Dispatches from the edge of doom

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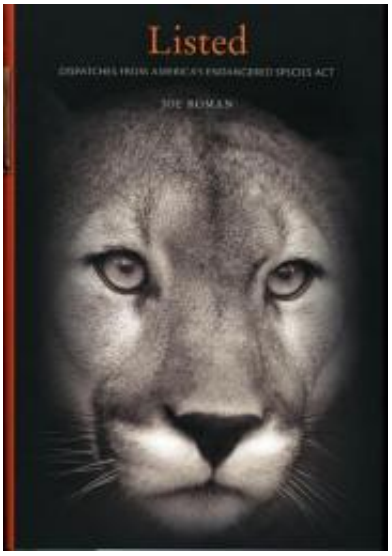

In his new book, Listed, conservation biologist Joe Roman explains how protecting endangered species can help economies and communities thrive. Credit: Harvard University Press, 2011

Something strange happened in 1973. Republican president Richard Nixon -- who the year before had stated, "this is not the land of quotas and restrictions" -- signed the Endangered Species Act into law.

A moment of cultural concern about ecological issues -- and the rapid decline of charismatic creatures like bald eagles and alligators -- led the Senate to pass the law 92-0. Sounding more Thoreauvian than Thatcherite, Nixon declared, "Nothing is more priceless and worthy of preservation than the rich array of animal life with which our country

has been blessed."

His signature set into motion one of most powerfully restricting laws in U.S. history -- while providing what has proven to be a remarkably durable tool for the rescue and recovery of many plants and animals on the brink of going forever into the dark.

The Act was "visionary and comprehensive," says the University of Vermont's Joe Roman. It was staunchly prohibitive, and had "enormous reach," he notes, outlawing not only direct take of endangered species through hunting or removal, but also destruction of endangered species' habitat, a rule that gave regulators the power to stop private landowners and government agencies from cutting trees, diverting a river, or erecting a building.

The passage of the ESA is "a feat just about unimaginable forty years on, " says Roman, a conservation biologist in UVM's Rubenstein School of Environment and Natural Resources.

Roman's new book, Listed: Dispatches from America's Endangered Species Act, traces this four-decade history -- while describing his cross-the-nation tour following the tales (and sometime tails) of the many creatures (and a few plants) that have been at the center of the ESA's contested place in American life: whooping cranes, right whales, grey wolves, Indiana bats, Florida panthers and others.

The book will be released by Harvard University Press on May 15.

Listed begins with an odd and small fish, the snail darter, that almost stopped an enormous dam. The now-iconic fight over the Tennessee Valley Authority's Tellico Dam highlights how much has changed since the Act's inception. The Supreme Court ruled in favor of the darter. Brought before Congress, a Tennessee legislator named Al Gore voted to

change the rules in favor of the dam. Freshman congressman Newt Gingrich voted for the fish. The fish lost, though it survives in other waterways.

"The ESA has been more flexible over time," Roman says, "it's become more of a permitting act than a prohibiting act." A few creatures have gone extinct while waiting to be listed on the Endangered Species Act. But many other creatures, like the bald eagle, alligator, brown pelican, and gray whale, have recovered and now thrive thanks to ESA protection.

"Although it may be decades before we can adequately assess its effectiveness," Roman writes, "it is clear that protection works. If we see the glass as half full, most listed species improve or remain stable. Dozens more would have gone extinct without protection."

Take the Florida panther that looks soulfully out from the cover of the new book. Once roaming across much of the American South, by the 1980s panthers on the East Coast had dwindled to an inbred few dozen in the swampy Everglades. Without the genetic diversity needed to survive, the big cats were written off by many people as walking dead. So the U.S. Fish and Wildlife Service, under the banner of the ESA, brought in eight female panthers from Texas. Slightly compromising the distinct genetic identity of the Florida population was well worth the outcome: a considerably recovered population that now breeds successfully.

This tale, told in the ninth chapter of Roman's book, "The Panther's New Genes," is "a very good case study for managing species," Roman says in a recent podcast, "The ESA isn't just about protecting them from dangers. You actually have to actively manage them." But in so doing, he says, "we also can turn around populations that appear to be extinct."

Yet many other animals and plants, like the Indiana bat found in Vermont, face demise from disease and habitat loss with or without ESA protections, highlighting the law's limits in the emerging age of mass extinction.

Despite its successes, the number of species on the ESA list has "grown by almost an order of magnitude," Roman says. And the number of species projected to go extinct globally in the next century may reach fifty percent.

"There are steps that can be taken to steer us away from mass extinction, to approach the Holy Grail of conservation: zero extinction in our lifetime," Roman writes. "We need to strengthen prohibitory regulations like the Endangered Species Act," he says, and also put money toward landowner incentive plans, endangered species banking efforts, and studies to show the ecological and economic value of endangered species .

"Historically, the pressure has often been on species -- that they cost too much," he says, "I think that there is overwhelming evidence to show the contrary: that they can actually benefit communities." For example, protecting wetlands in Louisiana protects species while also providing very inexpensive storm protection. Or take the value of ecotourism. Manatees, a highly endangered sea mammal, account for nearly all the tourist dollars that come in Citrus County, Fla., says Roman, a fellow in UVM's Gund Institute for Ecological Economics.

"It's really about ecosystems," he says, "You can't protect a species outside of its ecosystem and you can't protect an ecosystem without protecting its species."

Roman calls for a broad network of biodiversity parks to connect isolated islands of current habitat, biodiversity trust funds, better

conservation of agricultural and rural lands that border wilderness areas, and, perhaps most importantly, shrinking the human ecological footprint by reducing population and consumption. "Nobody ever said this was going to be easy," he writes.

Roman's book ends at home, in Vermont. Here, bats are dying by the thousands, brought down by a mysterious disease, white-nose syndrome. The ESA can do little, it seems, to prevent this catastrophe.

Yet the dying of bats seems less a failure of legislation, and more a stark affirmation of the ESA's underlying values. Listed is a reminder that our economy and health are composed from the lives of other species, and our joys and losses too. The deeper affiliation that the law contains -- and that Roman wants us to contemplate -- is that we are tightly bound to nature, not just observers of extinction.

In the epilogue to Listed, Roman doesn't have the heart to tell his pre-school-aged daughter that the bats she recently observed have all died. Instead, when one unexpected survivor flies into the house, he goes with her to let it back out. "I opened the door to the natural world," he writes in the penultimate sentence. "We walked toward the bat."

Provided by University of Vermont

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