other land, which if this occurred would reduce the amount of timber his heirs could cut in order to pay the tax.

Due to the pernicious synergy of the Endangered Species Act and the Estate Tax, Cone increased the rate of timber harvest more than tenfold, but he hated and deeply resented having to destroy the habitat he and his father had worked so hard to create over the preceding decades. According to him:

> *"By managing Cone's Folly in an environmentally correct way, my father and I created habitat for the red-cockaded woodpecker. My reward has been the loss of $1,425,000 in value of timber I am not allowed to harvest under the provisions of the Endangered Species Act."*[49]



Source: Gelbert and Company Consulting Foresters, Durham, North Carolina

Lastly, Cone filed suit against the federal government in the U.S. Court of Claims in an attempt to recover the $1.425 million for the land devalued by Fish and Wildlife's protection of the red-cockaded woodpecker.[50] Cone chose the Court of Claims because he was advised that filing suit through the federal court system would be very costly and time-consuming. Federal agencies could drag out the process by claiming Cone had not exhausted all of his remedies and

therefore his case would not be "ripe" to be heard. Agencies such as Fish and Wildlife can afford to string-out the process, often for many years, secure in the knowledge that most landowners—because they must earn income from their property or have finite timelines to resolve financial and regulatory issues—will eventually capitulate to the remedies offered by the federal agencies or abandon their lawsuits. Attorney Michael Berger has written extensively on this problem, and the difficulty landowners have in getting their cases declared ripe to be heard, which he and Gideon Kanner, a law professor, term a "shell game."[51]

In Cone's case, the initial remedy offered by Fish and Wildlife was that if he maintained the 1,121 acres as red-cockaded woodpecker habitat the agency would essentially exempt the rest of his property from the Endangered Species Act. He refused this offer because it included no compensation for the land occupied by the woodpeckers, and it did nothing to solve the problem of the Estate Tax. Furthermore, as Cone contended, exempting the rest of his property not occupied by woodpeckers was of little value because there was nothing barring him from cutting this timber.[52]

In response to Cone's predicament, and that the Endangered Species Act was causing harm to the red-cockaded woodpecker, some of the most prominent environmental pressure groups tried to debunk his story and impugn his integrity. Defenders of Wildlife included Cone's plight in a document titled *Top Ten Lies About the Endangered Species Act* and called Cone's Folly "a quail plantation."[53] This mischaracterization was an attempt to make Cone's Folly appear to be one of the many commercial quail-hunting properties that are scattered throughout the southern U.S. and at which the public can pay upwards of $725 per person for one day of hunting. The National Wildlife Federation included Cone in its *Horror Stories and Fairy Tales About the Endangered Species Act*, which erroneously claimed 600 acres was off limits due to being occupied by woodpeckers.[54] Both Defenders of Wildlife and the National Wildlife Federation also stated that Cone "operates a hunting lease," in yet another attempt to mischaracterize him as running a lucrative hunting operation, presumably for white-tailed deer since that is the only hunting Cone leased. And the National Audubon Society featured Cone in two separate articles in its flagship publication, *Audubon* magazine, by trying to debunk his story with mischaracterizations, omissions of key information, and painting him as an irritable spinner of tall tales.[55]

2.5 Harming Species Not Yet Listed

The Endangered Species Act is so detrimental to conservation that species not yet listed under the Act, but under consideration for protection, are also harmed. All indications are this has been occurring for most of the ESA's 40-year history.

Following the 1978 proposal to list the San Diego mesa mint, a plant from San Diego County, California, a developer who owned 279 acres on which he planned to build 1,429 houses became worried that the development would be derailed. Days before the mesa mint was listed in 1979, the developer engaged in the scorched earth strategy by bulldozing the plants.[56]

In 1998 several pressure groups petitioned Fish and Wildlife to list the black-tailed prairie dog under the Act across its entire range, an enormous region of the grassland stretching from Arizona, New Mexico and Texas, through Oklahoma, Texas, Colorado, Kansas, Nebraska, Wyoming, North Dakota, South Dakota and Montana.

Black-tailed prairie dog

Source: http://commons.wikimedia.org/wiki/File:Cynomys_ludovicianus_-Paignton_Zoo,_Devon,_England-8a.jpg

The petitioners requested an emergency listing, a provision in the ESA that allows a species to be listed at the end of the 90-day period to determine whether the petition has merit and without the requirement that Fish and Wildlife or the National Marine Fisheries Service published a proposed listing rule. Fish and Wildlife and the Fisheries Service then has 240 days to publish a permanent listing rule.[57] By contrast, the typical, non-emergency listing process is for the federal government to publish a proposed rule one year after receiving a petition and then to publish a final listing rule one year later.

The pressure groups that petitioned for the emergency listing were well aware that the Endangered Species Act's punitive nature turned landowners against species. As Fish and Wildlife noted:

> *"The Petitioners expressed concern about continuing human activities that pose a threat to the black-tailed prairie dog and additional threats that might be anticipated following the filing of their petition. The Petitioners predicted that poisoning and shooting activities would increase and result in significant population declines for the species during the normal rulemaking process. Thus, the petitioners requested that we emergency list the black-tailed prairie dog."*[58]

The black-tailed prairie dog's enormous range, coupled with sparse human settlement and relatively large landholdings (cattle ranching in the regions with lower rainfall requires large chunks of land) across much of this range, gives landowners an enormous advantage if they want to do any number of things to avoid the ESA's penalties:

1) Shoot and poison prairie dogs
2) Prevent prairie dogs from taking up residence
3) Decline to inform regulatory authorities if prairie dogs are on their land

With so many factors in the favor of landowners, attempting to list the black-tailed prairie dog would almost certainly be detrimental to its conservation.

Landowners' response to the listing petition was predictable. "The petition has created difficulties for us," said Dennis Flath, a biologist with the Montana Department of Fish, Wildlife and Parks, in an article in *High Country News*. "Now private landowners don't want us to find out if there are any prairie dogs. They want to get rid of prairie dogs quickly, while they have the opportunity," before listing occurs.[59] The Montana Department of Agriculture would typically get 20 or so requests annually to help ranchers poison prairie dogs, which are

perceived as competing with cattle for grass. Following the petition, however, the Department had already received approximately 30 such requests by March 1999.[60]

2.6 The Reality of Harm to Species Caused by the ESA

All of these examples, including those involving the grotto sculpin, red-cockaded woodpecker and not-yet-listed species, paint a disturbing picture in which the Endangered Species Act is causing considerable harm to the species it's supposed to protect by three means: habitat destruction and degradation through overt action and benign neglect, landowners denying access to their property, and direct persecution (shoot, shovel, and shut-up). Not only does endangered wildlife lose, but so do many more common species that depend on the same habitat. The dimensions of this problem should not be underestimated because private lands are the most important for endangered species, and habitat loss, degradation and fragmentation are the leading threats to wildlife, including endangered species.

Part 3

History of the Endangered Species Act

This wasn't how the Endangered Species Act was supposed to work. It was supposed to reduce imminent threats to species so that they could recover (and no longer need the Act's protection). When Congress passed the Endangered Species Act in 1973—by overwhelming margins: 92–0 in the Senate and 390–12 in the House—it regarded the law as uncontroversial and it hoped the law would protect and recover high-profile species such as the bald eagle. Yet the reality of the Act's broad and deep reach soon became apparent.

Lynn Greenwalt, director of the Fish and Wildlife Service from 1974–1981, points out that in the years immediately after the Act's passage there were numerous rounds of congressional hearings during which, "many witnesses from Congress came forward to say they did not know this new Act would protect everything…They thought they were voting for legislation to protect eagles, bears, and whooping cranes. They professed not to understand at the time of passage that this law might raise questions about irrigation projects, timber harvests, the dredging of ports, or the generation of electricity."[61] Virtually no members of Congress had the "foggiest idea" of what they were voting for, according to Paul Lenzini—who at the time of the ESA's passage was head council for the International Association of Fish and Wildlife Agencies, the trade association for the state fish and game departments—in *Noah's Choice*, a book on the ESA. "There was no idea that their ox was being gored so they all voted for it."[62]

Senator Mark Hatfield of Oregon, who was one of the early supporters of the Endangered Species Act in the Senate and subsequently voted for it, said to *States News Service*:

> "*Our concept of the Act and what it was supposed to do, was, fundamentally, deal with a site specific problem—a road, a bridge or a dam. We never conceived of it being applied to millions of acres of public and private land that involves literally tens of thousands of people. That was never the original understanding*."[63]

Hatfield's statement illustrates a larger problem. Often, many members of Congress have a poor understanding of how proposed legislation actually works. If even the senator who was one of the first backers of the ESA did not

understand it, this is a good indication of the weak grasp most members of Congress had of the legislation. It is unclear if at the time of the ESA's passage, any member of Congress fully understood the Act's implications, especially the punitive and mandatory regulations that made it perhaps the most powerful environmental law ever passed in the U.S. In fact, as documented by Charles Mann and Mark Plummer in their book, *Noah's Choice: The Future of Endangered Species*, three people essentially wrote the ESA: Frank Potter, the counsel for the House of Representatives Merchant Marines and Fisheries Committee; E.U. Curtis "Buff" Bohlen, deputy assistant secretary for Fish, Wildlife and Parks; and Lee Talbot, chief scientist for the Council on Environmental Quality, which coordinates environmental policy for the executive branch.[64]

What's troubling is that these three deliberately obscured their efforts to make the Endangered Species Act so powerful. Potter referred to Talbot as his "co-conspirator" who helped him "make the mesh in the net as fine as we could get away with" in regard to the law's mandatory and punitive provisions.[65] Potter bragged of inserting the term ecosystems into the section of the ESA that defines the Act's purposes: "That's where we really stuck it to them."[66]

On the occasion of the ESA's 40th anniversary, Lee Talbot shed light on how he and Frank Potter made the Act so powerful:

> *"Frank Potter and I went to work on the ESA text. We added my provisions that had been dropped, and removed all the "weasel words." For example, wherever it said "The Secretary may…" we changed it to "The Secretary will…", and wherever a directive was followed by the words, "…in so far as practicable" we simply deleted them. The result was one of the strongest pieces of legislation ever submitted to Congress."*[67]

At the time, however, the ESA's authors kept quiet about their efforts to make the Act so powerful and punitive. "There were probably not more than four of us who understood its ramifications," said Bohlen about the Endangered Species Act's requirement that federal agencies recover species and that the law had the ability to regulate private property.[68]

One of the key provisions these three authors inserted, known as Section 7, requires the federal government to conserve species and to consult with Fish and Wildlife if they think their activities might harm or jeopardize species. This requirement for federal agencies also extends to private citizens for a wide range of activities that require federal permits—such grazing on federal land and

dredging waterways—or receive federal funding. Despite the enormous implications of Section 7, because the federal government owns about 30% of U.S. land and so many private sector activities depend on federal permits or receive federal funding, "Agencies and economic interests were asleep at the switch on this issue," according to Laura Manning, author of a book on the ESA's passage and implementation.[69] She adds, about Section 7:

> *"Potter believed the [federal] agencies almost certainly would not have supported it if they had been aware of what was involved. It is likely that they missed the significance of the section because of the closeness of its language with the usual agency cooperation provisions [in other laws]. In almost every other case, cooperation of the secondary agency is contingent on actions being consistent with the agency's primary mandate. This phrase was edited out [of the ESA] and almost no one noticed."*[70]

The acknowledgments by Lee Talbot and Frank Potter, including about Section 7, are astounding. These admissions are clear evidence of how their behind-the-scenes work deliberately made the ESA so powerful and so inconsistent with virtually all other federal land and resource use laws, which are more flexible and allow for balance between their goals and human needs and economic activity. The inflexible and absolute nature of the Endangered Species Act has been the source of much commentary, including by the Supreme Court, which noted in a landmark 1978 case, "The pointed omission of the type of qualifying language previously included in endangered species legislation reveals a conscious decision by Congress to give endangered species priority over the 'primary missions' of federal agencies."[71] While it was a handful of staffers who made this conscious decision, Congress is ultimately responsible for legislation, even if it was asleep at the switch.

In 1973 when the House and Senate endangered species bills came to the conference committee, the single resulting bill was made even more powerful through the behind-the-scenes work of the Act's three authors. "The people from the Senate didn't care all that hard. We, though, knew exactly what we were doing," according to Potter, in *Noah's Choice*.[72] "It was only sometime after its passage that people realized its implications," said Bohlen in *Noah's Choice*. "We certainly didn't advertise it [when the draft bill was circulating through the federal government]. Why should we have? It was not our intent to ring alarm bells."[73] Potter admits in *Noah's Choice*, "we were able to operate in relative obscurity. As long as people consider you benign and irrelevant, you're likely to get a lot of four hundred-to-thirty votes [in the House of Representatives]."[74]

Unfortunately, species like the grotto sculpin and people like Craig Schindler have been victimized by the surreptitious work of the Act's three principal authors, the ignorance of Congress and the Endangered Species Act's enormous power. But as Craig's experience shows, by imposing penalties on landowners the Act often has the opposite effect to that intended.

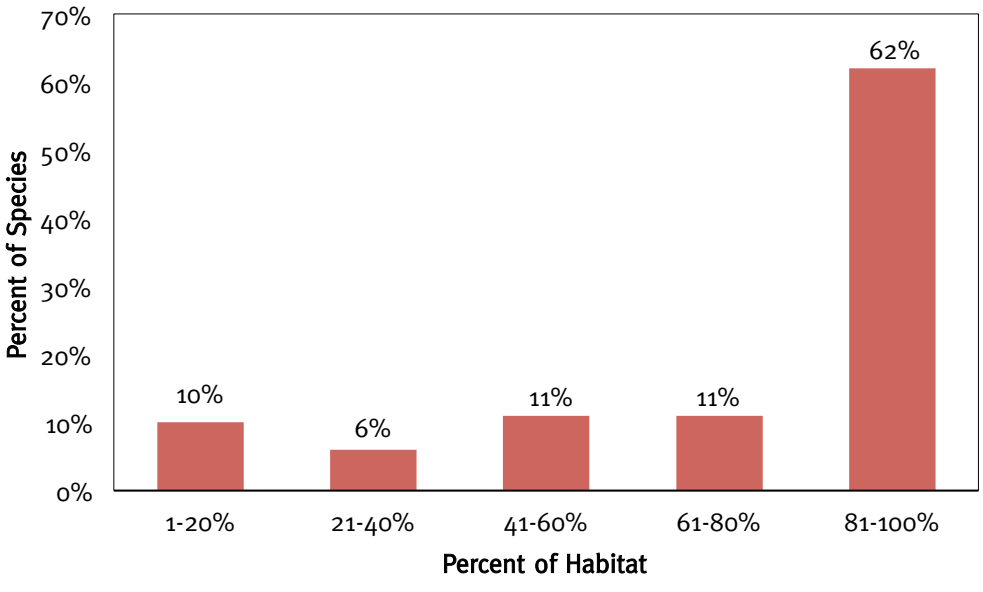
Part 4

Landowners Are the Linchpin

The harm caused by the Endangered Species Act is especially damaging on private lands because they are the linchpin of endangered species conservation. Yet most people are probably not aware of this. In 1993, The Nature Conservancy estimated half of all endangered and threatened species had at least 80% of their habitat on private land.[75] In 1994 fully 78% of endangered species depended on private land for all or some of their habitat, compared to 50% for federal land. In addition, 91% of all endangered species had at least some habitat on nonfederal land. [76]

As these data and the following chart show, the key for endangered species is nonfederal lands, "the vast majority of which is privately-owned land," according to Michael Bean and his then-colleagues at the Environmental Defense Fund, Robert Bonnie, Tim Male and Tim Searchinger.[77]

Figure 2: Species with Habitat on Nonfederal Lands (the vast majority of which are privately owned)



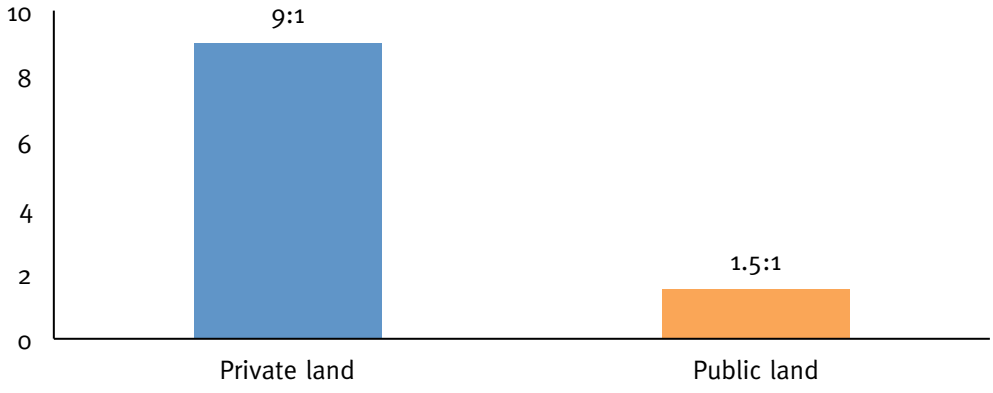
Source: U.S. General Accounting Office, Endangered Species Act: Information on Species Protection on Nonfederal Lands, pp.4–5.

The data in this chart provide a stark illustration of the importance of private land to endangered species. Almost two-thirds of endangered species (62%), have 81-100% of their habitat on nonfederal land. And more than one-third of species (37%) have *all* of their habitat on nonfederal land.

In 1995, the Environmental Defense Fund estimated 95% of endangered species have some habitat on private land.[78] In 2000, a study by a number of biologists found 67% of species listed under the Endangered Species Act have at least one population group on private lands.[79] However, this "is almost certainly an underestimate given the reluctance of many private landowners to cooperate with surveys for endangered species," according to the study's authors, David Wilcove and Joon Lee, professor and student, respectively, at Princeton University.[80]

Yet the Endangered Species Act's penalties so effectively undermine the incentives for private landowners to conserve species that the ratio of declining to improving species on private land is 9 to 1, whereas on federal lands the ratio is 1.5 to 1.[81]

Figure 3: Ratio of Declining to Improving Endangered Species



Source: Wilcove et al., "Rebuilding the ark," p.3.

One possible reason for this can be found in a study of the implementation of recovery plans, the federally approved "blue prints" for conserving species. The study found that on nonfederal lands recovery plans' tasks for habitat monitoring and management, "were less likely to be implemented…[and] plans for species partially or completely on nonfederal lands proposed fewer tasks to manage and monitor habitat."[82] So it appears that recovery plans reflect the diminished prospects for species on nonfederal land.

A 1996 Report from the Environmental Defense Fund, using 1994 data, notes that "[T]he Fish and Wildlife Service does not know the status of over half of the species found exclusively on private land, perhaps a reflection of the reluctance of many private landowners to allow conservation officials onto their land to assess how endangered species there are faring." [83] (Perhaps unsurprisingly, Fish and Wildlife lacked status information on only 15% of species that existed solely on federal land.) By August 2014, the number of U.S. species under the Endangered Species Act had increased by 63% to 1,560. Given this substantial increase and Fish and Wildlife's finite resources for surveying private lands, as well as landowners' reluctance to allow their lands to be surveyed, it is reasonable to assume that these patterns have remained the same, if not gotten worse, especially for species on private lands.

The key to successful endangered species conservation is the goodwill and willing cooperation of landowners like Craig Schindler. These landowners are generally happy to help conserve species so long as they are not punished for doing so. Many landowners even like to brag to their friends and neighbors when they have some unusual animal or plant on their land—but not if it is listed as an endangered species. The ESA has turned the very people who are the key to endangered species conservation into enemies of endangered species, which is a shame and clearly counterproductive.

Part 5

The Truth Comes Out

Tragically, the Endangered Species Act has resulted in an unnecessary and unwanted war on wildlife. But it is a quiet war, largely hidden from, and unknown to, the urban majority of Americans. And for those who aren't aware of the enormous damage caused by the ESA, it is easy to assume that the outcome of the Act is the same as its aspirational intent.

During the late 1980s and early 1990s, as the harm to wildlife and habitat caused by the Endangered Species Act was becoming an increasingly significant problem, accounts of landowners dealing with this problem by destroying habitat began to proliferate.[84]

In 1994, Michael Bean, while still at the Environmental Defense Fund, made the following observation:

> *"There is, however, increasing evidence that at least some private landowners are actively managing their land so as to avoid potential endangered species problems…Now it's important to recognize that all of these actions that landowners are either taking or threatening to take are not the result of malice toward the red-cockaded woodpecker, not the result of malice toward the environment. Rather, they're fairly rational decisions motivated by a desire to avoid potentially significant economic constraints. In short, they're really nothing more than a predictable response to the familiar perverse incentives that sometimes accompany regulatory programs."* [85]

This is an important admission from the person who is likely the foremost expert on the ESA and one of the Act's foremost proponents. As the 1990s progressed, there were more statements from the ESA's defenders about the Act's true nature. In 1995, then-Assistant Secretary of the Interior for Fish, Wildlife and Parks George Frampton, reportedly stated:

> *"From a private landowner's point of view, the Endangered Species Act looks like a nuclear weapon."*[86]

In 1999, several academics, who continue to strongly support the Endangered Species Act, made an observation similar to Michael Bean's remarks about the harm to wildlife caused by the Act:

> *"[T]he regulatory approach to conserving endangered species and diminishing habitats has created anti-conservation sentiment among many private landowners who view endangered species as economic liabilities…Landowners fear a decline in value of their properties because the ESA restricts future land-use options where threatened or endangered species are found but makes no provisions for compensation. Consequently, endangered species are perceived by many landowners as a financial liability, resulting in anti-conservation incentives because maintaining high-quality habitats that harbor or attract endangered species would represent a gamble against loss of future economic opportunities."*[87]

One of the most significant admissions of how the Endangered Species Act discourages conservation is from Edward O. Wilson, professor of biology at Harvard University and probably the world's foremost authority on biodiversity and species extinction. Wilson, who is revered by proponents of the ESA for his eloquent and unstinting defense of biodiversity conservation, including the Act, had the following observation that appeared in *Audubon* magazine about people with endangered species on their property:

> *"What they're deathly afraid of is losing their personal property rights…So the secret—and it's not a secret—lies in providing incentives for people whose property contains endangered species."*[88]

Michael Bean terms private lands the Endangered Species Act's "Achilles' heel." As he observed:

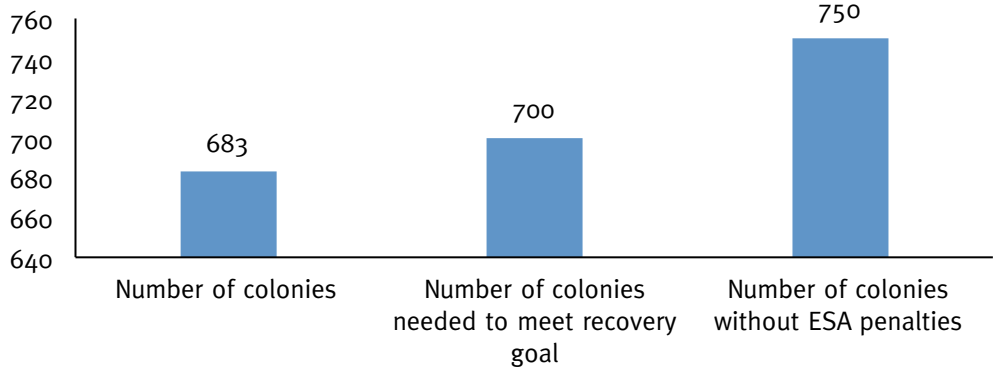
> *"[O]n privately owned lands ESA has had only modest beneficial impact and some unintended negative consequences, including antagonizing many of the landowners whose actions will ultimately determine the fate of many species. Improving the effectiveness of conservation efforts on private lands is ESA's most pressing need."*[89]

5.1 Empirical Evidence

In the 2000s, as the anecdotal evidence that the Endangered Species Act was causing significant harm to species mounted and became more widely known, the issue began to attract the attention of academic researchers. The red-cockaded woodpecker referenced by Michael Bean, which lives in the pine forests of the southern U.S., has been the focus of a number of research projects. Dean Lueck and Jeffrey Michael, economists at the Universities of Arizona and the Pacific, respectively, found that landowners in North Carolina cut 15,144 acres of pine trees preemptively in efforts to deny the red-cockaded woodpecker habitat.[90] Red-cockaded woodpeckers will only nest in mature, live pine trees, preferably at least 50–80 years of age. So if landowners harvest trees before they reach this age they can usually prevent woodpeckers from moving in.

The 15,144 acres preemptively cut in North Carolina could have supported 76 woodpecker colonies, which consist of an adult pair and one or more "helpers" that are usually offspring from the previous year. Most of this lost habitat, 13,318 acres, is in the state's central Sandhills region, which alone could have supported 67 colonies. The federal recovery plan for the red-cockaded woodpecker estimates the Sandhills region has 683 of the 700 colonies needed to meet the region's recovery goal. So, that goal could have been exceeded by 50 colonies had the habitat not been destroyed in direct response to the Endangered Species Act.[91]

Figure 4: Red-Cockaded Woodpecker Colonies in North Carolina Sandhills Region



Source: Leuck and Michael, "Preemptive Habitat Destruction Under the Endangered Species Act," p.53.

Other research has reached similar conclusions. Daowei Zhang of Auburn University found that landowners within a one-mile radius of a red-cockaded woodpecker colony were 25% more likely to harvest their timber than landowners

who were not within a one-mile radius. Furthermore, landowners who did harvest timber were 21% more likely to clear-cut, rather than selectively cut, due to the desire to deny woodpeckers habitat.[92] It's not hard to understand why landowners try to make their property inhospitable to the red-cockaded woodpecker because based on Fish and Wildlife Service habitat requirements, as much as $200,000 of timber is locked up for every colony.[93]

The Endangered Species Act's penalties also have long-term implications for species. In a separate study, Zhang and Warren Flick of the University of Georgia found that private, non-industrial forest owners—who own most of the forest in the southern U.S. and typically have forest plots of a few acres to several hundred acres—in the Sandhills region of North Carolina and South Carolina would be 5% less likely to reforest the land once it had been cut if their land was near red-cockaded woodpeckers.[94] While 5% might not seem to be much, it is for an imperiled species like the woodpecker that needs every bit of habitat to survive.

In another study, University of Michigan researchers surveyed Colorado landowners in the habitat for the Preble's meadow jumping mouse about their attitudes toward the mouse. The results are sobering: 26% of the land area surveyed was being managed to make it inhospitable to the mouse, and most landowners would not let their land be surveyed for the mouse.[95] "The efforts of landowners who acted to help the Preble's mouse were canceled by those who sought to harm it," according to the study. "As more landowners become aware that their land contains Preble's habitat, it is likely the impact on the species may be negative."[96]

The Southwest has also felt the effects of Endangered Species Act-induced habitat destruction. A study by several economists found that in Tucson, Arizona the land proposed to be designated as critical habitat for the cactus ferruginous pygmy-owl was developed one year earlier than

Preble's meadow jumping mouse

Source: http://commons.wikimedia.org/wiki/File:Zapus_hudsonius.jpg

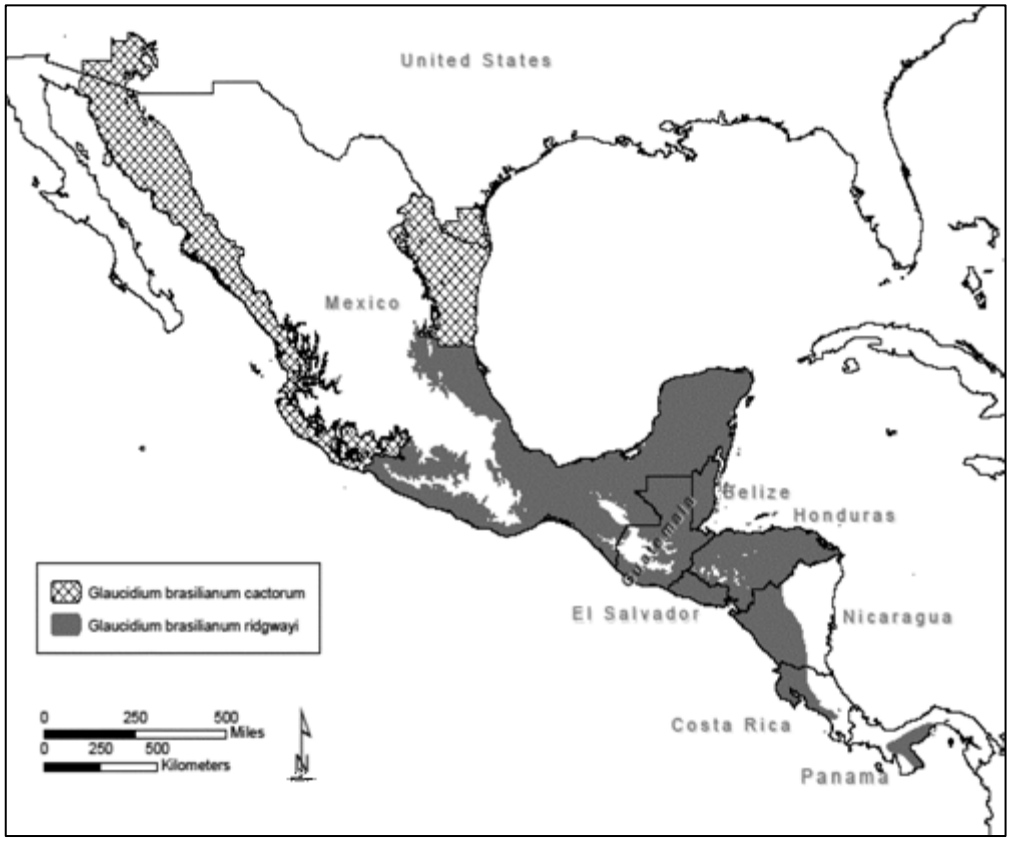
habitat out of the critical habitat zone. There is "the distinct possibility the Endangered Species Act is actually endangering, rather than protecting, species" surmised the study's authors.[97] Ironically, in 2006 the owl was delisted because it did not meet the scientific criteria for protection under the Act.

Cactus ferruginous pygmy-owl

Source: http://commons.wikimedia.org/wiki/File:Glaucidium_brasilianum_de_Mexico.jpg

One lesson from the owl's saga is that the Endangered Species Act's penalties, which result in uncompensated taking of private property, lead to shoddy science and poor decision-making. The Center for Biological Diversity, a pressure group that spends millions on litigation under the Act and producing mountains of paperwork but undertakes no practical, on-the-ground conservation, initially petitioned Fish and Wildlife in 1992 to list the owl. The argument for listing was always tenuous because the vast majority of the owl's population is in Mexico—southern Arizona is the northern limit of the bird's range. "The ferruginous pygmy-owl (*G. brasilianum*) reaches the northern edge of its distribution in Arizona and Texas," according to a study by several federal biologists and consultants. "[T]he abundance of a species tends to decline from the center to the edge of the range. Towards the edge, the distribution of a species also tends to be more patchy."[98]

Range of cactus ferruginous pygmy-owl



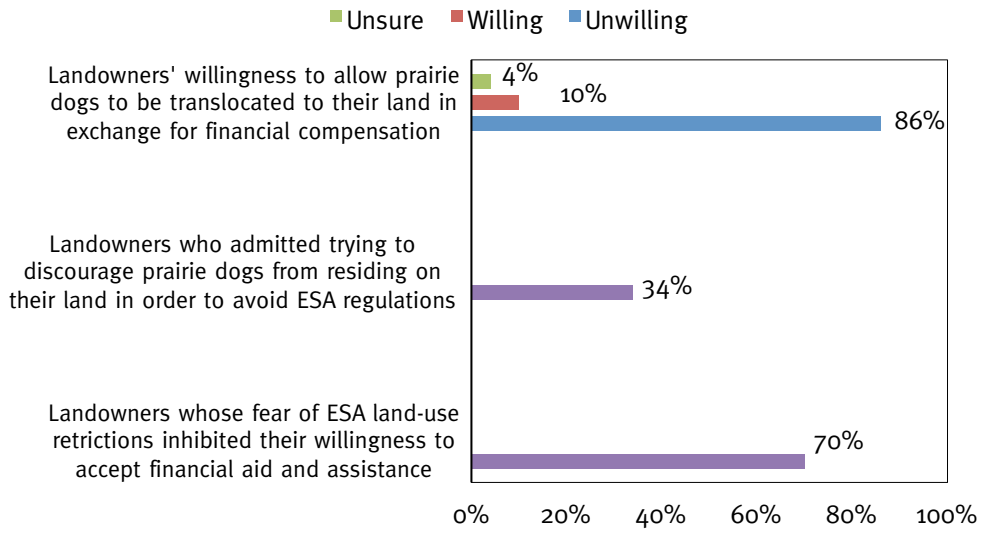
Cactus ferruginous pygmy-owl habitat is cross-hatched.

Photo obtained from 76 Federal Register, p.61858, October 5, 2011.

Nonetheless, Fish and Wildlife bowed to pressure and listed the owl in 1997. It is very likely that the Center for Biological Diversity was seeking to use the owl as a land-use control tool—essentially preventing economic development in places where the owl resides. Bureaucrats at the Fish and Wildlife Service were all too willing to go along for the ride because the costs were minimal, since Fish and Wildlife was not required to compensate landowners unable to use their land due to the listing, and they were able to avoid a fight with a vocal and litigious advocacy group.

Prairie dogs are regarded by most people as innocuous, even cute, but farmers in southern Utah who share their land with the aptly named Utah prairie dog have a very different view. Utah prairie dogs can eat significant amounts of crops, most notably alfalfa, and do significant damage to irrigation systems and agricultural fields by creating burrows. The U.S. Fish and Wildlife Service estimated prairie dogs cost farmers $1,500,000 annually due to lost crops and damaged equipment.[99] So some researchers conducted a survey of landowners in the prairie dog's range.[100] The survey revealed that one-third of landowners had taken actions to discourage prairie dogs from inhabiting their property. Also, very few landowners were willing to have prairie dogs translocated to their land, a management strategy for the species. Both of these responses from landowners were likely due to their fear of ESA regulations.

Figure 5: Harm to the Utah Prairie Dog Caused by the ESA



Source: Elmore et al., "Perceptions of wildlife damage," p.83

The ESA is so feared that it has even caused landowners to preclude reintroduction of species not yet protected by the Act. Take the case of David Cameron, professor emeritus of zoology at the Montana State University, recipient of an award from the Wildlife Society, and owner, until 2013, along with family members, of a cattle and sheep ranch in Montana. "The Camerons have had a long history of supporting and taking care of wildlife, sometimes to the consternation of our neighbors who think we overdo it," according to David.[101] His father reintroduced pronghorn, helping this native American species recover from a low of 13,000 animals to more than 500,000.[102]

Pronghorn

Source: http://commons.wikimedia.org/wiki/File:CMR_Pronghorn_USFWS.jpg

Following this tradition, David was eager to reintroduce grayling, a rare species of trout for which the Cameron ranch had ideal habitat. Then Cameron learned that the Fish and Wildlife Service was considering listing the grayling under the ESA. "My recollections of the horror stories abundant in stockmen's journals about the hazards of hosting an endangered species didn't help, and I sadly bowed out. It seemed a good deed would probably be punished, and life has sufficient complications without federal agents giving orders."[103]

Montana grayling

Source: http://www.fws.gov/mountain-prairie/refuges/refugesUpdate/images/PFW_slideShow/montanaPage/MT-PFW-grayling.jpg

Such fears are magnified in rural areas, where news of landowners being harmed as a result of the ESA is carried swiftly by word of mouth and through agricultural periodicals and other journals read by landowners. "How often has the ESA impeded biological restoration?" asked Cameron while testifying before Congress.[104] He added:

> *"How many times do you think this sort of thing has been repeated throughout the country? How often have people felt terrified by the consequences of supporting some poor creature on their habitat that they are responsible for managing? I think it is more often than you may think. And it is just one more step to proceed from failing to do a good deed to worrying about, hey, I have got something here which is pretty uncommon, maybe I had better get rid of it before somebody declares it an endangered species. And I know that that has gone on."*[105]

> *"Reasonable property owners are frightened and angry at you, the government, for managing with brick bats. Why does the hosting of a rare and troubled creature have to be a threat to their livelihood rather than a source of pride and pleasure?"*[106]

That the Endangered Species Act can have this effect on a lifelong rancher, conservationist and professional biologist is a telling and sad indictment of how the Act discourages conservation.

While these studies, as well as accounts from landowners like David Cameron and Ben Cone, indicate the Endangered Species Act's penalties are causing significant harm to species, some have argued otherwise. A study by Jeffrey Rachlinski, professor of law at Cornell University, of the status of plants listed under the ESA—which generally receive less protection than animals—concludes that the Act's punitive land and resource use control restrictions are beneficial to species conservation.[107] Yet this study is so flawed that it is simply not possible to draw this conclusion. The study omitted many variables—such as federal agency bias toward discounting the significance of plants on private lands, whether the study's conclusions about plants apply to animals, and that federal agencies may be manipulating data to give the ESA unwarranted credit for species conservation—that would have altered and perhaps invalidated the conclusion. Failing to take account of these variables resulted in a phenomenon in statistics known as endogeneity, which results in "a loop of causality between the independent and dependent variables."[108] But if other, or endogenous, variables are considered, then the statistical analysis can develop holes, and even fall apart. By failing to consider so many important endogenous variables, it is simply not possible for Rachlinski's study to make the conclusions it does about the ESA's effectiveness.

Part 6

Fighting to a Stalemate

In 1992, around the time the Endangered Species Act was growing more controversial because of its increasing reach, the law's funding authorization expired. While Congress has kept the Act going through annual funding appropriations, there have been many efforts to reform and reauthorize the law, all of which have failed because proponents and opponents of the law have fought themselves to a stalemate. "Both sides have enough power to prevent something happening that they don't like. But nobody has enough power to pass anything," Dale Goble, law professor at the University of Idaho and longtime expert on the Endangered Species Act, told the *Associated Press*.[109]

6.1 Superficial Reform

When Bruce Babbitt became secretary of the Department of the Interior in 1993, he insisted the Endangered Species Act was a tremendous success and only needed to be tweaked and implemented creatively to address the growing outcry over the law's penalties. So he launched a raft of initiatives—such as Safe Harbors, multi-species Habitat Conservation Plans, Candidate Conservation Agreements, No Surprises, Private Stewardship Grants, and the use of sound science—that have been enthusiastically expanded by succeeding administrations, both Democrat and Republican. At best, these reforms merely put a velvet glove over the Act's iron fist because they leave intact the penalties that cause the Act to fail on private lands by only softening the penalties around the edges. These so-called reforms show, however, that failing to help America's landowners and fix the Endangered Species Act is a bipartisan effort.

6.1.1 Safe Harbors

One reform that has garnered considerable attention is the Safe Harbors Program. Safe Harbors means landowners who sign up will not be held liable under the Endangered Species Act if additional species above the "baseline" number at the time the agreement is signed take up residence on their land. The point is to remove disincentives for landowners to attract additional endangered species to their land. Yet Safe Harbors provides no relief for the "baseline" species already on people's land. At the end of the day, Safe Harbors relies

heavily on landowners' fear of being further clobbered by the Endangered Species Act to get them to sign up.

6.1.2 Candidate Conservation Agreements

Another prominent reform is Candidate Conservation Agreements, under which people who would be affected if a species were to be listed under the ESA agree to protect it voluntarily, thereby preventing a listing. A prototype of what would become Candidate Conservation Agreements was initiated in 1990 by the Black Bear Conservation Coalition, an organization that tried to prevent the listing of the Louisiana black bear. (This is the same black bear subspecies that gave rise to the term "teddy bear" because when President Teddy Roosevelt was on a hunting trip in Mississippi in 1902 he refused to shoot a bear under what he thought were unsporting conditions.) The Coalition, which is still going strong, continues to garner widespread praise as an example of innovative, win-win endangered species conservation, focused on finding practical solutions to the conflict-ridden ESA that protect landowners' property rights. All of which sounds great. If only it were true.

Louisiana black bear

Source: http://commons.wikimedia.org/wiki/File:Ours_noir_de_belle_taille.jpg

In fact, the Louisiana black bear was listed under the Endangered Species Act in 1992, which would appear to be *prima facie* evidence of the failure of the Black Bear Conservation Coalition's effort. In a moment of candor, Murray Lloyd, one

of the co-founders and a former president of the Coalition revealed how the threat of a listing under the Endangered Species Act, "served effectively as a cocked two-by-four to keep everyone at the table" to negotiate the so-called voluntary agreement. He even thinks the Black Bear Conservation Coalition is "a model for natural resource conflict resolution."[110]

6.1.3 No Surprises

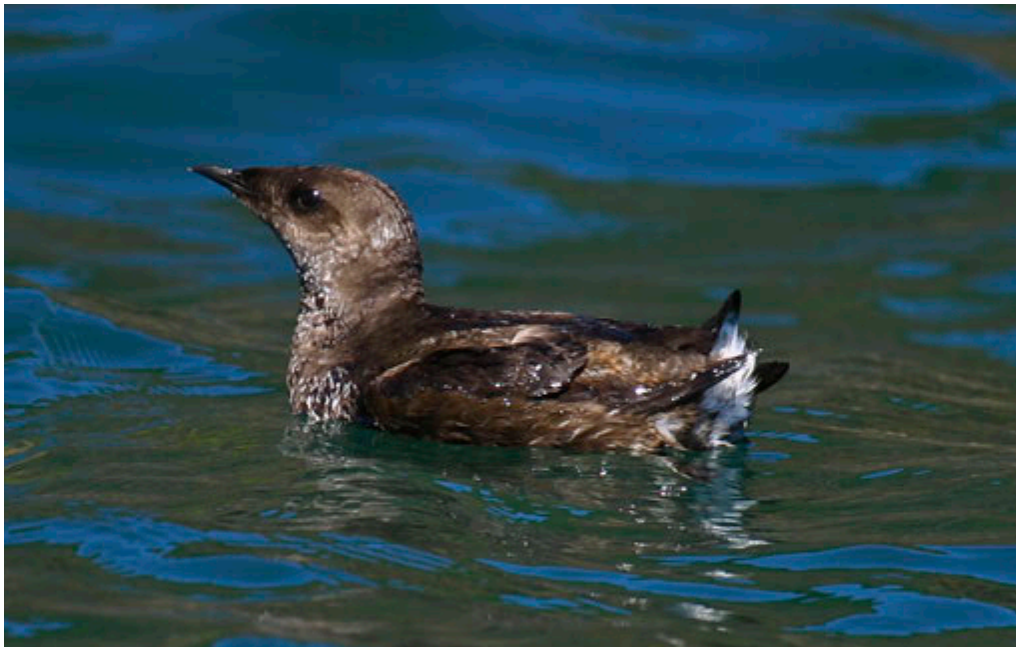
Over the past 20 years, No Surprises, which applies to Habitat Conservation Plans, is a reform that has received a good deal of attention. Habitat Conservation Plans are a provision under the Endangered Species Act's 1982 amendments in which landowners are given permission by the federal government to take a species and/or its habitat in exchange for setting aside land elsewhere as mitigation. As then-Interior Secretary Bruce Babbitt explained in a story in *The New York Times*:

> *"Landowners with private or commercial land have a legitimate concern. They want some assurance that, once they agree to be a party to an HCP and to mitigate the effects of their activities on listed species, we won't come back later for a second bite from the apple. 'No Surprises' addresses that concern in a very concrete way: like its name, it signifies that a deal is a deal and that there will be no surprises down the road."*[111]

Applying no surprises to HCPs appears to be a good idea that is fair to landowners by giving them regulatory certainty, which is something needed by people and businesses that earn income from their land. As with so many of the reform initiatives touted as being flexible and landowner-friendly, a closer look reveals a very different story.

Soon after Fish and Wildlife listed the spotted owl in 1990, the Murray Pacific Corporation, which owned about 53,527 acres of forest in Washington, ran into problems.[112] The presence of three owls—one pair and a single owl—put 40% of Murray Pacific's land (21,411 acres) worth about $214,000,000–$856,000,000 off limits. Faced with this, Toby Murray, who ran his family's company, agreed to a Habitat Conservation Plan for the owls in 1993. It seemed the ink had not even dried on the Habitat Conservation Plan when a marbled murrelet, another endangered bird, "flew over the west edge of the property," according to Toby Murray.[113] As a result, Fish and Wildlife again locked up about 40% of the company's land.

Marbled murrelet



Source: http://commons.wikimedia.org/wiki/File:Marbeled_Murrelet_%287172187354%29.jpg

With his company facing a virtual shut-down because of the Endangered Species Act, Murray was forced to come to the table again. This time, with strong urging from the Department of Interior, Murray decided to formulate a multi-species HCP to cover not only listed species, such as the owl and murrelet, but scores of other species, some of which might have the potential to be listed in the future. Furthermore, the multi-species HCP would contain Interior Secretary Bruce Babbitt's "No Surprises" guarantee.

The federal government was very keen to get Toby Murray to agree to the new plan so they could demonstrate to the public, members of Congress, the regulated community and media that, contrary to perception, the Endangered Species Act was actually very flexible and landowner-friendly. "A lot of companies will be watching what happens with Murray Pacific," said Mike Yeager of the Washington Forest Protection Association, the trade group for the state's bigger timber companies, to the *Seattle Times*.[114] With so much riding on the Murray Pacific multi-species HCP, the federal government put on a charm offensive. Vice President Al Gore, who enthusiastically backed the first spotted owl-only HCP, met twice with Toby Murray and urged him to adopt the multi-species HCP. Bruce Babbitt and other senior Interior Department officials also lobbied Murray, and Katie McGinty, chair of the President's Council on Environmental Quality, which coordinates environmental policy for the executive branch, labeled Toby Murray "an inspiration," according to a story in the *Seattle Post-Intelligencer*.[115]

In 1995, to much fanfare, the Murray Pacific Corporation signed the first multi-species HCP with No Surprises. The HCP was hailed as "a new way of doing business…saying yes to partnerships and to progress," according to comments by Katie McGinty in the *Seattle Times*.[116] "This proves the act works for business as well as fish and wildlife," Curt Smitch, federal coordinator of habitat conservation in Oregon and Washington, reportedly said.[117] "This is what we have been urging landowners to do from the beginning," remarked Jim Pissot of the National Audubon Society to the *Seattle Times*.[118]

The only problem is Toby Murray doesn't see it this way. "Even though they call these habitat conservation plans voluntary, I didn't feel it was that voluntary," he stated to the *News-Tribune*.[119] A look at the HCP and the circumstances surrounding it reveals why Toby Murray felt this way. Due to the Endangered Species Act, Murray was faced with the virtual shut down of his family's company so he was forced to negotiate a Habitat Conservation Plan with the federal government in an attempt to salvage the business and as much land as possible. Fish and Wildlife knew they had Murray over the barrel, and as a result Murray put 10% of the company's land, or 5,325 acres (containing timber worth $53,000,000–$213,000,000), off limits to logging in exchange for the right to use his own land. The cost of the HCPs was enormous. Murray Pacific would lose an estimated $200,000,000 in timber revenue over the multi-species HCP's 100 year span, which worked out to $2,000,000 per year. Furthermore, the company had to spend $650,000 to write and get approval for the first spotted-owl-only HCP, which included hiring biologists and lawyers.[120] Then the company had to spend another $1,500,000 for the multi-species HCP.[121]

Even though Toby Murray agreed to both HCPs under duress and thought they were not voluntary, he still had to do something to save his family's business. "It was either do a habitat conservation plan or forget about half this timber," he reportedly stated. "Give me a set of rules that are consistent. Bad, consistent rules are better than good, inconsistent ones."[122] This is the quandary landowners and businesses often find themselves in with the Endangered Species Act. They can either fight Fish and Wildlife and likely do so for years unsuccessfully. Or they can capitulate and try to salvage as much of their property's value as possible.

Yet in order to get landowners like Toby Murray to the negotiating table, the federal government relies on the threat of the Endangered Species Act's penalties: the cocked-two-by-four Murray Lloyd bragged about using. A Fish

and Wildlife Service employee who was intimately involved in both of Murray Pacific HCPs admitted as much in a thinly veiled reference to the power of the ESA's penalties to compel landowners' cooperation. According to Jim Michaels, who at the time was in charge of the ESA in Washington for the Fish and Wildlife Service, in a story in the *Seattle Times*:

> *"We've made a great effort since the owl was listed to bring industry to the table to talk about some options. We're hoping that, once the Murray Pacific plan goes out, others will read it and consider this alternative."*[123]

Another take on No Surprises, and the fact that the initiative offers little of substance, is offered by Barton Thompson, law professor at Stanford University, and one of the country's leading experts on natural resource and environmental law:

> *"Through its no surprises policy, the FWS tries to create a form of property right to insure property owners against future regulatory activities…Absent explicit statutory (and preferably constitutional) guarantees, however, property owners will be wary of the promised insurance. Even if property owners trusted the government and its no surprises policy, they would still have grounds for unease. Under the no surprises policy, the FWS reserves the right to require additional mitigation in "extraordinary circumstances" (although the mitigation cannot involve additional payments or involve land parcels set aside for development or land management under the original terms of the HCP)."*[124]

As Professor Thompson alludes to, "extraordinary circumstances" can apply to species and land not covered in the HCP. Given the ever-growing list of endangered species, the prospect of an extraordinary circumstance is very real for landowners who have signed HCPs. And as Murray Pacific's first HCP shows, extraordinary circumstances can crop up very quickly and unexpectedly, with the result that previous HCPs are rendered essentially worthless or of significantly less use to landowners.

6.1.4 Habitat Conservation Plans, Lawsuits and Surprises

Landowners such as Toby Murray and Ben Cone who have signed Habitat Conservation Plans should also be concerned because environmental pressure

groups and activists have long been unhappy with HCPs.[125] The objections boil down to a dislike of the federal government cutting deals with landowners in which some endangered species habitat is sacrificed in exchange for other habitat set aside as mitigation. Those unhappy with HCPs would in many cases prefer not to negotiate with landowners and simply use the Endangered Species Act as a club to stop land and resource development. Some environmental pressure groups have even sued over HCPs.

In 1984, two years after Habitat Conservation Plans were added to the ESA though the 1982 amendments of the Act, a coalition of groups—including local chapters of the Sierra Club and National Audubon Society—sued over the very first HCP (issued in 1983), which involved two species of endangered butterflies on San Bruno Mountain south of San Francisco.[126] Even though the plaintiffs lost, the lawsuit foreshadowed the future.

In 1996, a number of groups—led by the obscure Spirit of the Sage Council but including the more well-known Center for Biological Diversity, Forest Guardians, Humane Society of the United States, and Fund for Animals—sued the Interior Department over aspects of the No Surprises policy. These groups claimed No Surprises insufficiently protected species.[127] After pursuing the case for over a decade, the plaintiffs dropped it in 2007.[128]

In 1997, the Alabama Sierra Club, represented by EarthJustice, sued the Interior Department over a Habitat Conservation Plan for the Alabama beach mouse. The lawsuit alleged the HCP, which allowed the construction of two beachfront condominium towers in an area surrounded by development, did not contain sufficient mitigation and was based on unsound science.[129] In 1998 the court ruled in favor of the plaintiffs.[130]

In 2006, plaintiffs—including the Center for Biological Diversity and the San Diego Audubon Society—won their case against the federal government over the San Diego Multiple Species Conservation Plan. The Plan was a centerpiece of Interior Secretary Bruce Babbitt's push in the 1990s to show the Endangered Species Act was flexible and landowner-friendly. A key part of the San Diego HCP was the No Surprises assurance.[131]

Lawsuits against the federal government brought by groups objecting to various aspects of Habitat Conservation Plans have continued apace. In 2013, the Center for Biological Diversity sued again over the San Diego Multiple Species HCP, alleging the city of San Diego had not adequately fixed the Plan in response to the 2006 court ruling.[132] In 2013, a separate lawsuit was filed by three groups,

led by the Center for Biological Diversity, against Fish and Wildlife and the National Marine Fisheries Service over an HCP that includes spotted owl habitat in northern California.[133]

The future is anything but certain for landowners who have signed Habitat Conservation Plans, notwithstanding assurances from the federal government of No Surprises. Given that many environmental pressure groups, activists and academics have serious reservations about HCPs, as well as the willingness of some pressure groups to sue over the Plans, means that more objections and lawsuits are very likely in the future. The reality of more lawsuits, coupled with the uncertainty surrounding "extraordinary circumstances," means that the future for landowners who have signed Habitat Conservation Plans is unclear. This will likely come as a surprise to many landowners who thought they were obtaining regulatory certainty in exchange for signing 50- and 100-year Habitat Conservation Plans.

6.1.5 The Reality of Superficial Reform

It should not be surprising that the ESA ultimately works through threats and intimidation, given the legislation's substantial penalties. Furthermore, it should not be surprising that advocates of the Act see nothing wrong with this approach. The problem is that advocates often dissemble by publicly talking a good game of making the ESA more landowner-friendly, while in private acknowledging that they plan to continue to rely on threats of listing and enforcement to keep landowners in line.

Many advocates are ambivalent about the Endangered Species Act's penalties. On the one hand they acknowledge the ESA's penalties are counterproductive for species conservation. But on the other hand they want to retain the penalties as a means of forcing people to the negotiating table. This ambivalence is captured in a 1994 exchange Michael Bean had with someone who asked him a question about the new, landowner-friendly approach to the Endangered Species Act that became the Safe Harbors program Bean had just outlined in a speech to federal employees. Gary Meffee—then with the University of Georgia's Savannah River Ecology Laboratory and currently at the Vermont Center for Ecosystems—asked Bean whether the use of "punishment"—in the form of taxes to discourage lawful behavior, such as planting non-native pine species that grow quickly for timber but provide sub-optimal habitat for the red-cockaded woodpecker—should also be tried. Bean replied:

> *"I am not too optimistic that we're going to have the political wherewithal to impose new taxes on any sort of behavior in the immediate future. So I think it's a strategy worth pursuing if we could figure out how to achieve it politically…I fully agree that if we could figure out how to do that it would contribute substantially to the goal that I've outlined. What I'm voicing my apprehension about is who we can persuade in the legislature to impose such a tax."*

Shifting political winds explains Bean's pessimism. He made these comments on November 3, 1994, five days before the historic elections that gave Republicans control of Congress. Republicans tend to oppose the Act and taxation, and Bean foresaw that the likely new congressional majority would not be amenable to using either in order to punish landowners further.

It is important to distinguish between truly voluntary participation by private landowners in conservation efforts and so-called voluntary participation that is gained by using the threat of the Endangered Species Act's penalties. Most reasonable people would not consider participation gained through threats, intimidation, and the prospect of suffering a substantial financial loss, including the crippling of a business, to be voluntary.

It is also important to distinguish between incentives and disincentives. Adding incentives on top of the existing Endangered Species Act is another reform that has gained popularity because incentives have positive connotations and appear to offer a way out of the seemingly endless, conflict-ridden debates over how to reform the Act. Yet only focusing on incentives ignores the Act's massive disincentives, which are still left intact and will still continue to undermine species conservation. Layering incentives on top of the Endangered Species Act's existing highly punitive structure is like putting a shiny, new façade on a house with an unsound foundation and then claiming the house is as good as new. Any serious discussion of reforming the Endangered Species Act must distinguish between disincentives and incentives, and fix the disincentives before adding incentives. The central problem with the Endangered Species Act is not a lack of incentives, but rather the presence of overwhelming disincentives.

After the plight of North Carolina landowner Ben Cone garnered significant attention, the U.S. Fish and Wildlife Service cut him a deal in an attempt to get his embarrassing story out of the spotlight and to get him to withdraw the lawsuit he filed in the U.S. Court of Claims. Fish and Wildlife granted Cone a

Habitat Conservation Plan that allowed him to cut all the timber occupied by red-cockaded woodpeckers in exchange for several things (and which led him to withdraw his lawsuit):

1) Allow the agency to capture and translocate woodpeckers if their habitat might be logged.
2) Spend around $40,000 to provide mitigation for possible take of woodpecker habitat by drilling four nest holes per colony, or 48 holes, and hiring a biologist to monitor the woodpeckers.
3) Cease clearcutting.
4) Cone's assurance that he would do what he had been doing all along—managing his property in a way that created ideal woodpecker habitat.

Cone also sought and was granted another HCP, this one a Safe Harbors agreement so that he would not be liable for any additional woodpeckers that might occupy his property.

There is another important lesson from Ben Cone's experience with the Endangered Species Act. The resolution of Cone's ordeal—the two Habitat Conservation Plans—is portrayed by some as proof the Act is landowner-friendly and that so-called horror stories can be resolved easily if everyone just takes a deep breath and is reasonable.[134]

In reality, even after he was essentially exempted from the Endangered Species Act's penalties, Cone still harbored lingering anger over being punished for his outstanding land stewardship, being vilified by pressure groups, and for having to go through a painful, time-consuming and expensive ordeal, including spending around $100,000 alone on the two Habitat Conservation Plans—to say nothing of the tens of thousands of dollars he spent on legal fees and consultants prior to the two HCPs—to return to the situation he was in before being hammered by the ESA. It is hard to see these significant financial burdens and hard feelings as indications of how successful, flexible and landowner-friendly the Act can be.

6.2 Limited Effectiveness of Superficial Reforms

Superficial reforms, such as Candidate Conservation Agreements, Safe Harbors, No Surprises, and incentives without removing disincentives are implicit admissions that the Endangered Species Act's punitive approach has failed. But

while ESA supporters may partly conceal the ugly reality of the harm caused by the Act's massive disincentives to conserve species, such reforms are unlikely to make a substantial difference for several reasons:

1) Given the regulatory uncertainty surrounding the Endangered Species Act—such as the unpredictable and arbitrary way Fish and Wildlife treats landowners and the penchant of pressure groups to sue the agency to make the law even more onerous—landowners, especially those like Craig Schindler who have to make a living off their land, will find it very difficult to measure the value of a particular incentive now against the probability of being hit by the Act's penalties in the future.

The problematic nature of these superficial reforms has been commented on by several legal scholars, including Barton Thompson of Stanford University who stated the following about Safe Harbors and No Surprises:

> *"While a growing number of property owners are finding safe harbor agreements attractive, the uncertainty and distrust created by prior ESA implementation has hindered the government's attempts to market the safe harbor concept."*[135]
>
> *"A proactive regulatory scheme is not, however, a substitute for compensation. Absent broader compensation than is provided today, even a proactive scheme is likely to encounter evasive habitat destruction, since such a scheme would not eliminate the incentive to destroy habitat, but simply narrow the window of opportunity."*[136]

Richard Epstein, of New York University and the University of Chicago, commented on these initiatives, which he refers to as "covenants":

> *"[T]hese covenants are not universal in scope, and they require confidence that they will be respected over time when the remedies for government breach are uncertain at best. Absent strong ownership rights, the unmistakable incentive remains: destroy habitat now in order to preserve freedom of action later."*[137]

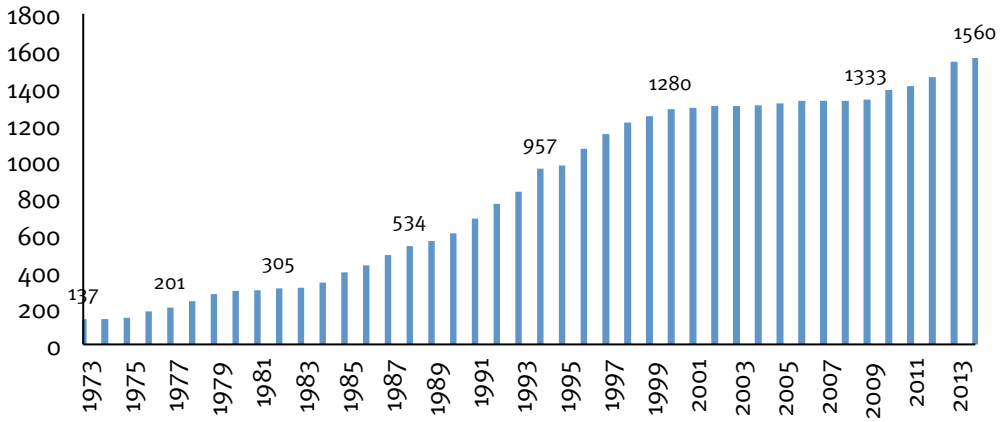
Jonathan Adler, of Case Western University, has written extensively on the Endangered Species Act's adverse consequences for species and has the following observation about these reforms:

"Recent administrations have sought to offset these effects through various programs and initiatives designed to encourage voluntary conservation efforts and provide landowners with greater regulatory certainty. Yet such regulatory assurances and "safe harbors" can only go so far to reduce the economic consequence of species listings for private landowners, and there is only so much flexibility in the law itself. Such reforms may ameliorate the anti-environmental incentives created by the Act, but they do not eliminate them."[138]

The observations of these three legal scholars are powerful evidence that simply layering incentives, or promises of no further regulation that may not be kept, on top of the existing Endangered Species Act will have limited effectiveness. These observations also strongly suggest that eliminating the penalties that are the impetus for counteracting incentives would be the most effective and efficient way to conserve endangered species.

2) As increasing numbers of species are listed, more and more landowners are becoming aware of the Endangered Species Act's penalties, and as a result want little to do with the law.

Figure 6: Number of U.S. Species Listed Under the Endangered Species Act (through August 19, 2014) *

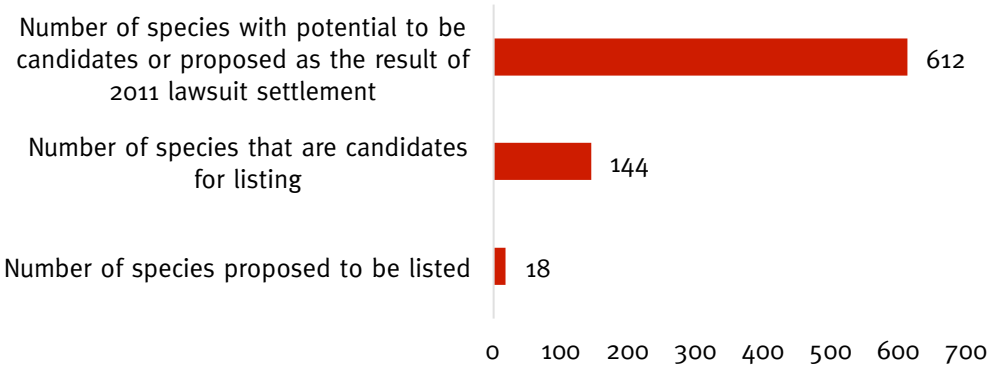


*There is a small discrepency, the reason for which is unknown, between the annual totals in this chart and those available from the U.S. Fish & Wildlife Service's website. The totals in this chart were determined by subtracting those species that have been delisted, or removed from the list of endangered and threatened species, by year, from the annual totals of species listed under the Endangered Species Act (which does not include delisted species). As of August 19, 2014, according to the Fish & Wildlife Service's online "boxscore" there were 1,549 U.S. listed species, while this chart's total is 1,560 species.

Sources: U.S. Fish and Wildlife Service, Environmental Conservation Online System: http://ecos.fws.gov/tess_public/pub/speciesCountByYear.jsp; http://ecos.fws.gov/tess_public/pub/boxScore.jsp; http://ecos.fws.gov/tess_public/pub/delistingReport.jsp; all accessed August 19, 2014.

Landowners are wary of accepting "carrots" from the government because there are always strings attached, and, like Craig Schindler and so many other landowners, they are also very hesitant to allow biologists on their land for fear other endangered species will be found. With the exception of Habitat Conservation Plans, which are part of the Act's 1982 amendments, these so-called reforms have been implemented administratively and are subject to change by federal regulatory agencies and legal challenge by pressure groups.

Figure 7: Potential Additions to the Endangered Species List (through August 19, 2014)



Sources: U.S. Fish and Wildlife Service, Environmental Conservation Online System; Center for Biological Diversity, "Landmark Agreement Moves 757 Species Toward Federal Protection," Press Release, July 12, 2011; U.S. Fish and Wildlife Service, Listing Accomplishments (May 2014), http://www.fws.gov/endangered/improving_ESA/pdf/20140528_MDL_2010_CNOR_Accomplishments.xlsx.

3) Common sense dictates that adding incentives on top of existing disincentives is inefficient because the disincentives counteract the incentives. It would be far more efficient to start with a clean slate by removing the disincentives and then adding incentives so that the true costs of conserving species could be seen by all. This approach would also be much more transparent and easier for all involved to understand, most importantly those harboring endangered species.

Unfortunately, despite the strong and growing evidence that the Endangered Species Act is causing significant harm to species, diehard proponents of the Act are locked in a war of attrition with America's landowners that cannot possibly be won. As evidence, look at Murray Lloyd's desire to punish landowners, and environmental pressure groups' attacks on an outstanding conservationist like Ben Cone with false and misleading information. Proponents refuse to relent and acknowledge the Act is counterproductive because they have committed so much to it politically, financially and emotionally. In many ways proponents are content to leave the situation as-is. The current Endangered Species Act—along

with the superficial administrative reforms, federal regulatory agencies' aggressive implementation of the Act, the ever-increasing number of protected species, and ever more litigious pressure groups—is giving activists what they may truly desire: a very powerful land and resource use control tool that is growing increasingly formidable. If activists were interested solely in species conservation, then they would have conceded decades ago that the Act needs a fundamental overhaul because of the harm it's doing to species.

6.3 Failed Reform

Since the early 1990s, when the Endangered Species Act's funding authorization expired, proponents and opponents of the Act have put forth numerous reform proposals and legislation, all of which have failed to break the stalemate.

Proponents of the ESA have been highly effective at portraying any reform, however marginal, as gutting the Act. Instead of accepting the need to remove punishments, proponents have backed efforts to reauthorize the Act that would make the ESA more onerous for landowners and hence make it even more counterproductive, especially on private lands.

One of the longtime goals of proponents is to move away from the current "emergency room" situation that is reactive and lists species individually, toward a more proactive approach in which the focus is on entire ecosystems and landscapes in which large groups of species may be listed. According to Patrick Parenteau, law professor at the University of Vermont and former vice president of the National Wildlife Federation:

> *"A national law is needed to deal with a problem as all-encompassing as extinction. Tribes, states and local governments have done a lot and could do much more but they cannot do everything necessary to manage wide ranging species like wolves and bears, let alone global species like turtles and whales. The threats to these species are increasingly global, such as climate disruption. The response to these threats must be ecosystem based and occur on a landscape scale."*[139]

Parenteau also stated there is a need to, "get to an ecosystem level approach to conservation and get away from this one-species-at-a-time approach."[140]

According to Bill Snape, then with Defenders of Wildlife and currently senior counsel with the Center for Biological Diversity, and Heather Weiner, his colleague at the time:

> *"A larger scale regional planning mechanism is needed in the ESA to achieve true ecosystem management and to address concerns about ecosystem fragmentation. Such a mechanism should be designed to protect ecologically important areas by identifying fragile habitats and guiding human development away from the most sensitive areas."*[141]

While there is a great deal of merit to an ecosystem approach from the standpoint of species conservation, this causes tremendous concern to opponents of the ESA and those in the regulated community. They see the ecosystem approach as putting the already onerous ESA on steroids because it would lead to the listing of many more species, encompass significantly more land, water and resources than are currently regulated, and do so under much more uncertain conditions. What constitutes a given ecosystem is inherently subjective and therefore infinitely flexible and changeable, both spatially and temporally. "You can't get three scientists in a room to agree on what an ecosystem is," asserted Dr. John Fay, a highly respected Fish and Wildlife Service botanist, in a story in the *Los Angeles Times*.[142] A textbook offered this definition:

> *"An ecosystem is a fluid, changing entity that undergoes various processes, moves energy and materials, and changes over time. Note also that this definition does not designate a spatial scale, because an ecosystem is a functional, not a spatial, concept. The scale is whatever one chooses, from a rotting log in the forest, to a lake and its shoreline, to a watershed, to a continent."*[143]

Or, as the Congressional Research Service stated:

> *"All parts of the planet, from the highest microbe drifting in the atmosphere, to the cockroaches in a walled garden, to the most exotic species in deep ocean trenches, are all parts of ecosystems. Moreover, all of these species can be considered parts of other ecosystems ranging up to the entire planet, each defined to suit the convenience of the observer.*
>
> *[E]cosystems are difficult to separate from each other, and some would argue that there should be no attempt to do so. For those who question the legitimacy of making the attempt, a physical boundary around an ecosystem makes as much sense as a physical boundary around photosynthesis or the Federal budget process."*[144]

There is nothing inherently wrong with the *idea* of basing endangered species conservation on ecosystems; in fact there is much logic to it. The problem lies with the *implementation* of ecosystem conservation for endangered species. Absent removing the Endangered Species Act's penalties, conserving ecosystems will only serve to make an already coercive law substantially more coercive. This will have the entirely predictable result of making the Act fail even worse on private land because as progressively more landowners fall under the ESA's authority, they will seek to rid their property of species and habitat.

While proponents of the Endangered Species Act have focused on measures that would make the law more onerous and other initiatives that do little to ameliorate the Act's penalties, opponents of the ESA have been ineffective. When Republicans took control of Congress in 1995, they were determined to reform the Endangered Species Act, and they have been at it sporadically for the past 19 years. Proponents of the Act almost invariably claim these efforts will eviscerate the law, while opponents assert there is a need to strike more balance between species conservation and lawful land and resource use. Efforts to find middle ground, however, have come up short for a number of reasons.

Meanwhile, powerful members of the regulated community, such as the timber and farm lobbies, have done two things to undermine their cause. First, they have become increasingly enamored of superficial reform, such as Safe Harbors and Candidate Conservation Agreements. Second, and more significantly, by focusing on symptoms rather than the root cause of the Endangered Species Act's failures, they have actually stymied productive reforms.

After several unsuccessful attempts in the 1990s and 2000s to overhaul the entire Act, a number of members of Congress have since focused on symptoms, such as trying to fix the scientific standards by which species are listed and conserved, as well as trying to curtail lawsuits that have been driving much of the process by which species are listed. Symptom-based reform is truly akin to rearranging the deck chairs on the Titanic. The fact is, the Act is fundamentally flawed.

Symptom-based reform also doesn't work politically for a number of reasons:

- Most importantly, it is not centered on conservation of endangered species; it is instead focused on the effects the Endangered Species Act has on people, such as shoddy science and lawsuits resulting in federal species protection measures that restrict people's ability to earn a living from using land and natural resources. While this people-focused approach appeals to some members of Congress and their supporters, the reality is there are relatively

few of them. In order for Endangered Species Act reform to garner widespread support there must be the recognition that most members of Congress, and the American people for that matter, are more interested in an approach to conserving endangered species that is focused on species, not people. A focus on people is off-putting to most Americans because it appears contrary to the goal of conserving endangered species.

- A useful example of the need to focus on the well-being of the intended recipients of legislation is federal welfare policy. For decades, critics of federal welfare programs focused on what they saw as wasteful spending, including labeling welfare recipients with derogatory terms like "welfare mothers." It was not until the mid-1980s and early1990s, when reform advocates such as Charles Murray and Marvin Olasky reframed the issue as one of compassion for the poor by showing how welfare hurt the very people it was supposed to help by fostering dependence instead of independence, that reform efforts gained significant traction. The result was the landmark 1996 welfare reform legislation that pushed recipients to get jobs so they would not become dependent on welfare for long periods of time. The legislation was introduced by Republicans but supported by and signed into law by President Clinton, a Democrat.
- Symptom-based reform cedes the moral high ground to proponents of the ESA who claim their objective is to make the Act work more effectively for endangered species. In fact, a far better way to make the Act more effective would be to link species conservation to protection of landowners' property rights and remove the penalties that cause the Endangered Species Act to be counterproductive for species. Furthermore, if the federal government was no longer able to use the Act as a means of cost-free land-use control, then the incentives to use thin data and lawsuits to list species would be greatly reduced.
- The Endangered Species Act is such a hot-button issue that any proponents of reform will probably only get one bite at the proverbial apple. So it is preferable to go for a complete overhaul rather than a patch job.
- Endangered Species Act reform has been dragging on for over 21 years, with numerous pieces of legislation introduced but failing to become law. Many members of Congress are fatigued about the issue and most members are afraid to touch it because of its hot-button status. So a new, innovative approach that works for species and people, instead of yet another rehash or the narrow purview of symptom-based reform, is more likely to garner interest in Congress and beyond.

- In light of the previous points, if symptom-based reform were to succeed and become law it might well foreclose more substantive reform for many years. For example, two bills currently before Congress—HR. 1314 in the House and S. 19 in the Senate—seek to curtail lawsuits that result in settlements with Fish and Wildlife in which hundreds of species are listed. Were these bills to become law, proponents of the ESA would likely claim the Act had been gutted and would go to extraordinary lengths to block other bills to amend the law. Most members of Congress, especially those who voted for the amendment but were not the small number heavily invested in ESA reform, would feel they had expended precious political capital on the Act and so would have no appetite for further reform.
- Symptom-based reform quickly peters out because the minutiae involved makes it difficult for more than a small handful of people with specialized knowledge to argue the issues effectively or with much passion. This inhibits building the type of broad-based coalition needed to reform the Endangered Species Act. It's hard to get many members of Congress and the general public excited about technicalities like sound science and lawsuits. Furthermore, when symptom-based reform fizzles out this leaves proponents of it discouraged and wary of tackling endangered species reform again.
- Symptom-based reform plays directly into the hands of the law's most ardent defenders who portray the members of Congress involved in it as a bunch of flat-earthers trying to circumvent science and the judicial system. An example of how symptom-focused reform backfires occurs when Endangered Species Act proponents periodically organize letters opposed to congressional sound science initiatives that are signed by hundreds of biologists, including many of the most prominent in the field, such as Edward O. Wilson of Harvard, Jared Diamond of UCLA, Daniel Simberloff of the University of Tennessee, Stuart Pimm of Duke University and Peter Raven of the Missouri Botanical Garden and the University of Missouri. These letters get a good deal of media attention and the members of Congress targeted end up looking like know-nothings.
- Advocates of reform have been too impatient and too distracted, and have not taken a long-term view of reform. Instead, they should be focusing on the Endangered Species Act's Achilles' heel: that the law may well be causing more harm than good to the species it's supposed to protect. Reform advocates would do well to take a page from environmental pressure groups' playbook. A good example is a number of these groups patiently spent decades pushing the federal government to designate millions of acres of California desert as national parks and preserves. In 1994 they finally succeeded when the California Desert Protection Act became law.

- While proponents of the Endangered Species Act have been relatively cohesive, opponents have been fractured. Most problematic has been the willingness of big business, in particular the timber industry, to be enthusiastic advocates of superficial reform like multi-species Habitat Conservation Plans and symptom-based reform like sound science. This has left small and medium landowners out in the cold because they generally cannot afford to cut deals, sacrifice land and resources as mitigation to get the deals approved by the federal government, and then pass costs on to consumers.

By contrast, fundamental reform is the rising tide that raises all ships—the enormous number of species that depend on private lands, all private landowners, including those like Craig Schindler who harbor endangered species, proponents of the Endangered Species Act focused on species conservation, and opponents concerned about the costs the Act imposes.

Focusing on symptoms essentially reorganizes the Act rather than reforms it because the penalties at the heart of the law's problems are left untouched. Instead of micromanaging issues like science and the process by which species are listed, reform advocates would be better served focusing on the big picture of the harm to species caused by the Act.

Part 7

Breaking the Stalemate

The only way to break the stalemate and fix the Endangered Species Act is to come up with a solution that works both for endangered species and the private landowners who harbor these species. While there are other interested groups, such as biologists and activists, reform must focus on landowners because they bear the very real costs of harboring species, which means they hold the key to successful endangered species conservation.

In order to break the stalemate, proponents and opponents must each do two things:

1) Take seriously the issues the other side cares about.
2) Address these issues with legislative action.

As Michael Bean noted, when he was with the Environmental Defense Fund (and referred to both sides as "camps"):

> *"Neither camp sees much legitimacy in the other's position, and in the sharply polarized Congress that exists today, the result is total impasse…There is little prospect for that impasse ending, at least not until more members of the two camps acknowledge that both sides have legitimate concerns. The Endangered Species Act has often been too much of a burden for landowners and others, but it has also been much too ineffective for many of the species it seeks to conserve. Crafting new ideas, even experiments, that aim to reduce the burdens of ESA while increasing its effectiveness is the key to breaking the impasse."*[145]

Opponents must acknowledge and respect that endangered species conservation and species extinction are legitimate issues about which proponents are genuinely concerned. So opponents must advocate an approach to reform that is beneficial to species conservation. One of the constant complaints from proponents over the past 40 years is that the ESA is badly underfunded, especially given the difficulty of, and long time frames needed for, conserving endangered species. If opponents were to commit to supporting a significant increase in dedicated funding for endangered species conservation through the reallocation of existing funding—such as the Land and Water Conservation

Fund, which will be discussed below—this could help convince proponents to move away from the ESA's coercive and counterproductive approach.

By the same token, proponents must recognize and respect opponents' concerns about the costs the Act imposes on landowners, various levels of government and economic activity. Therefore proponents need to promote Endangered Species Act reform that strikes more of a balance between species protection and human activities. There are any number of ways this can be done, the most substantive of which is to remove the penalties that impose these costs and also cause the Act to work against its goal of conserving endangered species.
As with any negotiation, each side must make sacrifices and meet the other half-way if substantive reform of the Endangered Species Act is to occur. Proponents of the Act who genuinely care about species conservation must give up the notion that the law is working well and only needs to be tweaked. Meanwhile, opponents have to focus on the big picture of linking protection of species and property rights instead of convincing themselves that fiddling with symptoms like scientific standards and the judicial process, or superficial measures like No Surprises, Candidate Conservation Agreements and Habitat Conservation Plans constitutes substantive reform.

In the case of highly emotive and politically charged issues such as endangered species conservation, it is all the more important for each side to make serious efforts to address the others' concerns. Instead of doing the least possible, each side should engage in acts of goodwill and confidence-building to convince the other they are serious about reform.

7.1 A Path Forward

Fortunately, a path forward has been offered by six of the Endangered Species Act's foremost proponents. Sam Hamilton, while he was head of the Fish and Wildlife Service in Texas, observed in *U.S. News and World Report*:

> *"The incentives are wrong here. If I have a rare metal on my property, its value goes up. But if a rare bird occupies the land, its value disappears."*[146]

When he made this observation in the mid-1990s, Hamilton was notorious among Texas landowners for his aggressive approach to implementing the Endangered Species Act that made life difficult for many of them. Ironically, this approach helped cause the very problem he lamented, and that Larry McKinney of the

Texas Parks and Wildlife Department thought was causing more harm than good to the golden-cheeked warbler and black-capped vireo.

It just so happened that Hamilton's boss at the time knew how to solve the problem. Mollie Beattie, while director of the Fish and Wildlife Service, in an extraordinary moment of candor, compared the Endangered Species Act to the U.S. Department of Agriculture's Conservation Reserve Program (CRP) in *Beef Today*, a trade publication of the cattle industry:

> *"I think this [the CRP] really, really opened people's eyes to what could be achieved in a basically non-regulatory, voluntary program. If there were an incentive to make the best habitat [for endangered species], we'd be miles ahead."*[147]

Michael Bean, and his then-colleagues at the Environmental Defense Fund—Robert Bonnie, Tim Male and Tim Searchinger—understood very well this two-step process of first removing disincentives and then adding incentives. According to them:

> *"Removing perverse incentives is a necessary first step to effective conservation. Ensuring that private stewardship is rewarded and that it is made easy by both federal and state laws is also an important part of encouraging landowners to manage their lands in ways that conserve natural ecosystems."*[148]

As Mollie Beattie knew, the Conservation Reserve Program represents a very promising model for reforming the Endangered Species Act. Landowners in the Conservation Reserve Program receive annual payments in exchange for signing 10–15 year contracts to remove from production land deemed "environmentally sensitive." There's a reason why so many landowners willingly contact their local office of the Department of Agriculture but not the Fish and Wildlife Service. As Mollie Beattie observed, landowners are happy to enroll their property in the Conservation Reserve Program because they not punished and receive cash. By contrast, endangered species bring heartache and reduced land values. Currently there are approximately 26 million acres, in more than 375,000 farms, enrolled in the Conservation Reserve Program at the cost of $64 per acre[149] In the USDA's 2014 budget, $6.2 billion is allocated to conservation, out of a total budget of $146 billion, of which approximately $2.2 billion (36% of the amount spent on conservation) is for the CRP.

U.S. Department of Agriculture, Natural Resource Conservation Service agent (blue jacket) assisting a landowner with Conservation Reserve Program tree planting project in Muscatine County, Iowa

Source: http://commons.wikimedia.org/wiki/File:NRCSIA99273_-_Iowa_%283241%29%28NRCS_Photo_Gallery%29.jpg

7.2 Endangered Species Reserve Program

A new approach for endangered species conservation—let's call it the Endangered Species Reserve Program (ESRP)—would likely be far more successful than the current punishment-based ESA system. A new approach is also appealing because it is a clean slate that allows people on all sides of the debate to step back from the conflict-ridden Endangered Species Act and take a broader view of how best to conserve imperiled species.

Aldo Leopold, the late author, professor of wildlife management and conservation icon, grasped the need for wildlife conservation efforts to focus on providing incentives to landowners, and for such efforts to be innovative, varied and proactive, instead of laws that are reactive and create conflict. As Leopold so presciently stated in his classic 1934 paper, "Conservation Economics":

> *"This paper forecasts that conservation will ultimately boil down to rewarding the private landowner who conserves the public interest. It asserts the new premise that if he fails to do so, his neighbors must*

ultimately pay the bill. It pleads that our jurists and economists anticipate the need for workable vehicles to carry that reward. It challenges the efficacy of single-track laws, and the economy of buying wrecks instead of preventing them. It advances all these things, not with any illusion that they are truth, but out of a profound conviction that the public is at last ready to do something about the land problem, and that we are offering it twenty competing answers instead of one. Perhaps the cerebration induced by a blanket challenge may still enable us to grasp our opportunity."[150]

The Endangered Species Reserve Program would essentially function as a contract program like the Conservation Reserve Program. The ESRP would compensate landowners for periods of around 10-15 years in exchange for agreeing to conserve endangered species habitat. There is also a wide range of innovative proposals (see sub-sections 8.7 and 8.8 of this study), such as rewarding landowners for producing endangered species, or for providing cash bonuses to groups of landowners who manage contiguous land parcels for the benefit of endangered species. The ESRP would function best by being flexible enough to allow for a wide range of approaches to compensate landowners. Flexibility is also needed because ecological conditions can change over time and because, as will be discussed in the subsection 8.4.2, landowners strongly dislike initiatives that lock them in to long-term or permanent arrangements, such as perpetual conservation easements.

The Endangered Species Reserve Program has four additional aspects that would appeal to those who are truly interested in conserving imperiled species.

1) It would eliminate the wasteful lawsuits that have increasingly driven the process by which the Endangered Species Act is administered. Over the past ten years, the Endangered Species Act has become increasingly bogged down in petitions by activist groups to list hundreds of species, which result in lawsuits against the Fish and Wildlife Service over technicalities that have nothing to do with actual conservation, such as the agency's inability to meet statutory deadlines for responding to the ever-growing mountain of petitions.

   This has earned these groups, in particular the Center for Biological Diversity (CBD), the ire of conservationists, especially because the group is often reimbursed by the federal government for its many successful procedural lawsuits. "The amount of money CBD makes suing is just obscene," Amos Eno, a prominent conservationist and founding president of the Resources First Foundation, reportedly said. "They're one of the reasons the Endangered Species Act has become so

dysfunctional."[151] According to Eno, the federal government could, "recover and delist three dozen species," with the money and staff time spent dealing with lawsuits from the Center for Biological Diversity.[152] The Endangered Species Reserve Program would eliminate this waste because there would be no citizen suit provision. The ESRP would put the Fish and Wildlife Service and the National Marine Fisheries Service back in the business of being able to devote significantly more resources to actual conservation.

2) The Endangered Species Reserve Program would free-up the Fish and Wildlife Service and National Marine Fisheries Service to make more rational decisions about which species to protect, instead of being required to respond constantly to lawsuits from activist groups. The federal government and non-profit groups like the Nature Conservancy have extensive data on what species and habitats are most in need of conservation. These data could be used much more effectively if the endangered species conservation process were driven more by science rather than lawsuits.

   The aspect of the Endangered Species Reserve Program that may be hardest for some to grasp, especially those steeped in the intricacies of the Endangered Species Act, is its simplicity. Instead of micro-managing issues as currently occurs under the Endangered Species Act, such as the definition of species' distinct population segments or what constitutes "harm" to species, the Endangered Species Reserve Program would not specify these issues. Rather, it would employ a system to score habitat for endangered species, much like the Environmental Benefits Index used under the Conservation Reserve Program.[153] Such a scoring system would incorporate both the biological value and the financial cost of conserving endangered species habitat to determine the most efficient and cost-effective expenditures.

3) The Endangered Species Reserve Program would most likely result in tens or even hundreds of thousands of landowners emerging from the shadows and volunteering that they have endangered species on their land. If landowners were free from the fear of being clobbered by the Endangered Species Act, then the most significant barrier standing in the way of a more successful approach to conserving endangered species would be removed.

4) From a political standpoint, the Endangered Species Reserve Program is very feasible because there are landowners in every state but Arizona enrolled in the Conservation Reserve Program. As a result, many members of Congress, as well as state legislators, already have constituents enrolled in the program

and therefore can easily understand applying a Conservation Reserve Program approach to endangered species. Federal and state legislators are often hesitant to stick their necks out on an issue, especially if it is a hot-button issue like protecting endangered species. Fortunately, the presence of the Conservation Reserve Program gives politicians a good deal of the cover they will need to champion the Endangered Species Reserve Program.

7.3 Funding the Endangered Species Reserve Program

Funding is critical if the Endangered Species Reserve Program is to be politically viable. But to pass muster it is important that it not require the appropriation of additional funds. There are a number of ways to fund the ESRP in a budget-neutral manner—or even saving money. For example, funding can and should be cut from existing programs that currently undermine species conservation, such as the numerous energy and agricultural subsidies. Indeed, cutting these programs that negatively impact conservation would be a win-win. Politically, there is broad support for cutting agricultural subsidies. For example, in 2013 Senators Richard Durbin, a Democrat, and Tom Coburn, a Republican, sponsored an amendment to the Farm Bill to cut subsidies to crop insurance for higher income farmers, which passed 59–33.[154] Subsidy reform is also supported by politically influential individuals such as the rock star Bono, free-market groups such as Reason Foundation, Heritage Foundation and Cato Institute, the pro-ESA National Wildlife Federation and Defenders of Wildlife, and groups in favor of reduced federal spending such as the National Taxpayers Union and Taxpayers for Common Sense.

Another potential source of funding for an Endangered Species Reserve Program is the Land and Water Conservation Fund, a federal program established by Congress in 1965 that currently has a $900 million spending limit. Fees paid to the federal government from offshore oil and gas leases are the main source of income for the Fund, from which are provided funds and matching grants to federal, state and local governments for the acquisition of land and water, and easements on land and water, as well as funds for conservation and recreational projects. Instead of using the Land and Water Conservation Fund to add yet more land to the federal estate, which is already about 30% of the U.S. land area, it could be spent achieving higher-value conservation outcomes through the ESRP.

There is also an opportunity for creative compromise. Authorization for the Land and Water Conservation Fund is set to expire in January 2015. Virtually all of the major environmental pressure groups, which also happen to be advocates of the

Endangered Species Act, support the Land and Water Conservation Fund. These groups have complained for decades that the Land and Water Conservation Fund has never been fully funded, by which they mean the spending limit has never been met. This is because the spending limit is not mandatory, so Congress siphons off the annual balance not spent on conservation for other purposes that may have nothing to do with conservation. From 1965–2010, Congress appropriated less than half the nearly $33 billion that accrued in the Fund for conservation purposes.[155] This has long been a sore point with pressure groups, who contend the entire spending limit should be spent each year on conservation. With reauthorization looming, pressure groups are pushing hard for a long-cherished goal: to pass legislation mandating 100% of the Fund's spending limit go toward conservation. Meanwhile, non-governmental organizations and members of Congress who don't like the Land and Water Conservation Fund and would like to see it abolished, because it converts private property to public property, also tend to be opponents of the Endangered Species Act.

In all likelihood, however, the Land and Water Conservation Fund will continue to exist. The Fund is popular among many members of Congress, even those generally viewed as fiscal conservatives because it provides funds for the types of feel-good recreation and conservation projects that many members find appealing. Here lies the potential for a deal. If those in Congress who don't like the Land and Water Conservation Fund agree to vote for legislation mandating the spending limit be fully funded, then those in Congress who like the Fund need to agree that, as part of the legislation, the ESA's penalties will be removed and all the funding will go toward paying landowners under an Endangered Species Reserve Plan, or some similar compensation initiative.

The Environmental Defense Fund aptly identified the opportunity for proponents and opponents of the Endangered Species Act to work together on the funding issue:

> *"Given the political stalemate that continues to surround national endangered species issues, it is unlikely that Congress will provide substantial funding for incentive programs without some measure of support from both landowner and environmental interests. In the final analysis, the funding necessary to conserve endangered species on private land can be secured if environmentalists and landowner groups can convince Congress of its utility."*[156]

Reallocating funding for the proposed Endangered Species Reserve Program is at least somewhat appealing to many opponents of the Endangered Species Act

because it does not result in additional spending and would be more transparent. In its current form, the Endangered Species Act represents an especially troubling form of regulation because while the effects on the many tens, or even hundreds, of thousands of landowners like Craig Schindler can be significant, these are hidden from view, unknown but to the landowners themselves. A fundamental tenet of a properly functioning democracy is transparency, which allows people (including policy makers) to make informed decisions and helps prevent government abuse and corruption.[157] A new Endangered Species Reserve Program would make the taxpayer costs of species conservation more transparent and therefore better subject to political oversight. Furthermore, as Jonathan Adler of Case Western Reserve University remarked in a related context:

> *"Compensation can also help transform the relationship between the government and private landowners so as to encourage greater trust and openness in environmental policy. Many landowners are very willing to cooperate with conservation goals, so long as they are not forced to bear the lion's share of the cost. Many landowners are often naturally willing to learn about, and even enhance, the ecological value of their land. Again, however, this must be something for which they will not be punished economically."*[158]

Substantially increasing funding for endangered species conservation by reallocating existing funding is very appealing to supporters of the Endangered Species Act for three reasons:

1) As with the Land and Conservation Fund, ESA supporters have complained for decades that the Act is underfunded. The National Wildlife Federation, in a 2007 report on the need to increase funding for implementing the Endangered Species Act, claimed the Act is "chronically under-funded."[159] The report estimates that if the $470 million the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the agency with responsibility for marine species under the Act, although Fish and Wildlife dominates implementation of the ESA) received from Congress in 2007 to implement the Act was increased to $693 million by 2012 it "would be enough to meet this goal" of conserving sufficiently all species listed under the Act.[160] This figure is taken from a 2002 article in the journal *BioScience* by a number of highly respected experts on endangered species conservation.[161]

   As Michael Bean, then with the Environmental Defense Fund, put it: "if we are really serious about preventing extinctions of any plant or animal in the

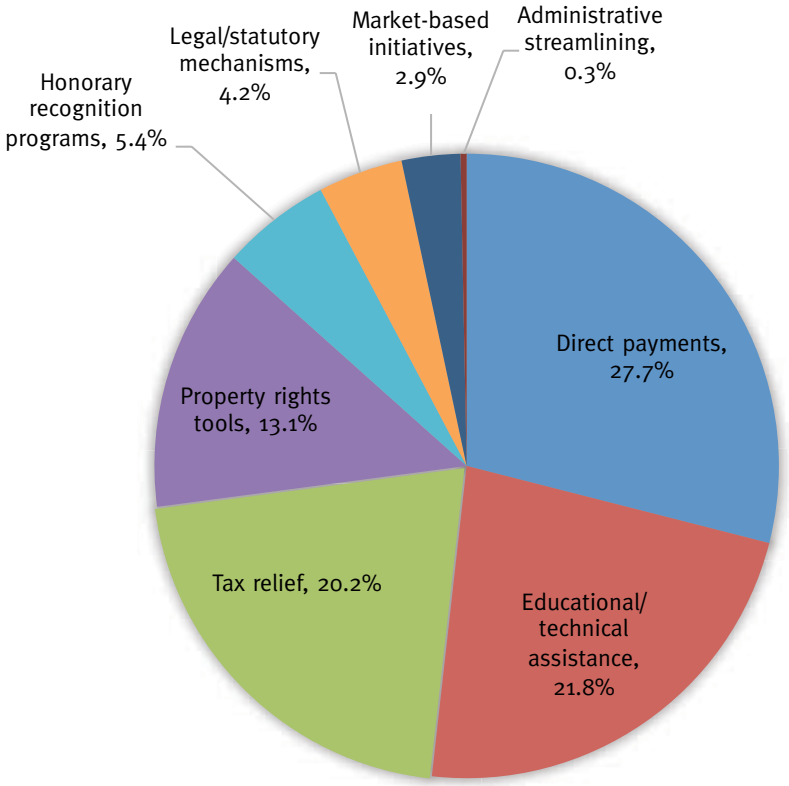
United States—as the act now mandates—it is going to take resources that far exceed what Congress has provided up to now."[162]

So adding $900 million through the Land and Water Conservation Fund, on top of the $413 million Congress appropriated to implement the Endangered Species Act for Fiscal Year 2012, would bring total endangered species funding to in excess of $1.3 billion, thereby more than tripling current funding levels. Such an increase in funding is likely necessary for the Endangered Species Reserve Program to be politically viable, in particular convincing supporters of the Endangered Species Act of the Program's feasibility.

Another source of funding for endangered species conservation is the more than 400 state-based conservation incentives programs in all 50 states. In a 2002 report, Defenders of Wildlife estimated these programs cover a minimum of 66 million acres, but the total is almost certainly higher because acreage data were only available for 51% of the programs.[163] It bears noting that most of these programs do not operate in isolation, as 62% consist of partnerships with the federal government, state agencies other than the one running a given incentive program, and non-governmental conservation organizations.[164]

The most popular type of state-based program is direct payments to landowners, which is what is done through the federal Conservation Reserve Program and the proposed Endangered Species Reserve Program. Also, the top three most prevalent state-based programs, which constitute 73% of the total, all have explicit financial benefits (e.g., direct payments and tax relief) or implicit benefits (e.g., educational and technical assistance from which landowners benefit but don't have to pay).

Figure 8: Types of State-Based Incentive Programs for Habitat Conservation



Source: Defenders of Wildlife, Conservation in America, p. 17

Like the Conservation Reserve Program, the state-based programs have a huge number of participants. At least 171,300 people receive funding, but this is a significant undercount because these data were from only the 41 states that responded to Defenders of Wildlife's survey, and more than half the respondents from state government either did not respond to the questions or know the answer.[165] Most of these state-based programs are relatively new, with 50% in existence since 1990.[166] This provides an indication of the demand for such programs and the willingness of landowners to conserve wildlife and habitat.

While the focus of the survey was on incentives, there was an acknowledgement of the need to address disincentives: "Along with increasing funding levels for incentive programs, removing disincentives which make it difficult for landowners to conserve wildlife habitat must be encouraged."[167]

Combining existing federal and state conservation funding under an Endangered Species Reserve Program, or perhaps ESRPs based in each state, would result in a massive funding increase for endangered species conservation. Moreover, pooling funding, or at least coordinating action at the federal and state levels, would result in a more comprehensive and effective approach to funding endangered species conservation.

Aldo Leopold again provides useful words of wisdom, this time on the issue of funding:

> *"The thing to be prevented is destructive private land-use of any and all kinds. The thing to be encouraged is the use of private land in such a way as to combine the public and the private interest to the greatest possible degree. If we are going to spend large sums of public money anyhow, why not use it to subsidize desirable combinations in land use, instead of to cure, by purchase, prohibition, or repair, the headache arising from bad ones?"*[168]

2) In the past 10 years it has become increasingly clear that many endangered species are what is known as "conservation reliant." This means that these species will depend indefinitely on a variety of conservation activities to ensure their continued survival because the threats to these species are impossible to eliminate and because many species require constant habitat maintenance. These actions can include predator and parasite control, prescribed fires, and mowing and grazing.[169] A classic example is the red-cockaded woodpecker of the southern U.S., which evolved requiring frequent, low-intensity fires to maintain the open, park-like forests it inhabits. Historically, fires would occur due to lightning or Native Americans setting them to improve habitat for hunting. Over the last hundred years or so, fire suppression by humans has reduced the frequency of fires. So the red-cockaded woodpecker is reliant on people maintaining its habitat through controlled fires, mechanical brush removal, or applying herbicides.

   A number of prominent scientists estimate that 84% of species under the Endangered Species Act are conservation reliant. The implication of this is quite profound because it means that the Act's ultimate goal—recovering species so that they no longer require the Act's protection and can be delisted—is unattainable for the vast majority of species.[170]

Longleaf pine forest

Source: http://commons.wikimedia.org/wiki/File:Pinus_palustris_forest.jpg

The fact that so many species will likely require indefinite conservation has two implications. First, it reinforces the merits of a large, dedicated source of funding for endangered species conservation. Second, it provides additional justification for eliminating the Endangered Species Act's penalties because the goodwill and willing cooperation of private landowners will be *the* key factor in determining the fate of species that require ongoing help from the landowners that harbor them. If private landowners are presented with the open hand of friendship, collaboration among equals, and funding, many will reciprocate by conserving species. But if landowners are confronted with the same coercive Endangered Species Act with a few incentives sprinkled on top, or even a turbocharged ESA based on ecosystem conservation, many will continue to do what they've done for much of the past 40 years: quietly go about their business in the hope they don't attract attention from the ESA's enforcers, or, more damagingly, actively destroy endangered species and their habitat.

3) Over the past 10 years or so there has been a growing body of evidence that endangered species tend to do better when funds are spent on their conservation. While this would seem to be axiomatic, the nature of the relationship has been made clear through published research.[171] This research makes the imperative of funding all the more necessary.

Part 8

Proof of Concept

In addition to the Conservation Reserve Program, there are several other examples that demonstrate how an Endangered Species Reserve Program will work better than the current ESA.

8.1 Bluebirds, Wood Ducks and Spotted Owls

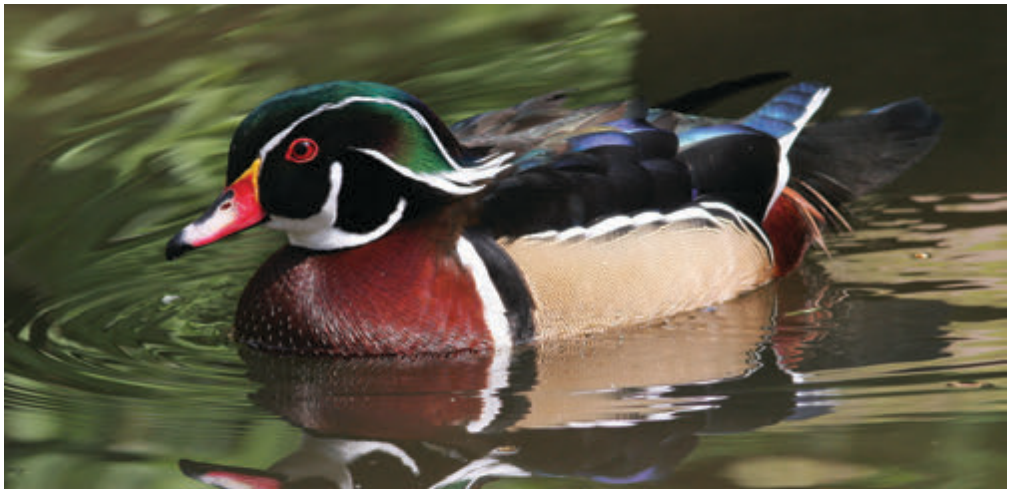
During the early-to-mid 1900s, concern arose in conservation circles over the decline of the wood duck and eastern bluebird. In response, people started putting up nest boxes to compensate for the loss of natural tree cavities—once again demonstrating the civic-mindedness and voluntarism that are hallmarks of American culture. In 1978, bluebird advocates created a private non-profit organization, the North American Bluebird Society, to circulate information about how to put up and maintain next boxes.[172] The Bluebird Society's efforts have been enormously successful—hundreds of thousands of nesting boxes provide a significant boost to the three bluebird species in the U.S.—Eastern, Western and Mountain—and there are now scores of affiliated bluebird organizations: 53 groups in 32 states, as well as seven groups in five Canadian provinces.[173]

Bluebird with nest box

Source: http://commons.wikimedia.org/wiki/File:Western_Bluebird_leaving_nest_box.jpg

Boy Scouts and Girl Scouts, homeowners, hunters, farmers and citizens from all walks of life put up nest boxes. And they are still at it today. As a result, the wood duck and bluebird are common in areas from which they were depleted, and countless people have had the joy and satisfaction of being citizen-conservationists.

Wood duck



Source: http://commons.wikimedia.org/wiki/File:Aix_sponsa_-Ouwehands_Dierenpark-8a.jpg

There has not, however, been a similar effort to put up nest boxes for the endangered spotted owl that plagues landowners in the Pacific Northwest like Vincent Shaudys and Greg Pattillo. Spotted owls bring with them penalties and lowered land values while wood ducks and bluebirds do not. When the Fish and Wildlife Service listed the owl under the Endangered Species Act in 1990, it was an enormously controversial decision because land-use controls for the forest-dwelling owl led to significant declines in timber harvests. The federal government and environmental pressure groups saw the owl as a means to protect forests, while the timber industry decried the loss of jobs as a result of less timber to cut.

Into this fray stepped two unlikely people: Tom Cade and Bill Burnham, founder and then-president of the Peregrine Fund, the leading authority on breeding raptors in captivity and releasing them to the wild, most notably the peregrine falcon. Cade and Burnham knew from decades of experience, and successful efforts by others to breed different species of owls, that the spotted owl would be easy to breed in captivity and would readily use artificial nest boxes attached to trees. They also knew that captive breeding and monitoring radio-tagged owls released to the wild would provide invaluable data on the species' biology and ecology that could be applied to make conservation efforts more effective.

Furthermore, these "extra" captive-bred owls were ideal for research because scientists would not have to worry about harming them, while the opposite was the case with the dwindling population of wild owls.[174]

Spotted owl

Source: http://commons.wikimedia.org/wiki/File:Northern_Spotted_Owl.USFWS-thumb.jpg

So three months after the owl was listed under the Endangered Species Act, Cade and Burnham wrote a detailed four-page letter to Jack Ward Thomas, the federal biologist in charge of spotted owl conservation, in which they offered to use their organization's expertise to breed spotted owls in captivity and release the juveniles to nest boxes. They estimated such an effort would cost around $1.5 million annually, a modest sum compared to the vast amounts the federal government was already spending.[175] Cade and Burnham's offer was an intriguing possibility that presented a potential solution to the increasingly acrimonious fight over the spotted owl that had reached the halls of Congress and the White House.

Thomas responded to Cade and Burnham's offer just seven days later. He declined it in a brief, three-paragraph letter that contained no request for more information, no questions, no counter offer, and no suggestion of even a pilot program—just a flat-out rejection.[176] As Thomas's rebuff indicates, listing the spotted owl under the Endangered Species Act was less about conserving the owl, including trying promising and innovative efforts like captive breeding and nest boxes, than it was using the Act's penalties to control land-use. After being in charge of the spotted owl, Thomas received a huge promotion—head of the U.S. Forest Service from 1993–1996.

8.2 Planting the Seed of Reform

An intriguing and highly instructive case study of how the ESA thwarts private conservation and how an Endangered Species Reserve Program would work involves the johnston's frankenia, a species of small shrub in south Texas. The Fish and Wildlife Service listed the frankenia in 1984, despite having conducted only the most rudimentary surveys, due to its perceived small population (five sites totaling around 700 plants) and the belief that cattle grazing posed a threat.[177] Even though there were increasing reports the plant was far more common and widespread than originally thought, Fish and Wildlife did nothing to investigate.

Then in 1993, Gena Janssen, an energetic botanist with the Texas Parks and Wildlife Department (TPWD) decided to take a closer look because, as she notes, the plant was rumored to be "everywhere."[178] Initially, "[t]he landowners were scared to say the least," she said. "They were fearful of the 'government' finding out they had endangered species on their property."[179] Landowners in the border region of south Texas are known to be very protective of their property rights and suspicious of the federal government, and this is due in no small part to the Fish and Wildlife Service's aggressive enforcement of the Endangered

Species Act. Janssen was eventually able to gain landowners' trust in large part because plants receive a much lower level of protection under the ESA than animals. Due to this, the federal government is generally not able to threaten landowners harboring endangered plants with penalties under the Endangered Species Act. In addition, due to the Fish and Wildlife Service's notorious reputation for being confrontational, landowners in south Texas were more comfortable dealing with Janssen because she was a state employee.

Johnston's frankenia

Source: http://commons.wikimedia.org/wiki/File:Frankenia_johnstonii.jpg

The result of Janssen's work was the discovery of 53 populations totaling more than nine *million* plants. She also found that cattle grazing, one of the reasons Fish and Wildlife listed the frankenia, was not a threat.[180] In addition, Janssen was able to persuade the 10 landowners who owned the 19 largest populations to sign voluntary conservation agreements with the TPWD. As a result, in 2003 Fish and Wildlife proposed to delist the frankenia.[181] Even though the Endangered Species Act mandates Fish and Wildlife act on such proposals within a year and that the plant is clearly not endangered, the frankenia remains listed 10 years later.

Fortunately for its conservation, the frankenia is a plant, but were it an animal—such as the ocelot, a small species of cat that also lives in south Texas and is listed under the Endangered Species Act—then it is unlikely that many of the landowners with whom Janssen interacted would have been willing to let her survey their lands, let alone enter into any sort of conservation agreement. The success conserving johnston's frankenia in a region of the country known to be hostile to the Act is testament to the Fish and Wildlife Service's inability to use the plant as a means to control land-use. Had the frankenia been afforded the same protections as animals, it is very likely landowners would have quietly initiated a scorched earth campaign to rid their property of the plant. The johnston's frankenia was saved *from* the Endangered Species Act, not *by* it.

8.3 Spirit of the Bison

The conservation of the bluebird, wood duck and johnston's frankenia are just three of the many, many examples of America's long and proud tradition of private wildlife conservation. Another is the plains bison, which was saved from extinction by a small number of ranchers rounding up the few remaining bison and fencing them in. An authoritative study published in the journal *Biological Conservation* in 2007 notes that "The independent actions of private citizens, taken long before national governments reacted, were responsible for saving the plains bison."[182]

In the late 1800s, a handful of people—among them legendary Texas cattle rancher Charles Goodnight and Samuel Walking Coyote of the Pend d'Oreille Native American tribe in Montana—grew concerned that the bison, which once numbered in the tens of millions, was nearing extinction. So in the spirit of voluntarism, civic-mindedness and patriotism that are hallmarks of American culture, these ranchers rounded up and fenced in straggler bison, thereby saving the species from extinction. By 1905, there was a total of 969 plains bison, 95% of which were in private hands.[183] The situation currently is much the same, and thanks to private landowners bison are thriving. Of the 400,000 bison in the U.S., 91% are privately owned.[184]

Plains bison

Source: http://commons.wikimedia.org/wiki/File:American_Bison_%28Yellowstone%29.jpg

Today, in this same spirit of voluntarism and civic-mindedness, coupled with a love of the land they own, countless citizens across the country like Craig Schindler provide habitat and a helping hand for wildlife. These landowners are largely unknown and unappreciated, but they are the linchpin for successful wildlife conservation in this country, including conservation of endangered species. When he testified before Congress, David Cameron, Montana rancher and zoology professor, pleaded for a new approach to conserving endangered species:

> *"I request that you get the punishments out of law and do everything that you possibly can to provide incentives to people like me and thousands and thousands of others who would cherish and harbor these organisms if they weren't threatened by them…There is a lot of goodwill out there. Some of it has been frustrated by the laws, but there is a lot of goodwill among landowners. And we [landowners] are all aware that we are part of the solution."*[185]

There is good reason that Cameron's optimism applies to countless other landowners harboring endangered species. Americans consistently rank at the top of surveys of the generosity and charity of citizens around the world, such as the Hudson Institute's annual *Index of Global Philanthropy*, and the Charities

Aid Foundation's annual *World Giving Index*. The 2013 *World Giving Index*—which measures countries based on three factors: helping a stranger, donating money and volunteering time—also ranks countries based on an average score over the past five years, and the U.S. comes out on top. Perhaps most striking is that U.S. citizens are most likely to help strangers, with a world-leading average of 70% over the past five years.[186]

This kindness, generosity and charity is why Craig Schindler allowed people, including scientists, to explore the cave on his property, why David Cameron wanted to reintroduce grayling, and why Ben Cone has been generous to the community around his land, including letting Boy Scouts use the property. And it is why the Endangered Species Act is such a tragedy. Americans are the most big-hearted and generous people in the world; American landowners attest to this through their countless efforts to conserve this country's wildlife, including endangered species. After all, charity is often directed to the neediest causes, and endangered species are the neediest species.

While the Endangered Species Act has done significant harm to American landowners' willingness to help imperiled species, this can be reversed. If the Act's penalties were removed, most landowners would be quick to put the past behind them and jump at the chance to lend a helping hand to endangered species. After all, two of the characteristics of kindness and generosity are optimism and a willingness to let bygones be bygones in an effort to create a more hopeful tomorrow.

8.4 Empirical Evidence

Evidence of harm to species caused by the Endangered Species Act's punitive approach came to light through anecdotes followed by empirical evidence. Similarly, anecdotes about how removing the Act's penalties and rewarding landowners is a more successful way to conserve endangered species have been complemented by a growing body of scholarly literature.

8.4.1 Legal Scholars and Economists

Some of this evidence is from legal scholars, such as the three previously mentioned: Barton Thompson, Richard Epstein and Jonathan Adler. Other evidence is from economists and tends to be more theoretical in nature. Key findings are:

- Economic incentives matter, and account must be taken of the strong disincentives created by the Endangered Species Act.[187]
- Compensation might well lead to improved endangered species conservation.[188]

8.4.2 Landowner Surveys

Perhaps most significantly, a growing number of landowner surveys provide crucial insights into the issues that encourage and discourage landowners from conserving species for three reasons:

1) The surveys are of actual landowners who have been, or potentially could be, affected by the Endangered Species Act's regulations.
2) Almost all the surveys are published in the scholarly literature, which lends them authority.
3) The surveys' broad geographic reach over much of the U.S. (19 states; Alabama, Arkansas, California, Colorado, Florida, Georgia, Idaho, Indiana, Kansas, Kentucky, Montana, North Carolina, Ohio, Oregon, South Carolina, Texas, Utah, Washington, Wyoming) gives them credibility and widespread applicability.

Some of the issues identified in these surveys that affect landowners' willingness to conserve imperiled species are:

- Landowners have significant concerns about risks to their property values and livelihoods associated with protecting endangered species.[189]
- Financial compensation is very important. For the most part, landowners think they should be compensated for conserving species that are endangered or close to being endangered. In many cases compensation increases landowners' willingness to conserve endangered species.[190]
- Other financial assistance, such as technical assistance and cost sharing, can also improve landowners' willingness to conserve endangered species.[191]
- Assurances against future regulation can increase landowners' willingness to conserve endangered species.[192]
- One study found the combination of assurances and incentives is the most effective.[193]
- Landowners prefer shorter (5–10 year) contracts and easements to conserve endangered species.[194]

- Landowners do not like long-term contracts or permanent conservation easements.[195] This strongly suggests that landowners don't like many of Habitat Conservation Plans under the ESA, which run for long time periods. Ben Cone's and the Murray Pacific Corporation's HCPs are for 100 years.
- Independence and autonomy are very important values to landowners, and these values exert a strong influence over their willingness to become involved in conservation initiatives in general.[196]
- Landowners strongly prefer to have some management and decision-making authority if they are involved in a program to conserve wildlife and very much object when they do not.[197]
- One study found that if landowners don't have decision-making authority they would require almost double the financial compensation to engage in a theoretical conservation initiative, from $1,004 to $1,854.[198]
- Many landowners have a strong sense of stewardship.[199] One study found landowners have a strong sense of obligation toward their fellow neighbors and community, and a willingness to conserve the environment around them.[200] Another survey, this one of landowners involved in Candidate Conservation Agreements, found landowners "were inclined to fear restrictions or interference, but they also highly valued stewardship and believed they had some social responsibility to be good stewards."[201]
- One study found a positive correlation between conservation responsibility and property rights. According to the study, "[R]espondents who felt more strongly that their private property rights were being threatened expressed less willingness to adopt such management objectives without compensation."[202]
- Landowners are more likely to join incentive programs if they are approached by trusted intermediaries, instead of public officials from regulatory agencies.[203] A good example is the success Gena Janssen had convincing landowners to conserve the johnston's frankenia. Similarly, landowners are more likely to be involved in incentive programs if they receive positive signals from their social networks and peer groups.[204]
- Half the people in two surveys were not interested in filling out the surveys.[205] For one of the surveys, the reason given most often was distrust because of the "potential for government involvement."[206] This is similar to other surveys, which found people refused to become involved in incentive programs for imperiled species because of social factors, including a lack of trust, rather than insufficient monetary incentives.[207]

Taken together, these factors that motivate and are of importance to landowners provide strong evidence of the need to move away from the current penalty-based Endangered Species Act. These issues also strongly support the idea that removing the ESA's penalties, providing compensation and other financial incentives for conserving endangered species, and giving landowners more control and autonomy is not only a viable approach but one that will likely result in better conservation outcomes. Moreover, these issues and attitudes point away from many of the superficial reforms that are often touted as substantive, such as Habitat Conservation Plans, Safe Harbors and No Surprises.

8.4.3 Survey in the Carolinas

One of the most revealing surveys is of forest landowners in North Carolina and South Carolina, some of whom are enrolled in the Safe Harbors program for the red-cockaded woodpecker and, in order to have a control group, some of whom are not. The survey—by professors Daowei Zhang of Auburn University and Sayeed Mehmood of the University of Arkansas—consists of two parts: an assessment of landowners' attitudes toward endangered species and the Endangered Species Act, and landowners' opinions on alternatives to the Safe Harbors program.[208]

The survey's first set of statements about landowners' attitudes reveals many of the issues contained in other surveys of landowners who own endangered species habitat, or habitat for species that may become endangered.

There are several striking aspects of these responses:

- How strongly all landowners, but especially those in Safe Harbors, feel they should be compensated for conserving endangered species.
- Endangered species lower property values.
- Society should conserve endangered species.
- The ESA is used as a political tool by special interests.
- The ESA discourages landowners from conserving and creating habitat for the red-cockaded woodpecker.

Figure 9: Opinions of Forest Landowners in North and South Carolina Enrolled in the Safe Harbors Program

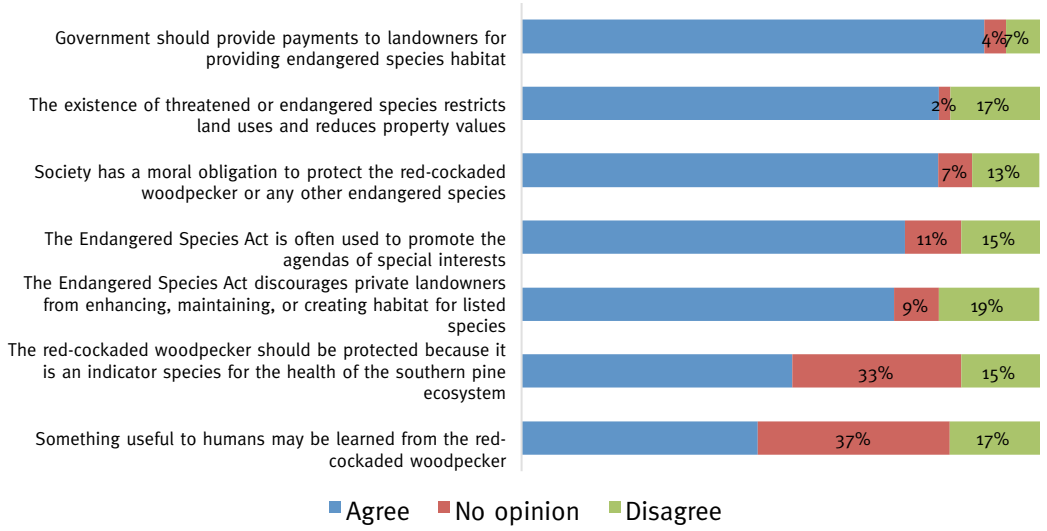
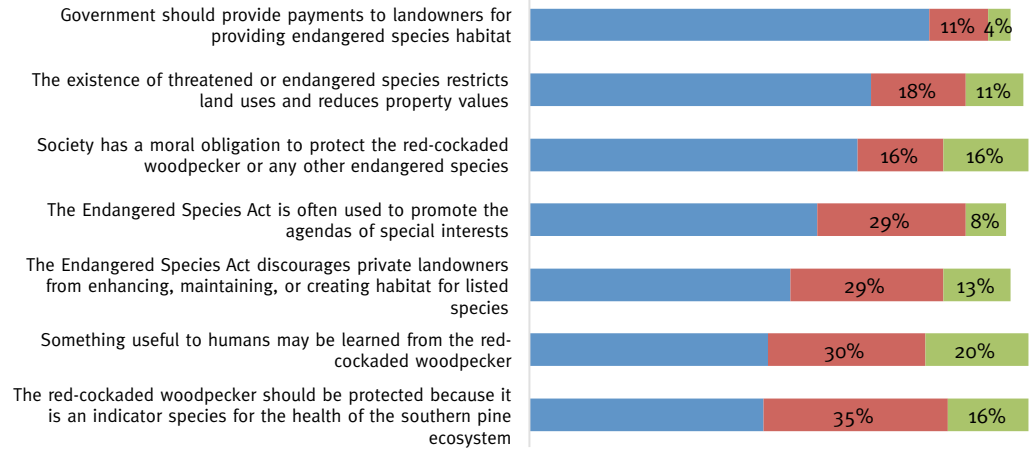


Figure 10: Opinions of Forest Landowners in North and South Carolina Not Enrolled in the Safe Harbors Program*

(*responses do not sum to 100% because some respondents did not answer all questions)



Source: Zhang and Mehmood, "Safe Harbor for the Red-Cockaded Woodpecker," p.28.

As is clear, landowners feel a strong sense of stewardship, but the ESA is a very significant obstacle to them engaging in conservation for the woodpecker. These attitudes reflect very closely those of landowners like Ben Cone who are happy to harbor endangered species but object when they are forced to do so and stuck with the bill.

The survey's second set of statements are specifically about the Safe Harbors program.

Figure 11: Opinions of Landowners Enrolled in the Safe Harbors Program About Alternatives to the Program

(responses don't sum to 100% becasue some respondents did not answer all questions)

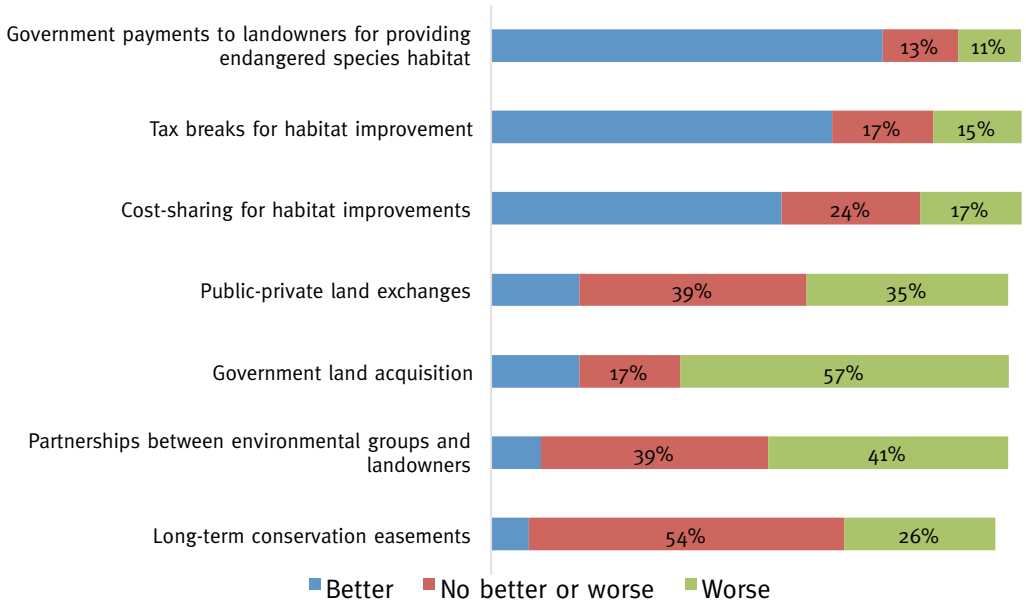
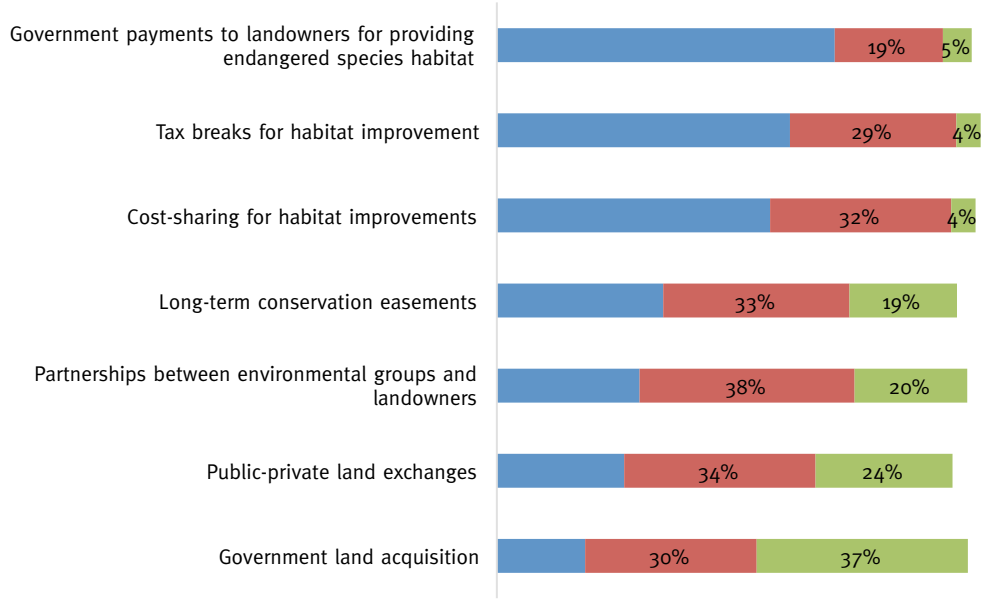


Figure 12: Opinions of Landowners Not Enrolled in Safe Harbors Program About Alternatives to the Program

(responses don't sum to 100% because some respondents did not answer all questions)



Source: Zhang and Mehmood, "Safe Harbor for the Red-Cockaded Woodpecker," p.29.

As with the first set of statements, it is clear:

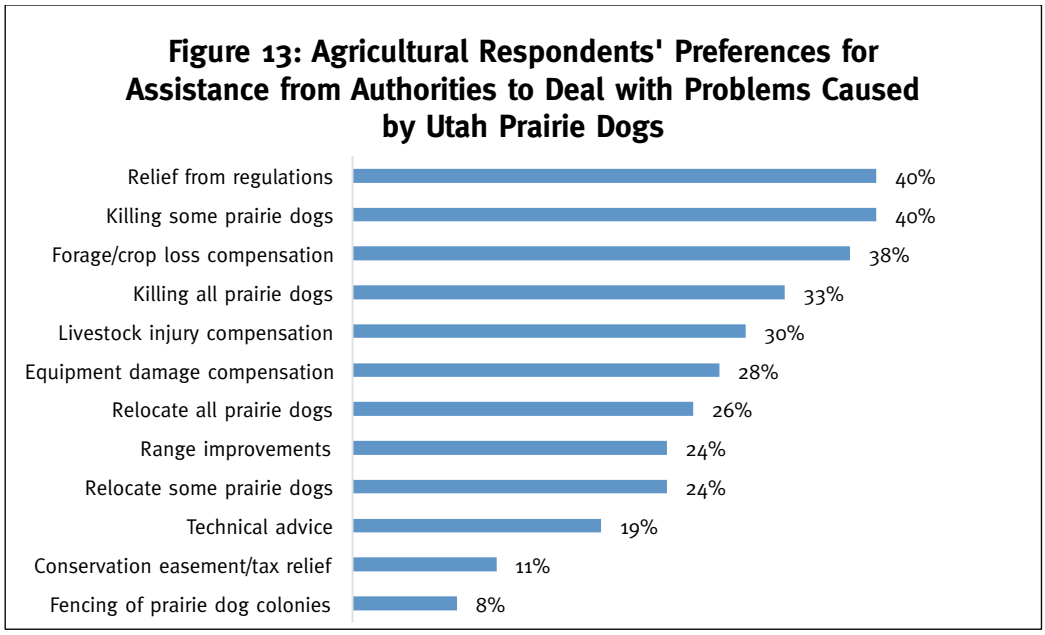
- Landowners believe strongly the government should compensate them for providing habitat for endangered species.
- Landowners are generally against government acquisition of private land and long-term conservation easements. This is especially pronounced for participants in Safe Harbors in regard to land exchanges, partnerships with environmental groups and conservation easements.

Safe Harbors is often portrayed as a feel-good partnership between landowners and environmental groups so it is somewhat surprising that landowners regard working with environmental groups so negatively. Perhaps this is because landowners in this region of the country, which is where the first Safe Harbors were signed in the mid-1990s, have more experience with the program than landowners elsewhere. As a result of this experience, landowners who sign on to Safe Harbors know that these agreements are voluntary in name only because Safe Harbors is driven heavily by landowners' fear of the Endangered Species Act—or the "cocked-two-by-four" as Murray Lloyd puts it.

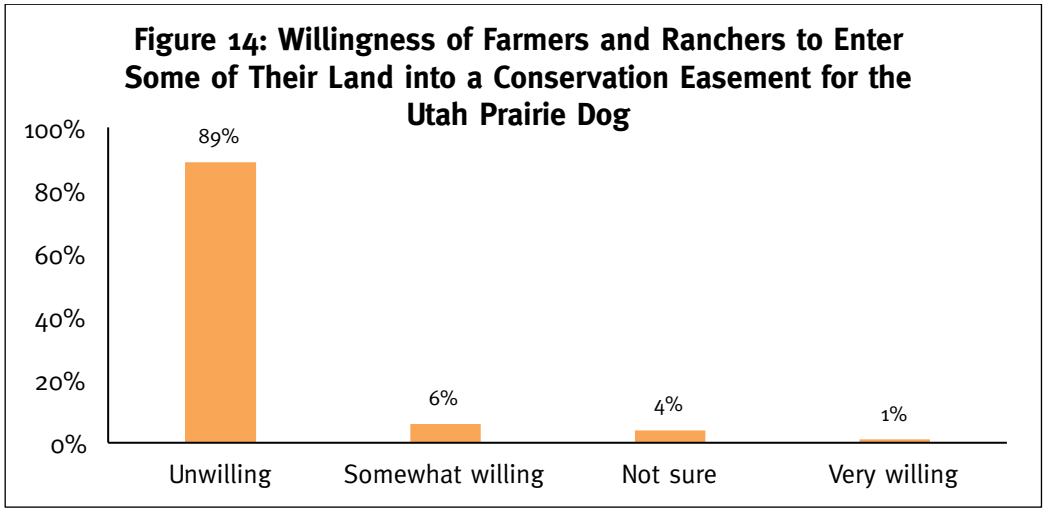
8.4.4 Utah Prairie Dog Survey

Another insightful survey is the one that revealed landowners were taking actions to discourage Utah prairie dogs from occupying their property.[209] This survey queried landowners and others on a number of issues relating to conservation of the Utah prairie dog, one of which was the preferences landowners involved in agriculture had for addressing problems—such as lost crops and property damage—caused by prairie dogs. The results reveal a strong preference for compensation and relief from the Endangered Species Act's regulation. While landowners did also favor lethal control of prairie dogs, this was a less popular response when compared with compensation and regulatory relief.

As with other landowner surveys, farmers in southern Utah were very unwilling to enroll a portion of their land in a conservation easement for the purpose of conserving the Utah prairie dog. The likely reason, as revealed by other landowner surveys, is landowners highly value their autonomy and do not like to encumber their land for long, or even indefinite, periods of time common in conservation easements.



Source: Elmore et al., "Perceptions of wildlife damage and species conservation: lessons learned from the Utah prairie dog," p.83.

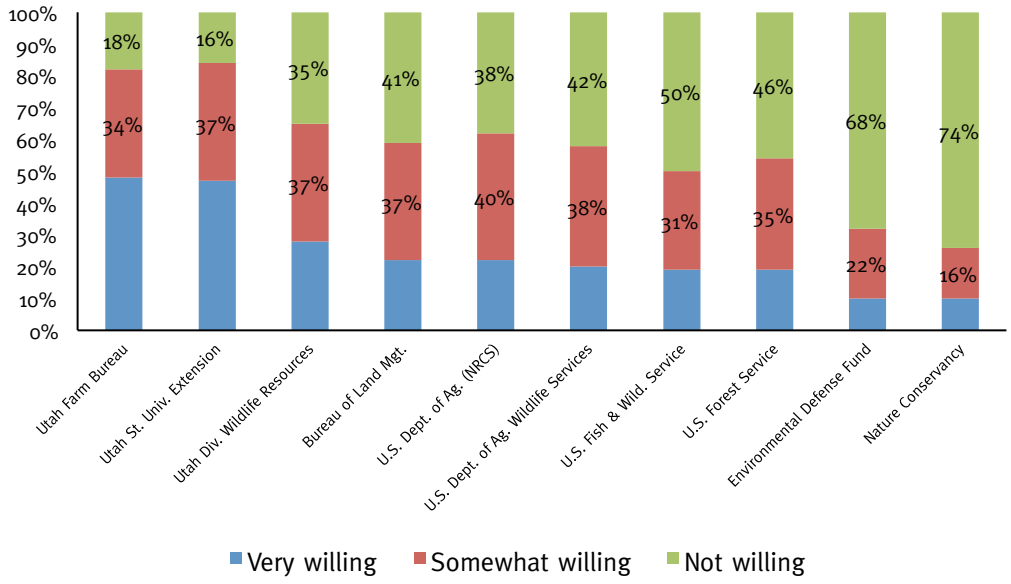


Source: Elmore et al., "Perceptions of wildlife damage and species conservation: lessons learned from the Utah prairie dog," p.83.

Another revealing question was about farmers' preferences for working with various groups to address conflicts caused by Utah prairie dogs. The responses provide confirmation of aspects of other landowner surveys, most notably that landowners fear the ESA and as a result do not trust organizations they perceive as being involved with implementing and enforcing the Act. By contrast, farmers trust the Utah Farm Bureau and the Utah State University Extension because they are non-regulatory. The likely reason for the unwillingness of 74% of farmers to work with the Environmental Defense Fund and 68% with the Nature

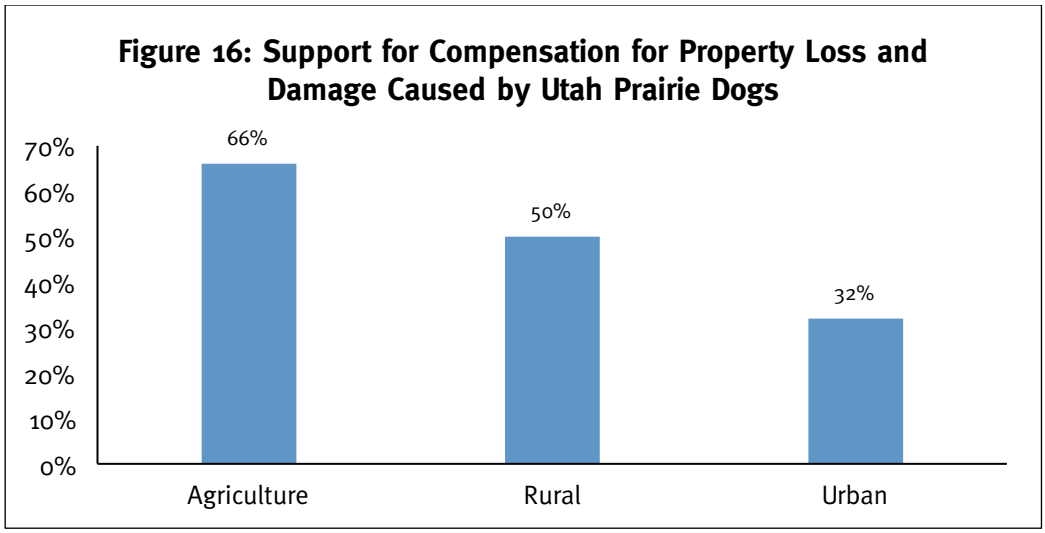
Conservancy is that at the time of the survey in 2005 these groups had been heavily involved in Utah prairie dog conservation. The Environmental Defense Fund had been heavily promoting Safe Harbors as a solution to human-prairie dog conflicts.[210] Clearly, farmers in southern Utah were not buying it, and the likely reason is that Safe Harbors does nothing to alleviate problems, including lost income and lowered property values, due to regulations on existing endangered species. Safe Harbors only protects property against additional (i.e., above the "baseline") endangered species taking up residence.

Figure 15: Willingness of Agricultural Landowners to Work with Various Groups to Address Conflicts Caused by Utah Prairie Dogs



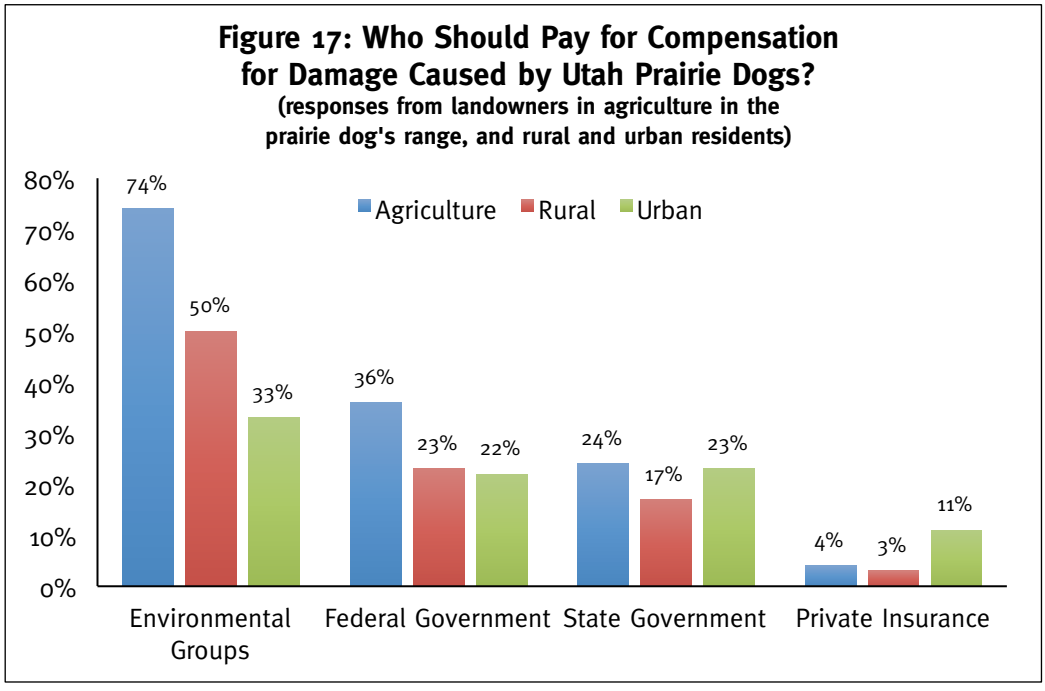
Source: Elmore et al., "Perceptions of wildlife damage and species conservation: lessons learned from the Utah prairie dog," p.83.

The Utah prairie dog survey also asked three groups of people—farmers in the prairie dog's range, rural landowners who are not in agriculture, and urban residents in the Salt Lake City region—about their view on compensation for property lost and damaged by the Endangered Species Act's restrictions for prairie dogs. The results reveal that those impacted by the prairie dog think they should be compensated while those not affected are either ambivalent (rural landowners) or significantly opposed (urban residents). This is not surprising, given that the ESA's impact can be highly localized and that those not directly affected generally have a poor understanding of the costs the Act imposes on landowners forced to harbor species.



Source: Elmore et al., "Perceptions of wildlife damage and species conservation: lessons learned from the Utah prairie dog," p.83.

These three groups were also asked if compensation is provided who should be responsible for providing it. Interestingly, all three groups thought environmental groups were most responsible, followed by the federal government and then state government. It is also striking that all three groups thought private insurers were least responsible, an indication respondents were aware that government should bear the burden of compensating landowners for conserving wildlife under a public law.



Source: Elmore et al., "Perceptions of wildlife damage and species conservation: lessons learned from the Utah prairie dog," p.81.

As a result of the survey's findings about the opinions and preferences of landowners, especially those forced to bear the costs of conserving the Utah prairie dog, the survey's authors conclude:

> *"The fear generated by ESA regulation is a poor motivator for species conservation on private lands. Rather, incentive based approaches that consider the needs of landowners are more likely to result in species conservation over the long term."*[211]

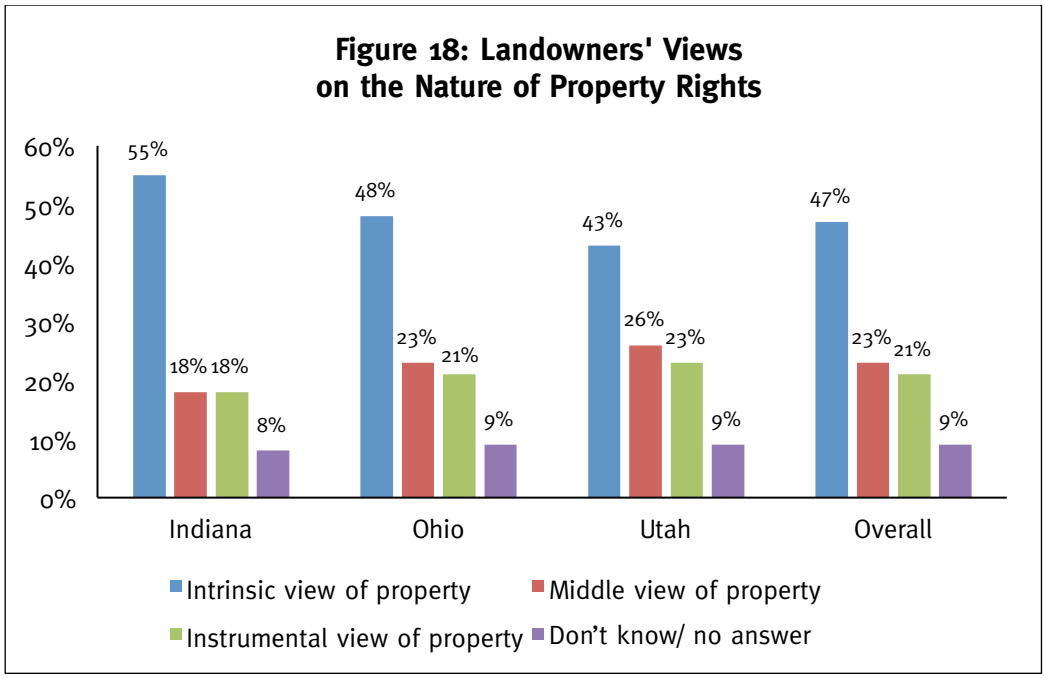
This survey was based largely off of the PhD research of Dwayne Elmore, who is currently a professor in the Department of Natural Resource Ecology and Management at Oklahoma State University. According to Elmore, state universities' cooperative extension services, which typically include education and natural resource management advice for landowners, are a good model for organizing endangered species conservation efforts:

> *"Cooperative Extension is an ideal facilitator for volatile wildlife issues such as endangered species management on private lands. Often, lack of trust in government agencies or fear of Endangered Species Act regulations hinders conservation efforts on these private lands. Extension personnel have close ties to local affected communities and thus can be instrumental in educating landowners regarding options that may be available to them in regards to sensitive, candidate, threatened, or endangered species."*[212]

The U.S. government's Conservation Reserve Program is essentially a federal cooperative extension initiative. As Dwayne Elmore astutely observes, the nature of cooperative extension makes it an ideal model for a more successful approach toward endangered species conservation.

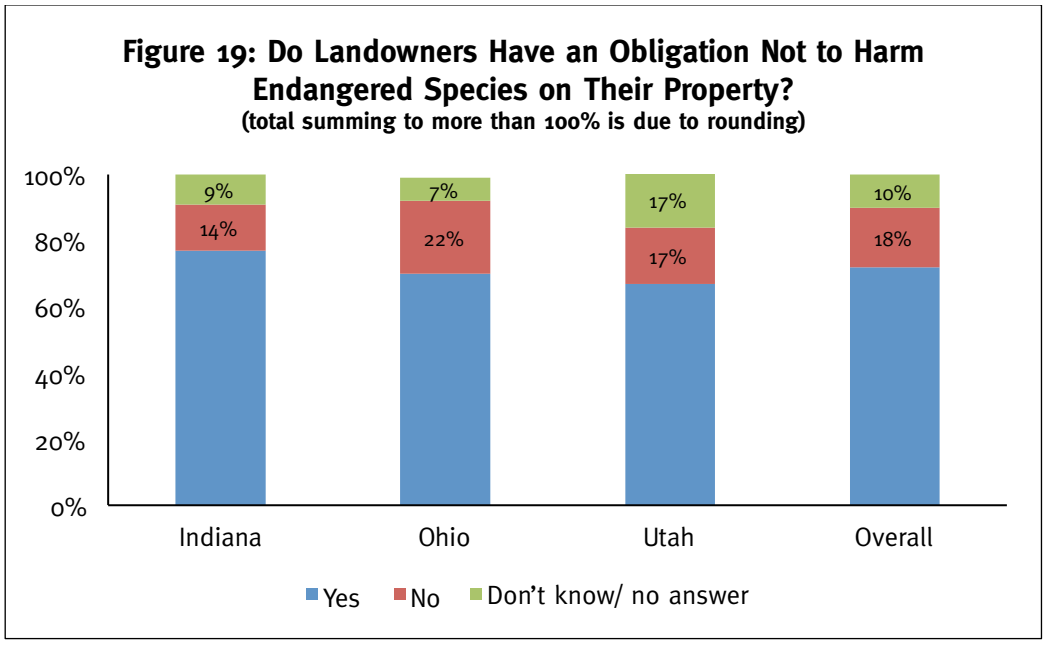
8.4.5 Survey in Indiana, Ohio and Utah

Another survey of landowners in the habitat of three different endangered species—an island in Lake Erie that is home to the Lake Erie water snake, an established management area in Indiana for the Indiana bat, and the town of Hurricane, Utah for the desert tortoise—provides additional insights into landowners' attitudes.[213] Landowners were interviewed to determine their views of property ownership, and the results reflect a strong belief in what the authors term the "intrinsic" view, which is synonymous with a belief that property rights are individualistic and should seldom be infringed on by government. By contrast, the "instrumental" view is one in which property owners believe that government has the right to change property rights definitions based on changing social norms.



Source: Olive and Raymond, "Reconciling Norm Conflict," p.447.

As is clear, landowners in regions with endangered species have a strong belief that property rights should generally not be infringed by government. When these attitudes are compared to landowners' views on their obligation not to harm endangered species, an interesting picture emerges that confirms findings in other surveys about landowners' sense of stewardship and willingness to conserve wildlife.[214]



Source: Olive and Raymond, "Reconciling Norm Conflict," p.447.

As is clear from these two charts, landowners who have to deal with endangered species feel both a very strong sense their individual property rights as well as a strong sense of stewardship toward the endangered species on their property. While these two views are often portrayed as being mutually exclusive, in fact as this and other surveys reveal, the opposite is often the case.

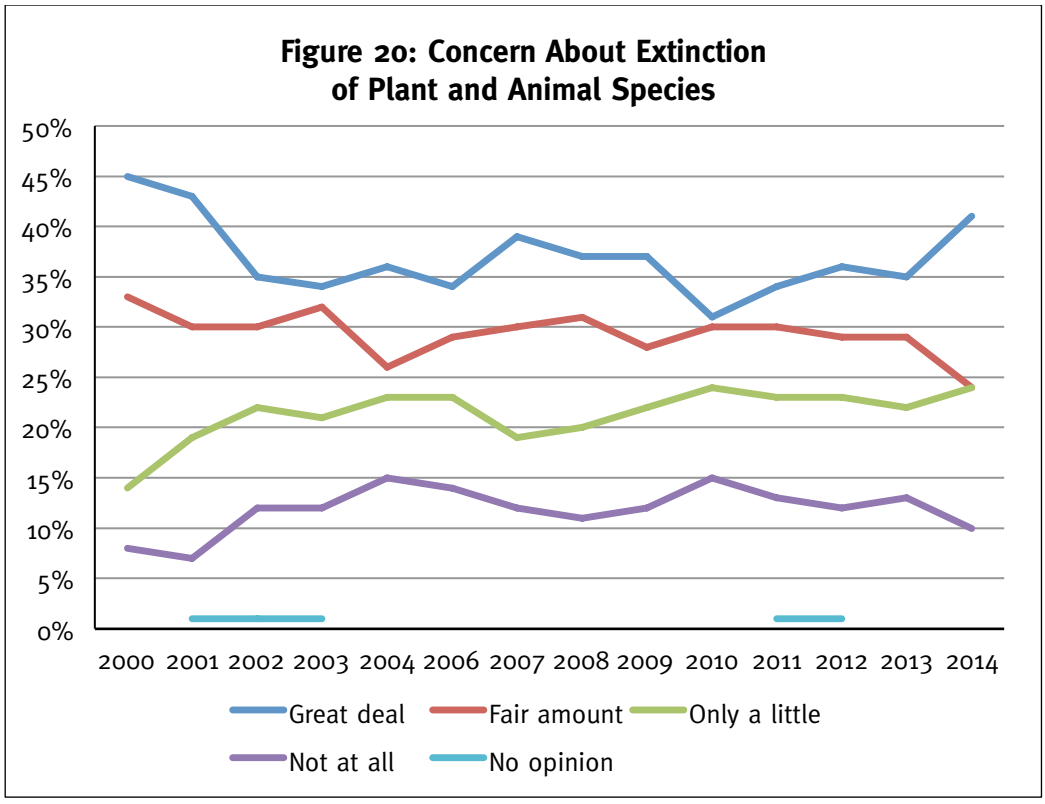
8.5 Conclusions on Surveys

As all of these surveys confirm, landowners are generally willing to conserve endangered species, but they think they should be compensated for doing so. If landowners are assured they will not be subject to future regulation, they are much more likely to get involved with endangered species conservation. Also, landowners' strong beliefs in their private property rights, including maintaining a sense of autonomy and control over their land, is often compatible with a strong sense of stewardship and responsibility for conserving wildlife, including endangered species. In addition, landowners have significant concerns about the Endangered Species Act and those involved in implementing and promoting the Act. Yet a substantial portion of landowners don't even want to get involved in efforts to conserve endangered species because of their fear over losing property and their distrust of regulatory agencies and environmental pressure groups.

8.6 Public Opinion

In addition to landowner surveys, polling data—on endangered species in general, the Endangered Species Act, and whether landowners should be compensated for conserving endangered species—provide indications of public opinion.

As part of its annual poll of public opinion of environmental issues, from 2000–2014 Gallup asked people to express their level of concern about species extinction. Those who "care a great deal" has declined, while those who care "only a little" and "not at all" has increased. Meanwhile, those who care a "fair amount" has remained essentially the same.

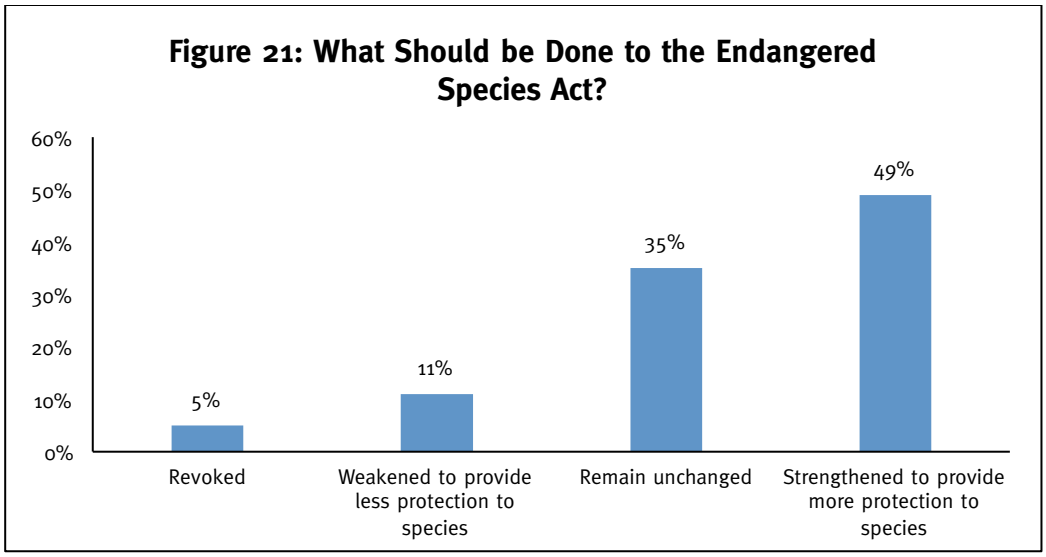


Source: The Gallup Corporation, "Environment: Historical Trends," http://www.gallup.com/poll/1615/Environment.aspx#2

Polling on the Endangered Species Act reveals three things:

- The public generally has little understanding of how the ESA actually works, especially the penalties that make the law so powerful and counterproductive.
- The public generally supports the ESA, insofar as it understands the Act.
- The public believes people should be compensated for harboring endangered species. Support both for compensation and for the Endangered Species Act provides a good indication that the public is unaware of how the Act works.

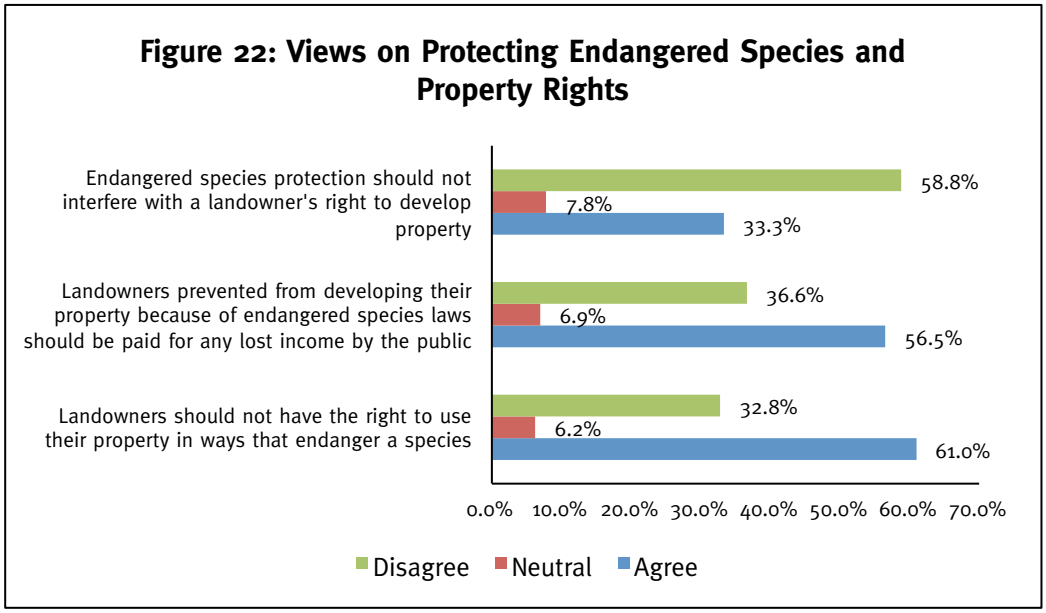
One of the most frequently cited polls on the ESA was published in 1999, and is used by supporters of the Act to claim the law enjoys widespread public support.[215] Or, this poll is cited uncritically as evidence of public support of the ESA.[216] In reality, this poll is much more nuanced because it shows both support for the ESA and for compensation. Surprisingly, only one scholarly publication could be found that mentions that the poll found strong support for compensation.[217]



Source: Czech and Krausman, "Public Opinion on Endangered Species Conservation and Policy," p.473.

Supporters have interpreted these results to mean 84% of the public supports the Endangered Species Act, and this is usually the only aspect of the poll supporters bother to mention.

Yet in the same poll, people were asked their opinions on three different approaches to protecting endangered species.[218]



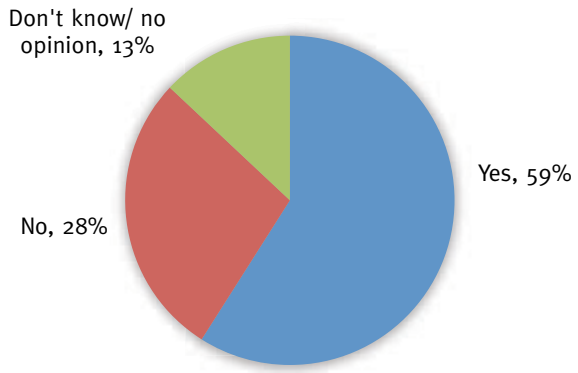
Source: Czech and Krausman, "Public Opinion on Endangered Species Conservation and Policy," p.473.

These responses clearly show that the public has little idea how the Endangered Species Act functions with regard to preventing landowners from using their property but not compensating them. At best, these responses indicate the public is ambivalent about the Endangered Species Act's ability to regulate private property. But as other polling data show, the public is in favor of compensating landowners.

The apparent support for compensation found in this poll is, however, rarely if ever mentioned by the ESA's supporters. A search of the internet and scholarly literature turned up only one instance in which the poll's support for compensation was mentioned. It was in the Utah prairie dog survey examined in detail in the previous section of this study.[219] On the one hand, this is surprising given how widely this poll has been cited. On the other hand, it is not surprising because those citing the poll tend to be supporters of the Endangered Species Act, and they likely omitted the poll's support for compensation because it runs contrary to their views about how the Act should be structured and implemented.

There is, however, support for compensation from other polls. In 1992, as part of the National Environmental Forum for the *Times-Mirror*, the Roper Organization polled the public on whether landowners should be compensated for protecting endangered species, which the public favors by a margin for more than 2:1.[220]

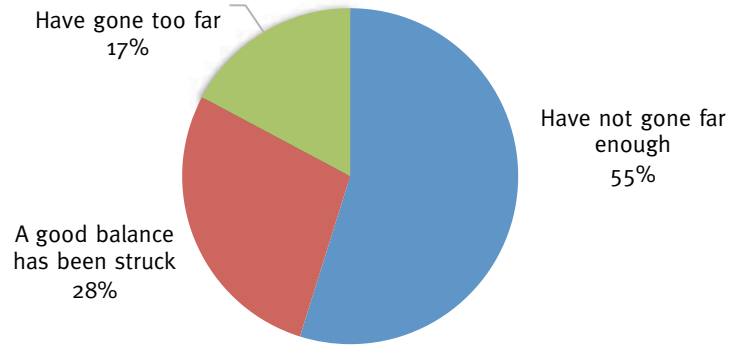
Figure 23: Should the Government Compensate Private Property Owners When Land Is Devalued by the Need to Protect Endangered Species?



Source: Roper Organization, Inc., "Natural Resources Conservation: Where Environmentalism is Headed in the 1990s," (1992). *Times-Mirror Magazine's* National Environmental Forum Survey.

Yet the same poll also found the public thinks, by a margin of more than 3:1, endangered species regulations have not gone far enough.

Figure 24: Views on Current Endangered Species Regulations

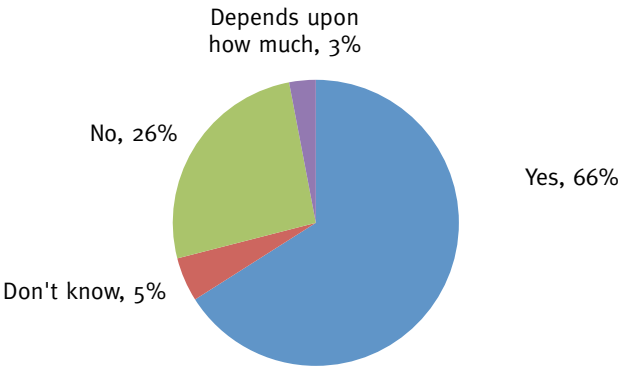


Source: Roper Organization, Inc., "Natural Resources Conservation: Where Environmentalism is Headed in the 1990s," (1992). *Times-Mirror Magazine's* National Environmental Forum Survey.

As with the widely cited 1999 poll, the Roper poll indicates the public is largely unaware of how the Endangered Species Act functions, especially with regard to private land. Even so, support for compensation indicates the public might not favor the punitive approach embodied by the Endangered Species Act if they knew how the Act actually functions.

In 1995 Roper again conducted a poll in which people were asked the view on compensating landowners for the lost value of land protected for an endangered species or wetland. Respondents were more strongly in favor of compensation than the 1992 poll.

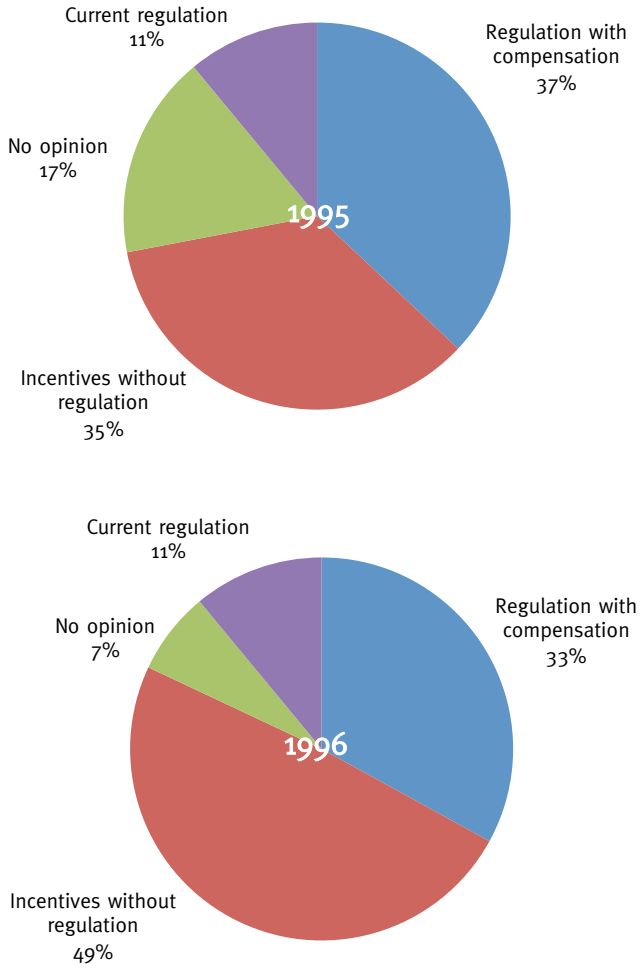
Figure 25: Should the Government Be Required to Compensate a Landowner or Business for the Lost Value of Land Protected for an Endangered Species or Wetland?



Source: Roper-Starch Worldwide, "*Times-Mirror Magazine's* National Environmental Forum," March 1995.

An indication that the public may well not favor the ESA's punitive approach—and instead prefer the current ESA regulations with compensation or a non-regulatory, incentive-based approach—comes from two identical polls conducted in 1995 and 1996 for the Competitive Enterprise Institute.[221]

Figure 26: Public Support for Different Approaches to Conserving Endangered Species (1995 and 1996)



Sources: Competitive Enterprise Institute, "Public Supports Reason ESA Reform," Press Release, September 7, 1995; The Polling Company, "National Survey of Environmental Attitudes," prepared for the Competitive Enterprise Institute, (Competitive Enterprise Institute, Washington, D.C., 1996).

These results indicate that when the public is informed about how the Endangered Species Act operates with regard to regulation of private property, the public favors a different approach that provides compensation. In both polls, only 11% of Americans favor the current approach, while at least 72% favor compensation.

Other polls have been taken, typically by advocates of the Endangered Species Act. While these polls generally show strong support for the Act, this is not very revealing because at least one alternative to the ESA is not offered. For example, in 2011 the Endangered Species Coalition released a poll that purportedly showed strong support for the Endangered Species Act.[222] A close look, however, at the questions asked is instructive. Respondents were asked the following:

> *"As you may know, the Endangered Species Act is an environmental law established to protect all wildlife, plants and fish that are in danger of extinction. Based on what you know, would you say that you strongly support, somewhat support, somewhat oppose, or strongly oppose the Endangered Species Act?"*

The responses were; 44% strongly support, 40% somewhat support, 7% somewhat oppose, 6% strongly oppose, and 3% don't know/refused to answer.

Then respondents were also asked:

> *"Some people say the Endangered Species Act has been used by environmentalists and their lawyers to hinder economic development, while others say it is a safety net providing balanced solutions to save wildlife, plants and fish that are at risk of extinction. Which is closer to your point of view?"*

The response was 64% agreeing the ESA is a safety net providing balanced solutions, 26% thought the Act was used by environmentalists and lawyers, and 10% didn't know or refused to answer.

As an indication of how little knowledge the public has of the Endangered Species Act, people were asking to respond to the following statement:

> *"The Endangered Species Act has helped hundreds of species recover from the brink of extinction, such as the bald eagle, the gray whale, the Florida panther and gray wolves in the Northern Rockies."*

In response, 55% strongly agreed, 35% somewhat agreed, 4% somewhat disagreed, 3% strongly disagreed, and 4% didn't know or refused to answer. Yet as documented by the now-defunct National Wilderness Institute and more recently by Reason Foundation, the Endangered Species Act has been given undue credit for recovering many species.[223] For example, the bald eagle and gray wolf were never in danger of extinction because even though they were *extirpated* from large portions of the lower 48 states, the vast majority of their populations

thrived in Alaska and Canada. Furthermore, the banning of the pesticide DDT in 1972, which caused widespread reproductive failures in the lower 48 states, not passage of the ESA in 1973, is widely acknowledged as the paramount cause of the eagle's recovery. As for gray wolves in the Northern Rockies, they were not saved from extinction by the Act because they were reintroduced in 1995 from wolves captured in Canada. If nothing else, this poll shows that asking misleading questions leads to predictable and desired answers.

According to published research, the Eastern North Pacific population of the gray whale began increasing in the early 1900s following the advent of kerosene, which decreased the need for whale oil to fuel lamps that many people used indoors. In 1914 the population began to decline again due to hunting by Norwegian whalers, followed by Japanese, Soviet and American whalers.[224] It appears the gray whale population has been increasing since large-scale hunting ceased at least by 1937 or 1946 (there is disagreement about which year is correct), following international treaties banning commercial whaling.[225] When the gray whale was listed under the ESA in 1973, the species' population had been increasing for decades and would continue to do so for decades more until 1994 when it had recovered sufficiently to merit delisting, or removal, from under the Act. Despite being declared a recovery success story by the federal government and pressure groups that are the ESA's most prominent proponents, it is virtually certain the gray whale still would have recovered had it never been listed under the ESA.

After the poll's first six questions, many of them loaded in favor of the Endangered Species Act, the next-to-the-last question/statement was just as loaded:

> *"Decisions about wildlife management and which animals need protection should be made by scientists, not politicians."*

The results were unsurprising; 71% agreed strongly, 21% somewhat agreed, 4% somewhat disagreed, 2% strongly disagreed, and 2% didn't know or refused to answer.

This poll obscures more than it illuminates because it is so loaded in favor of the Endangered Species Act and against critics of the Act. For example, the ESA and its proponents are portrayed as "balanced" and in favor of the scientific process, with the obvious implication that opponents are not.

Asking loaded questions is not, however, limited to proponents of the Endangered Species Act, although they are more culpable, in large part because they have commissioned more polls than opponents. One example of a clearly loaded poll question on the Act was contained within a larger public opinion poll commissioned by Fox News.[226] The ESA question was:

"If you had to choose between (saving 1,000 jobs in your state) and (protecting land that is home to an endangered species), which would you choose?"

Due to being phrased this way, the responses were not surprising; 50% favored saving jobs, 29% protecting endangered species, 14% doing both, and 7% didn't know.

These polls by the Endangered Species Coalition and Fox News ask such loaded questions that they are of limited validity. According to two of the leading experts on polling, Michael Link, currently chief methodologist for research methods at The Nielsen Company, and Robert Oldendick, professor of political science at the University of South Carolina; "How questions are asked and the response categories provided are crucial to determining results. Common sense tells us that the use of loaded words or the phrasing of a question can affect the pattern of responses to a survey question.[227]

Fortunately, some of the aforementioned polls refrain from asking loaded questions, and as a result provide much more insight into public opinion. What is clear from these polls is that the public:

- Supports protecting endangered species
- Generally is ignorant of how the Endangered Species Act functions
- Supports compensation for land devalued by endangered species regulations
- May well support an approach to conserving endangered species that is very different than the ESA—either keeping the Act's land-use control regulations but providing compensation, or eliminating these regulations and providing incentives.

These polls also suggest that if the public knew the ESA results in landowners not being compensated, then support for the Act would be significantly diminished.

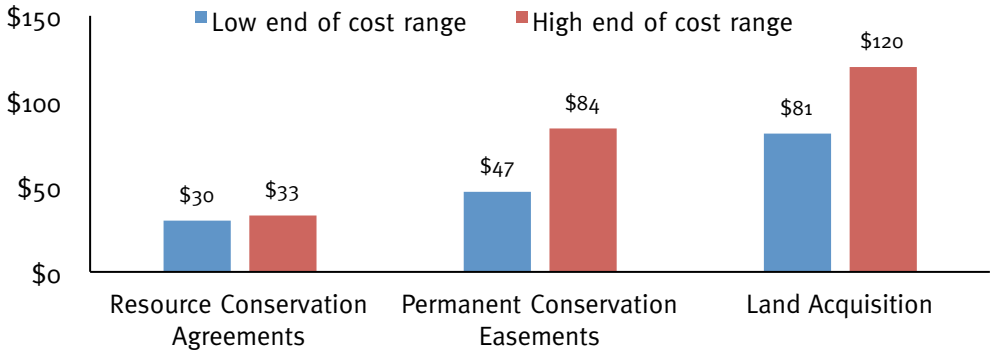
8.7 Cost-Effective Conservation

There is also evidence that an approach to endangered species conservation based on incentives would be much more cost-effective and efficient than the current penalty-based approach. This is an important consideration because funds for endangered species conservation, or any initiative for that matter, are finite. So spending funds more efficiently will yield better results.

In 1998, several researchers published a paper in the journal *Science* in which they estimated half the species under the Endangered Species Act could be conserved by cutting spending by 67%.[228] "[T]hese results serve to underline the importance of considering both ecological and economic factors in efficient species conservation," the authors conclude.[229]

Another study demonstrated how cost-effective conservation could occur for a specific species. A study of the endangered Florida panther found that using an approach with some similarities to the Conservation Reserve Program—called Resource Conservation Agreements—would be much more cost-effective than two other conservation approaches on private property that are traditionally used: land acquisition and permanent conservation easements.[230]

Figure 27: Cost of Various Initiatives to Conserve Florida Panther Habitat
(annual cost per acre)



Source: Main et al., "Evaluating Costs of Conservation," p.1269.

By point of comparison, the restrictions on Ben Cone's 1,121 acres as a result of the endangered red-cockaded woodpecker worked out to $1,271 per acre.

The Endangered Species Act encourages highly expensive habitat conservation and discourages cost-effective, innovative conservation because the federal government does not have to pay for locking-up huge amounts of privately owned habitat. Proponents of the ESA can operate under the fiction that encumbering private property costs little, if anything, because the prices are largely hidden and compensation is not required. This is reflected not only in cases like Ben Cone's but also in recovery plans. This author has read hundreds of recovery plans, and one aspect of nearly all of them is that the authors of the federally approved plans only consider habitat for endangered species to be "secure" when it is in public ownership, ownership by a non-government conservation group, or under

permanent conservation easement. This bias against private ownership is not surprising given that the ESA discourages innovation and discourages private landowners from conserving species. This bias also illustrates how effectively the Act inhibits conservation on private lands because private lands are essentially written off as part of the conservation process.

There are also a number of voluntary, non-regulatory federal conservation initiatives that demonstrate that conservation can be more efficient and cost-effective than habitat acquisition and permanent conservation easements, as well as far less controversial than forcing private landowners to bear the costs of conserving endangered species.

- Land enrolled in the Conservation Reserve Program costs $64 per acre annually, and there are a number of other federal conservation programs.
- The Department of Agriculture's Wetland Reserve Program spends around $600 per acre, but this is a one-time cost.
- Meanwhile, Fish and Wildlife has a couple of programs, including Partners for Wildlife, which is a voluntary, cost-sharing technical assistance program that has worked with more than 44,000 landowners to restore more than 1,000,000 acres of wetlands, 3,235,000 acres of upland habitat, and 9,200 miles of river and stream habitat.[231] Habitat conservation under Partners for Wildlife can cost as little as $100 per acre.[232]

8.8 Innovative Conservation

If the Endangered Species Act's penalties were removed, and species were no longer liabilities for landowners, there would be a flourishing of innovative approaches to conserve endangered species.

- One such innovation is called Conservation Rental Contracts, which was conceived by Rick Stroup and Tom Bourland, economics professor and forestry consultant, respectively. Under Conservation Rental Contracts a landowner would agree, for a specified period of time (around 10 years), to do one of two things in exchange for cash payments: produce endangered species, or engage in certain land management practices. Producing endangered species would be determined by surveying a landowners' property at regular intervals and then paying for additional species above a baseline.[233]
- Another interesting innovation would be to create an "agglomeration bonus," the term coined by several economists for the financial bonus paid to landowners who are willing to conserve endangered species on contiguous pieces of property.[234] This idea seeks to find a solution to what has become

> increasingly clear to biologists and ecologists—that wildlife tends to fare better and have increased chances for survival if it exists in larger, more contiguous chunks of habitat.

Economists Gregory Parkhurst of Mississippi State University and Jason Shogren of the University of Wyoming, who are also two of the co-authors of the agglomeration study, provide some very useful general insight into voluntary incentive mechanisms for endangered species:

> *"If compensation plans are to work cost-effectively, they should be voluntary for the private landowners and flexible enough to accommodate a species' biological need for habitat reserves of varying sizes. The plans should also provide incentives for the landowner to profit from his or her private information about the land and account for the opportunity costs of the funds used to compensate acre set-asides."*[235]

All of these initiatives to provide compensation for endangered species conservation are part of a larger field of study and practice that has emerged over the past decade known as Payment for Environmental Services, or Payment for Ecosystem Services. Payment for Environmental Services reflects a growing interest in using payments to landowners, rather than traditional command-and-control legislation, as a more effective means to achieve environmental goals, such as watershed, forest and wildlife conservation.[236] The reasons why Payment for Environmental Services is viewed as more effective are many of the same reasons such an approach would be more successful for conserving endangered species:

1) Coercive conservation creates backlash.
2) The people who can deliver environmental services often live in rural areas that are sparsely populated. So if these people perceive that providing a service, such as endangered species habitat, is a burden they can usually destroy the habitat without being detected by regulatory authorities.
3) The ability of regulatory authorities to enforce coercive conservation measures is limited given the finite number of enforcement personnel, the large number of landowners, and that these landowners are often spread over large areas.
4) Landowners highly value their property rights and autonomy.
5) Landowners generally respond positively to financial incentives, especially if the "stick" of coercive regulation is not a threat.

THE TEXAS MODEL FOR SUCCESS

One innovative approach to endangered species conservation is the Recovery Credit System developed by the state of Texas in the mid-2000s and modeled on the U.S. Department of Agriculture's Conservation Reserve Program. Under this system, landowners mitigate potentially detrimental effects of their own land-use practices on endangered species habitat by purchasing Recovery Credits from the private owners of nearby land, who agree to improve and conserve similar habitat. In practice, Recovery Credits are purchased through a low-bid (or "reverse") auction, which drives down costs. The Recovery Credit System is supported by a very robust and scientifically valid management process that ensures endangered species benefit, landowners' concerns are met, and a wide range of stakeholders are involved.[237]

The first application of the Recovery Credit System occurred from 2006–2009 on and around Fort Hood, a military base in central Texas, for the endangered golden-cheeked warbler. A key aspect of the pilot program was the state of Texas protecting landowners' confidentiality because of the fear and very real possibility that the U.S. Fish and Wildlife Service could use information about landowners' properties to invoke the Endangered Species Act's feared land-use restrictions.[238]

The success of the Recovery Credit System on Fort Hood and surrounding private land led to its application and proposed application elsewhere, most notably for dunes sagebrush lizard that lives in the Permian Basin of western Texas and eastern New Mexico, an oil-rich region that is responsible for 15% of U.S. oil production. In 2012, when the Fish and Wildlife Service decided not to list the lizard, the conservation plan developed by stakeholders, which was based in large part on the Recovery Credit System, was cited by Interior Department as the key reason not to list.[239]

The Recovery Credit System has also been implemented for the Utah Prairie dog and is part of proposed conservation initiatives for a number of other species, including the entire range of the golden-cheeked warbler and black-capped vireo in Texas,[240] the lesser prairie chicken, which was listed in March 2014, and the greater sage grouse, which may be listed in the fall of 2015.[241]

While the Recovery Credit System can ameliorate the disincentives to conserve species created by the ESA's penalties, it cannot eliminate them, as legal scholars Barton Thompson, Richard Epstein and Jonathan Adler pointed out in Section 6.2 of this study. Even so, the Recovery Credit System offers powerful evidence of the potential for a more successful approach to species conservation based on compensating landowners for their conservation efforts instead of penalizing them.

8.9 The "New Ecology," New Conservation and Backwards ESA

The biological and ecological realities of endangered species are better suited for a more flexible, adaptable approach to their conservation, rather than the inflexible, top-down approach embodied by the Endangered Species Act. In many ways the Endangered Species Act represents the "old ecology" that held sway for much of the latter 19th century though the mid-20th century. The old ecology was predicated on a number of ideas, including that biological systems consisted of orderly, predictable relationships that were self-regulating, discreet, largely self-contained, harmonious, and tended toward states of equilibrium.[242] For example, a pine forest was thought to go through certain predictable stages, from early successional growth through to a mature or climax forest, at which point the trees would begin to die and the pattern repeat itself. Following this view, forces could affect forests, such as drought and fire, but they could not alter the essential, and in many ways inevitable, successional process from nascent to mature pine forest.

Yet starting in the 1970s scientists increasingly began to question this view of a neatly ordered, balanced nature. Observations and data revealed that habitat types were anything but orderly, inevitable, predictable, and followed step-wise progressions to known end-points. The "new ecology," as it came to be known, was based on ideas of instability, spatial and temporal variability, disequilibrium and threshold effects that could fundamentally alter the composition and trajectory of habitats and ecosystems.[243]

The Southern pine forests inhabited by the red-cockaded woodpecker provide a good illustration of the new ecology. The longleaf and loblolly pine forests are what is known as disturbance dependent; in this case fire is the disturbance that suppresses understory growth, thereby creating a forest consisting of relatively few, widely spaced old growth pines. Pre-historically, relatively frequent ground-level fires occurred as a result of lightning strikes and being set by Native Americans to improve hunting conditions. However, with the advent of Euro-American settlement, the frequency and extent of fires decreased due to fire suppression and not using fire as a management tool. Absent fire, or some other mechanical or chemical means to keep the understory in check, shade-tolerant deciduous trees will grow and eventually take over portions of the forest as the pines die off. The result is a fundamentally different type of forest that the red-cockaded woodpecker is unable to inhabit. Once deciduous trees become established, this is not easily undone unless there is one or a series of major threshold events—such as large, crown-level fires that kill the deciduous trees—that create the conditions conducive for pine trees to grow.

Given the realities of the new ecology—how the composition of ecosystems can change quite dramatically and unpredictably—there is a need for management regimes that are flexible enough to match this variability. Yet the rigid, inflexible and top-down Endangered Species Act is not what is needed. In many ways the Endangered Species Act is analogous to the "old ecology" in that it represents an outmoded and archaic approach to conservation. Some have interpreted the new ecology to question the wisdom of the Endangered Species Act because much of it is rooted in the old ecology, such as a definite balance to which nature can be restored.[244] While it's possible to debate this endlessly, the more salient point is that doing so will only serve to antagonize strong supporters of the ESA, which is of little political benefit for the purpose of fundamentally reforming the Act.

In response to the new ecology, different approaches to conservation have emerged, two of which are adaptive management and resilience. As their names imply, these two approaches try to mimic the new ecology by being flexible, adaptive and sensitive to the spatial and temporal variability of habitats and ecosystems.[245] There has been increasing interest in what this means for the Endangered Species Act, some of which consists of research focused on trying to make adaptive management work within the context of the Act and superficial reforms such as Safe Harbors, Candidate Conservation Agreements and Habitat Conservation Plans.[246]

Fortunately, there has been a good deal of research that takes a broader view and incorporates the concerns of landowners, including protecting property rights.[247] While this research has focused more broadly on environmental conservation, it nonetheless presents a more innovative approach that would be more successful in the context of conserving endangered species in the U.S. Most of this research, however, has focused on conservation and management issues in the developing world.[248]

Much of the innovation, which includes both research and application, has taken place in Southern Africa. These efforts have focused on addressing the needs of the people who live with wildlife. Most notable, has been the creation of property rights to wildlife and natural resources so people can use these to their benefit.[249] There has been a variety of management initiatives, the most well-known of which is community-based natural resource management.[250] In many ways this "new conservation" has displaced the "old conservation," of which the Endangered Species Act is perhaps the foremost example.

The relevance of the new conservation for the Endangered Species Act is not necessarily in creating property rights to endangered species, but rather

recognizing the fundamental importance of landowners' property rights in any conservation initiative. The crucial insight from the new conservation and the developing world is that if an approach to conserving wildlife and habitats is a threat to people's livelihoods and financial well-being, then it is almost guaranteed to ensure the demise of what is trying to be conserved.

One need to shift away from the old conservation is if climate change occurs as proponents of the ESA predict. Proponents of the Endangered Species Act are very concerned species' habitats may be altered significantly, including shifting locations, as a result of climate change.[251] If this occurs, then there will be all the more need for an approach to endangered species conservation that is flexible and not a threat to landowners. After all, if species' habitats shift locations, landowners will be crucially important to providing new habitat. But if the Endangered Species Act remains the same and continues to punish people for harboring species, then landowners can easily anticipate where endangered species are going to move and deny them habitat.

The new ecology and new conservation are all the more reason why there is a need for a new approach to conserving endangered species in the U.S. The combination of ecological uncertainty and variability, coupled with the imperative of protecting landowners' property rights, points away from the Endangered Species Act and toward an approach like the Endangered Species Reserve Program that is more flexible and sensitive to ecological and social conditions.

Part 9

Doing More by Doing Less

This idea that more can be achieved by doing less—in this case achieving better conservation outcomes for endangered species by *removing* penalties—may seem counterintuitive. Some people, especially those in Congress, federal agencies and pressure groups, tend to presume that it is always better to pass additional legislation and implement new regulations. But in this case, additional legislation and regulations would not undo the harm that is being done by the ESA.

Only substantive reform of the Endangered Species Act will work. That means removing the punitive regulations that cause landowners to destroy habitat, kill species, and to go silent in efforts to avoid being whacked by cocked-two-by-fours.

There are several reasons why a non-punitive approach to endangered species protection would work better than the current law.

1) Common sense dictates that if you want more of something, you reward it. At the very least, you don't punish people for providing it.
2) There is now a large and growing body of evidence, some of which has been documented in this paper, showing how the Endangered Species Act discourages species conservation.
3) America's amazingly successful tradition of private conservation, as well as initiatives such as the Conservation Reserve Program, prove landowners across the country will willingly conserve wildlife, including endangered species, so long as they are not punished.
4) For those not convinced about the viability of a non-punitive Endangered Species Act, there is a practical consideration: it is simply impossible for enforcers and supporters of the Endangered Species Act to patrol this country's hundreds of millions of acres of endangered species habitat. Short of turning the U.S. into a police state, private landowners will always be able lawfully to make habitat unsuitable for species that are already listed or proposed for listing, and most will be able to break the law without detection by destroying species and habitat.
5) Some Endangered Species Act advocates think the ideal approach is to reward good landowner behavior with carrots and discourage bad behavior

with sticks. But given landowners' enormous advantage when it comes to evading or breaking the law, the use of sticks will fail more than succeed. Therefore, it is in the best interests of all those concerned about conserving endangered species to get rid of the penalties.

6) Any legislation, be it for endangered species or other issues, must be based on a positive vision of the future in order to capture the public's imagination and garner widespread support. People, including members of Congress, like supporting initiatives they see as optimistic, constructive and good for the country. Fortunately, an Endangered Species Reserve Program presents just such an opportunity for the public, legislators, non-profit groups and business interests to support actions that are uplifting and elicit sympathy: endangered species, landowners, especially those who make a living from the land, America's long and proud tradition of private conservation, and the amazing job American landowners and citizen-conservationists are doing to conserve this country's land and wildlife.

Part 10

A Brighter Future

As Craig Schindler looks out over his land, he likely worries about the looming threat a tiny fish poses to his farm and livelihood. He was happy to harbor the grotto sculpin so long as he didn't get stuck with a huge bill involuntarily. Now that the sculpin has been listed, he is forced to bear the burden of conserving it, and his goodwill and trust in the federal government has evaporated. He is paying the price for being kindhearted and allowing scientists on his land. Never again will he make that mistake. In the year between the sculpin's proposed and final listing, it is entirely possible other landowners in Perry County, Missouri quietly tried to rid their property of the fish and destroy its habitat. And they may still be at it, if the plight of other endangered species is any guide.

The Endangered Species Act is a crude instrument that discourages innovation. After all, why bother being creative when you can threaten landowners with cocked two-by-fours? If the Act's penalties were removed, there would be a surge of imaginative ways to conserve endangered species. For some landowners, being left alone free of threats will be enough motivation to conserve species, while others will need inducements ranging from honorary awards to cash payments, which might include bounties for producing species and contracts like the Conservation Reserve Program. But as more and more of the U.S. is subject to the ESA, landowners will become increasingly wary of it unless they see the open hand of friendship, not the closed fist of threats and penalties.

In many ways, it is not surprising the Endangered Species Act's most ardent defenders generally take a dim view of private landowners and their willingness and ability to conserve endangered species. After all, the Act's punitive nature creates self-selecting groups; those most willing to force landowners to bear the costs of harboring species tend to be the ESA's most ardent defenders, as well as those who look most negatively at private landowners.

And yet, most landowners are like Craig Schindler. They are proud to have wildlife on their land and like harboring unusual species. According to Steven Edwards of the IUCN (World Conservation Union), and one of the world's foremost experts on wildlife conservation:

> *"[S]uccessful conservation depends on the commitment of the people living with the wild species—not us. Yes, we can give financial and technical support, but in the final analysis it will be those people who will make a difference. Not laws. Not government policies. And not our wishful thinking."*[252]

Fortunately, there is an alternative to the coercive and ultimately counterproductive Endangered Species Act approach to conservation. This country's tradition of private conservation, coupled with the civic-mindedness and voluntarism of U.S. landowners, is the key to successful endangered species conservation. America's landowners are a reserve army of the unappreciated and unacknowledged who hold the key to successful endangered species conservation. Proponents of endangered species conservation should think of the hundreds of thousands, perhaps millions, of landowners with endangered species and habitat suitable for endangered species on the property as potential allies and data sources who can act as monitors, early warning systems and stewards for imperiled species. These landowners are willing and able to help, but the barriers and penalties preventing them from doing so must be removed.

A good rule of thumb is to apply the Hippocratic Oath to endangered species conservation. Physicians and other healthcare providers take the Oath, one aspect of which is "first do no harm." Applying the Hippocratic Oath to endangered species would mean eliminating the penalties that cause so much harm.

Conserving endangered species, especially magnificent wildlife such as the bald eagle, appeals to most Americans. It is a highly symbolic and emotive issue that touches on a number of values Americans hold dear, including patriotism, fairness, individual rights, private conservation, and a love of this country's land and wildlife.

It is time for a new approach to endangered species conservation. The proposed Endangered Species Reserve Program is just such an approach and can break the impasse over the Endangered Species Act's reauthorization. Sometimes the simplest ideas work best, and sometimes answers are hidden in plain sight.

Boy Scouts installing a bluebird box

Source: http://commons.wikimedia.org/wiki/File:SK-Boy_Scouts_install_a_new_bluebird_box_%285610542195%29.jpg

Those who care about endangered species conservation should ask themselves some questions, such as:

- What if landowners treat endangered species like bluebirds and wood ducks, instead of spotted owls?
- What if landowners see endangered species as assets, not liabilities?
- What if landowners voluntarily and willingly pick up the phone and call their local Fish and Wildlife Service office to have someone come out and survey their land for endangered species?
- What if we draw on Americans' world-leading charity, voluntarism and civic-mindedness for the cause of conserving endangered species?
- What if landowners no longer fear state and federal regulatory agencies and instead view them with confidence and openness?
- What if landowners are liberated to use their ingenuity and knowledge of their property in order to conserve endangered species?
- What if all endangered species are like the Johnston's frankenia so that even the most hostile and hardened landowners willingly sign agreements to conserve them?

In the answers to these questions lies a tantalizing but entirely attainable better future for endangered species, the landowners who harbor them, and all people who care about this country's imperiled plants and animals. Those serious about endangered species conservation should seek to tap the enormous goodwill, energy and talent of America's landowners by charting a new course that respects property rights and compensates landowners for the costs incurred conserving endangered species.

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