



SINCE THEN,

the Mexican wolf, a subspecies of the gray wolf, has gained a toehold in the southwest, its native habitat, through patient management of breeding programs at numerous Association of Zoos and Aquariums-accredited and certified facilities and partners. But controversy is never far behind efforts to bring wolves back to their natural habitat and the reaction to the first completed revision of the 1982 plan issued in November 2017 by the USFWS was no exception.

> First, some background. The Mexican wolf used to be plentiful in the southwest United States and Mexico, but like its brethren, such as the red wolf in the southeast, it was hunted nearly to extinction early in the 20th century, largely because it was seen as a threat to livestock.

> "The situation was so dire that we couldn't foresee recovery," said Maggie Dwire, the assistant Mexican Wolf Recovery coordinator with the USFWS. "They were extinct in the United States and just pockets were left in Mexico."

It was put on the federal Endangered Species list in 1976 and a breeding program started shortly afterwards using a few wolves captured in Mexico.

AZA's Species Survival Plan® for the Mexican wolf was established in 1994 and grew quickly, according to Peter Siminski, the Mexican Wolf SSP coordinator for 24 years. He retired in October 2017 as director of conservation and education of the Living Desert Zoo and Gardens in Palm Desert, Calif. In 1998, the first captive-bred Mexican wolves were released into the wild in three different locations in the Arizonan Apache National Forest.

The Arizona-Sonora Desert Museum in Tucson, Ariz., and the Endangered Wolf Center in Eureka, Mo., housed two of the first breeding programs; now there are 53 breeding facilities in the U.S. and Mexico with about 275 wolves, Siminski said. As of January 2017, there were 113 wild Mexican wolves in Arizona and New Mexico

It sounds like something of a success story—and it is—but obstacles from both nature and humans have many people worried about the future of the animal.

"The recovery plan has been a roller coaster," said Regina Mossotti, director of animal care and conservation at the Endangered Wolf Center.

Under the umbrella of the environmental group Earth Justice, a number of organizations have notified the USFWS of their intent to sue over the latest recovery plan, something required 60 days before an actual lawsuit can be filed, said David Parsons, a wildlife biologist and former Mexican wolf recovery coordinator for the USFWS from 1990-1999. Parsons plans to be a party to the lawsuit.

One concern expressed by the groups is the criteria for down-listing or de-listing the Mexican wolf from Endangered to Threatened. Down-listing would occur if there are at least 320 wolves in the U.S., over an average of four years with all gene diversity incorporated, or if there are 150 Mexican wolves in both the U.S. and Mexico over four years. The delisting criteria require a minimum number of wolves over an eight-year period.

Parsons said the numbers are too low "to establish a natural level of abundance and to have a positive effect on the ecosystem" and are not based on scientific research that has been done, but rather on what states say their residents can tolerate.

He also said the numbers set in Mexico are somewhat irrelevant, as the USFWS doesn't have any control over what another country does.

"This is driven entirely by politics," he said.

Another concern is that with the way habitats have been established, the wolves will not have a connected corridor allowing them to go back and forth to breed.

And, Mossotti said, the plan also calls for pups born at the partner organizations to be introduced into litters in the wild, and—at least for the first year—not allowing full-grown wolves to be released. The hope is that the mother will adopt the introduced pups, but that is "very hard to do, and it's rare that an opportunity arises," she said. "We have to have the ability to release adult wolves into the wild."





"WOLVES

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> Unlike the red wolf, which is also endangered, the Mexican wolf does not breed with coyotes and so there is not the concern about hybridization. But genetic diversity is a real threat to the population, Mossotti said, right up there with conflict with people. Although part of the goal of the breeding programs is to maintain and maximize genetic diversity, once introduced into the wild, "a few of those wolves did very, very well," Dwire said, and the population is now too homogenous to be healthy.

"We are aiming to get 90 percent of the genetic diversity of the *ex situ* population into the wild population, Dwire added. Mossotti and others believe that requires full-grown wolves be released, not just pups.

The concern of ranchers and others is that full-grown wolves born in managed care might be more likely to go after livestock and are more used to humans, so they could scare or hurt people by coming too close.

But wolves raised in the breeding programs are kept as apart from humans as possible, Mossotti said. "We don't talk to them,

we don't pet them or hand-feed them. They are fed the carcasses of deer and elk and whatever wanders into their enclosure that they can kill. We don't habituate them to humans in any way."

Mossotti and others believes wolves are deeply misunderstood, and she blames the way they are portrayed in films and fairy tales as a large part of the problem.

"Look at Little Red Riding Hood, The Three Little Pigs, Beauty and the Beast, even (the movie) Frozen," she said. "If everyone could work at our Center, they would never be scared of wolves again."

Ranchers and others are not so sanguine. In September, for example, federal employees killed a Mexican wolf in Albuquerque at the request of a Native American tribe, who implicated—by GPS and radio telemetry tracking—the animal in a string of cattle deaths. The killing was highly unusual and decried by environmental groups

Dwire of the USFWS said she could not comment on the recovery plan because there is a notice of intent to sue. SSPs typically do not take a political position on federal or state recovery actions, Siminski said, but his personal opinion as the long-time head of the SSP, differs from some of those threatening

"The old plan was woefully out of date and out of step with current conservation biology," he said. "The new plan has some arguable difficulties, but it is a plan that has direction for all involved whether they agree or not. It also defines when the Mexican wolf is no longer endangered, which the old plan did not. People did not know when recovery would be accomplished and they were put off by the possibility of a moving target."

Wolves are one of the simpler endangered species to recover, Dwire said. But what biology makes easy, politics makes difficult.

"Our goal is that wolves not be a wedge issue," she said.

One thing that most agree on is that the AZA-accredited and certified facilities have played a crucial role in saving the Mexican wolf from extinction.

"The ex situ breeding AZA and others have done has been absolutely instrumental in saving the wolf," Dwire said. "They've put in the time, cost, staff and facilities. They're an incredible group of dedicated people."

In addition to the breeding programs, zoos and other conservation centers have also helped educate visitors about the Mexican wolf. At the Endangered Wolf Center, that includes distance learning directly from the recovery area to classrooms in Arizona and New Mexico, as well onsite programs, Mossotti said.

Her center has also created a "Week of the Wolf" K-12 curriculum, designed for teachers to use in the classrooms, which hundreds of teachers have used. As she said, "We can breed all the wolves we want, but if we don't educate, they will keep getting shot."

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The SSP helps the recovery program in many ways, including research. In collaboration with the Saint Louis Zoo, the Endangered Wolf Center, University of California-Davis, and the SSP, the first ever pup born using frozen/ thawed semen was born at the Endangered Wolf Center this past spring (March 2017). Semen collection has taken place for over 25 years, and this technique can bring back lost or rare genetics, helping to increase genetic diversity in the captive and wild Mexican wolf population.

