The Endangered Species Act at 40

Is it a Pyrrhic victory? By Isabelle Groe

WHAT HAPPENS WHEN AN ENDANGERED SPECIES PUTS A HALT TO GROWTH? That is one of the more extreme outcomes of the Endangered Species Act, but it isn't unique to one area. It's happened in fast-growing Arizona, and it's happened in not-so-fast-growing parts of the Pacific Northwest.

In 1997, the cactus ferruginous pygmy owl, a tiny bird that lives in the Sonoran Desert of Arizona, was listed as endangered under the Endangered Species Act. The owl happened to nest in Pima County, which includes the Tucson metropolitan area. When the owl was listed, development activities immediately slowed down. A new high school was delayed.

"The owl was found in the hottest part of town as far as growth went, so it was the pygmy owl versus the bulldozer," says Carolyn Campbell, executive director of the Coalition for Sonoran Desert Protection.

The dilemma prompted the development of the Sonoran Desert Conservation Plan, produced by a steering committee of city and county governments, environmental groups, developers, ranchers, and neighborhood representatives who met for over three years to find the right balance between economic development and wildlife protection. A scientific team prepared a map of biologically sensitive lands, which was then included in the county's comprehensive land-use plan to steer development away from ecologically important areas. In 2004 the community passed a $174 million open space bond to acquire or lease 200,000 acres for conservation purposes.

Today, the plan is viewed as a national model for reconciling conservation and growth (it won a National Planning Award from APA in 2002), but it would not have happened if the owl had not been listed in the first place. "We could have never gotten there without the Endangered Species Act hammer," says Campbell, who helped craft the plan. Ironically, the owl was unlisted in 2006 because of alleged flaws in the underlying science. This decision is currently challenged by environmental groups, but in the meantime, the Sonoran Desert Conservation Plan lives on.

Survival rate

Since its enactment in December 1973, the Endangered Species Act has proven to be a powerful law. A 2012 study published by the Center for Biological Diversity, a nonprofit group dedicated to the protection of endangered species and wild places, compared the actual and projected extinction rate of ESA-listed species, concluding that the act prevented the extinction of 227 species.

However, much has changed since the law was adopted. The population of the U.S. has increased by more than 50 percent in the past four decades, and the list of threatened species has continued to grow. With climate change, factors leading to extinction have also become more complex.

"The ESA is needed more than ever," says Noah Greenwald, endangered species director of the Center for Biological Diversity. There are currently close to 1,500 species listed under the act, and Greenwald estimates an equal number are not protected but should be.

With an annual budget of less than $180 million, the ESA is chronically underfunded. "It is expensive to recover species. We are not committing the financial resources or political will to solve the problem," says Frank Davis, professor at the Donald Bren School of Environmental Science and Management at the University of California, Santa Barbara, and coeditor of the book The Endangered Species Act at Thirty.

Implementation has often pitted economic interests against endangered species. One of the most famous examples is the northern spotted owl, native to the old-growth forests of the Pacific Northwest. After the bird was listed in 1990, a bitter conflict arose between environmentalists and the timber industry, which feared that thousands of jobs would be lost. The Pacific Northwest timber industry did, in fact, shrink in the five years after the listing, but Greenwald points to other causes as well, saying that "mechanization, export of raw logs, and liquidation of old-growth forests resulted in equal or more jobs being lost."

That jobs-versus-species argument isn't unusual.

Some years after the law passed it had created so many conflicts that it was amended. Instead of simply prohibiting development, ESA implementation now permits economic activities and mitigates them.

How it works

Once a species is listed, Section 9 of the ESA creates a prohibition against "taking" members of the listed species, which includes harassing, harming, killing, or collecting the species, or degrading its habitat. In light of the development obstacles that such prohibitions created, Congress amended the act in 1982. One of the changes was the introduction of incidental take permits in connection with conservation plans that met certain requirements to recover species. These "habitat conservation plans" have
since become one of the most important tools available to local planners to reconcile economic development and conservation. “The ESA is more flexible than it used to be; it has grown up,” says Andrea Olive, assistant professor of political science and geography at the University of Toronto and the author of several papers comparing endangered species policy in Canada and the U.S. “Planners have a lot to celebrate on its 40th anniversary because it is not nearly as rigid as it used to be.”

An HCP is a bargain struck between a developer and the U.S. Fish and Wildlife Service. Development activities are allowed to “take” an endangered species, degrading its habitat or even killing it in exchange for conservation measures such as setting land aside elsewhere for the impacted species. Starting in the 1990s, HCPs became popular among local jurisdictions that wanted to accommodate economic development while still meeting the demands of species protection. The Sonoran Conservation Desert Plan is an example.

Given the number of species to protect and the high potential for conflict between new development and habitat for listed species, local governments often opted for multi-species habitat conservation plans in order to protect a large set of species while facilitating economic development under a single agreement. This approach was extensively used in California, which has the second highest number of endangered species in the country after Hawaii and also faces high demands for economic growth.

San Diego approach

One of the first jurisdictions to develop such a plan was San Diego County, where development had eliminated 70 percent of the county’s coastal sage scrub, 95 percent of its native grasslands, and more than 90 percent of other coastal vegetation communities. In 1994, the Fish and Wildlife service added the California gnatcatcher to the list of threatened species, halting development projects in coastal sage scrub, the bird’s habitat.

This provided the impetus for the development of a Multiple Species Conservation program, adopted by the county and city of San Diego in 1997.

The MSCP was designed to protect 85 imperiled plant and animal species by saving 172,000 acres of San Diego County’s chaparral, coastal sage scrub, and other disappearing wildlife habitats. Scientists prioritized which land was the most important to protect and how much of it needed protection in order to guarantee species’ long-term survival. Developers were required to mitigate projects by contributing to the land preserve. Incidental “take” of listed species on the developed land would be allowed.

“In a fragmented landscape like Southern California, you are never saving enough, but the amount of land that was conserved...
at the time was a real score," says Michael Beck, San Diego director of the Endangered Habitats League and county planning commissioner. Economic analysis led directly to the MSCP in San Diego County. "We were able to demonstrate there is an intersection between conservation and economics that work for both sides," Beck says.

What's optimum?
Not everybody agrees that endangered species win in these deals. Some scientists and environmentalists have criticized habitat conservation plans for being development-driven rather than conservation-driven. "In principle they often have very good goals, but in practice it is a mixed bag," says John Buse, legal director of the Center for Biological Diversity. Critics point out the flaws of multiple species habitat conservation plans, including insufficient funding, the failure to set aside enough habitat for covered species, or the inability to consider the local needs of specific species.

Vernal pools became the symbol of these limitations. In 1997, the Fish and Wildlife Service estimated that up to 97 percent of vernal pools in San Diego County had been lost. These are small seasonal bodies of water that provide habitat for a unique set of endangered plants and invertebrates such as the San Diego fairy shrimp. In 1998, a coalition of environmental and scientific organizations filed a lawsuit against the city of San Diego, which had approved the destruction of vernal pools on development sites despite the Multiple Species Conservation Plan's promise to conserve and avoid vernal pools.

The litigation stretched over a decade and resulted in a decision ruling that the city had failed to adequately protect vernal pools. Now the city is required to develop a new vernal pool habitat conservation plan.

Meeting the needs of development and endangered species remains a challenging exercise for local governments, especially in urban areas where high land values make habitat preservation more expensive and politically difficult. In a recent paper published this year in the journal Applied Geography, based on an analysis of endangered species conservation in five large U.S. cities, authors Andrea Olive and Alexa Minichello found that very little is being done by the Fish and Wildlife Service or the cities themselves to protect and recover urban endangered species.

By the time species are ESA-listed, their...
Evan Richert, town planner for Orono, Maine, surveys a vernal pool. Planners are working with stakeholders to develop protection tools.

numbers are so small that there are often few options available that would allow both species recovery and new growth. In San Diego, for example, there were so few remaining vernal pools that it was difficult to find adequate alternatives to protect them while still allowing development to occur.

“The ESA has proven to be a remarkably strong and important conservation policy in the U.S., but it would work best if other conservation tools were used to prevent species from being listed in the first place,” says Frank Davis.

Getting a jump on the problem

In Maine, a team of scientists and local planners is now experimenting with a new tool to conserve their own vernal pools before the species they host even get listed under the ESA. Those pools are productive breeding habitat for several species of frogs, salamanders, and invertebrates.

In 2006, the state of Maine passed legislation to regulate a subset of vernal pools as significant wildlife habitat. The town of Orono (pop. 10,000) felt the impact. A proposed residential development project located in the town’s designated growth zone, near schools and downtown, could not move forward because of a vernal pool at the center of the site. Drawing on the lessons from this experience, the town decided to collaborate with the University of Maine to identify all vernal pools in the region and determine which ones were significant and required protection.

“We had learned that the town’s desire for growth and the property owners’ desire to develop could both be upset by the lack of knowledge,” says Evan Richert, AICP, town planner for Orono. “Knowing about vernal pools in advance allows some upfront planning that saves money and tears.”

Based on the pool inventory, planners, regulators, developers, scientists, and other stakeholders are collaborating to understand how development and conservation can better coexist. They are developing a hybrid tool combining elements of a local in-lieu fee program and a transfer of development rights program. With this tool, developers can build in the town-designated growth area and disturb or even destroy the vernal pools on the site as long as they contribute a fee to finance the protection of significant pools elsewhere outside the town. Rural landowners would be remunerated through a permanent conservation easement that would include the vernal pool and adjacent uplands that are part of the habitat for animals that depend on the pool.

“We spend the money wisely investing in a landscape that will have a greater chance of supporting populations of pool-breeding amphibians in perpetuity,” says University of Maine wetlands ecologist Aram Calhoun. “We are not going to save all the pools, but we are working on a win-win situation for the town and for the amphibians.”

Richert says that he knew very little about vernal pools before he started working on this project with Calhoun. But he went out in the field to look at the pools and identify the egg masses. “They were places of great beauty, teeming with life,” he recalls. “These are good things for us to have as long as we can work around them.”

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RESOURCES

ONLINE

The interactive art and science project What Is Missing? is artist and architect Maya Lin’s memorial to species extinction, charting the losses of plants and animals since about 45,000 BC: http://whatismissing.net.

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