

# INTERNATIONAL WOLF

A PUBLICATION OF THE INTERNATIONAL WOLF CENTER  
FALL 2020



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# Steady Growth in Mexican Wolf Population is Cause for Optimism

By AISLINN MAESTAS

Just as the sun begins to peek from behind the mountains, trucks begin pulling off the highway onto a dirt road. They make their way to a trailer that sits nestled in a forest clearing, converted to workspace for biologists. The morning air is cool and brisk; yesterday's mud has turned to ice, and boots crunch against it as people begin to organize for the day.

Up the hill from the clearing, a pilot prepares his helicopter for the day's flight. Fuel is loaded and checks are completed. The crew conducts a safety briefing and reviews targets for the day. The gunner (who darts animals with tranquilizer), the mugger (who subdues the animals for collaring) and the pilot load into the aircraft. The radio tower gives them the okay—and up they go, eventually disappearing from the horizon.

Back at the clearing, utility task vehicles (UTVs) and crates are loaded onto flatbed trailers and truck beds. Bags of supplies are checked, re-checked and then loaded into four-wheel-drive trucks. Inside a small office, dart makers carefully measure out exact doses of the tranquilizing drug Telezol. Members

of the Interagency Field Team (IFT), a group comprising federal, state, tribal and international partners, gather for a briefing promptly at 0630. Crews and locations are confirmed. Radios are given one last check for batteries. By 0700, crews roll out to their destinations.

It's time to go count, and maybe capture, wolves.

## An Upward Trend

The annual Mexican wolf count is an integral part of the Mexican Wolf Recovery Program. By providing information about the minimum number of wolves, packs, breeding pairs and pups in the wild, the count tracks progress toward the recovery goals for the endangered subspecies. Since reintroduction efforts began in 1998, the population has grown from zero wolves in the wild to a minimum of 163 in 2019.

"The latest count shows we have more wolves, more breeding pairs and more pups born in the wild than ever before," says Amy Lueders, regional director for the U.S. Fish and Wildlife Service in Albuquerque, New Mexico. "This is the second year we have seen a





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significant increase in the wild population of Mexican wolves, a success directly tied to the science-based, on-the-ground management efforts of the Interagency Field Team.”

Between 2018 and 2019, the number of wolves in the wild grew by 24 percent. According to the IFT, the 163 wolves are distributed with 76 in Arizona and 87 in New Mexico. At the end of 2018, the IFT documented a minimum of 131 wolves—a 12 percent increase from 2017. The population has increased an average of 15 percent annually over the last 10 years.

The 2019 count also showed increases in the number of breeding pairs and pups. A minimum of 21 packs had pups (compared to 18 in 2018); 19 of these packs had pups that survived to the end of the year. In addition, at least 90 pups were born in 2019 (compared to 81 in 2018), and at least 52 survived to the end of the year—a 58 percent survival. This exceeds the average rate of about 50 percent.

The 2019 jump in Mexican wolf numbers is not unique. In 2001, there was a 36 percent increase in the population; 2015 saw a 27 percent increase. It is not clear why greater growth occurs in some years than others. It is likely due to a combination of higher-than-average

survival of both adults and pups. However, as John Oakleaf, field project coordinator for the service’s Mexican Wolf Recovery Program explains, long-term trends matter more than individual years.

“Yearly variation in population growth rates is inherent in all wildlife, but what is important for Mexican wolf recovery is that the overall pattern is a growing population of wolves that leads toward the recovery goal of 320 [Mexican] wolves in the United States.”

In comparison to other wolf recovery efforts, a minimum of 163 wolves in the wild may not seem like much progress after 22 years, but when species are reintroduced from captivity, like these Mexican wolves, populations often grow more slowly than when reintroduction of wild wolves or natural recolonization takes place.


This is due to several factors. One is the lack of learned knowledge in animals reintroduced from captivity. Skills like caring for young and fearing humans are difficult to teach to captive-born wolves. It takes generations for wild wolves to learn and pass on the knowledge they need to survive in the wild. A second challenge has been educating humans within the Mexican Wolf Experimental Population Area.

“Recovery of a top predator like the Mexican wolf is complex, controversial and challenging,” says Oakleaf. “Most of what I do is work with people to reduce challenges and find solutions to conflicts. Just as we are working to increase the number of wolves in the wild, we must also work to increase support for the wolves in Arizona and New Mexico.”

## The Loss and the Return of Mexican Wolves in the Wild

The Mexican wolf, the smallest and rarest subspecies of gray wolf, once roamed throughout portions of Arizona, New Mexico, Texas and Mexico. As human settlement intensified across the Southwest in the early 1900s, wolves increasingly came into conflict with livestock operations. Extermination campaigns were waged against the wolf, and by the 1970s, the Mexican wolf had been all but eliminated from the United States and Mexico.

In 1976, however, a new era dawned for the Mexican wolf when it was listed as endangered under the Endangered Species Act. Between 1977 and 1982, recovery of the Mexican wolf began as

A photograph of a Mexican wolf running through a dry, grassy field. The wolf is captured in mid-stride, with its mouth open, showing its teeth and tongue. Its fur is a mix of gray, brown, and white. The background is a blurred field of dry grass.

In 1998, 11 captive-raised Mexican wolves were released to the wild for the first time. In 2002, the birth of the first wild-born litter from a wild-born parent occurred. From that point forward, Mexican wolf recovery entered a new phase.



Mexican Wolf Interagency Field Team

*During the wolf count, an anesthetized wolf is carefully transported for examination, vaccination, blood testing, measurements and fitting with a tracking collar before being returned to its territory for release.*

## The Anatomy of a Wolf Count

The Mexican wolf count has been conducted in some form since 1998. However, more comprehensive efforts were initiated in 2006 to make every year-end population count more accurate, consistent and repeatable.

The year-end population count is derived from data gathered through a variety of methods over several months. From November through January, members of the IFT conduct ground counts in Arizona and New Mexico. During this phase, wolf sign (i.e. tracks, scats) are documented by driving roads and hiking canyons, trails or other areas closed to motor vehicles. Confirmation of non-collared wolves is achieved via visual observation, remote cameras, howling, scats and tracks. Ground-survey results for suspected packs having no collared members are documented using GPS and GIS software and hardware. GPS locations are recorded and downloaded into GIS software for analysis and mapping. Survey data are also recorded daily on forms and compiled in a database.

In January and February, aircraft are used to document and count free-ranging wolves, and to capture wolves to affix GPS/VHF radio telemetry collars. For this part of the count, dozens of staff, contractors, volunteers and interns rotate in and out to assist, train and observe. It is organized chaos at its finest.

Each morning, target packs and target wolves are identified for count and capture. At the top of the list are packs with no GPS/VHF collars, followed closely by wolves with failing collars. GPS/VHF collars are one of the most essential tools in the management of wild wolves. Not only are they used to track the movements of individuals and packs, but they also let the IFT know when wolves are denning (and pups are being whelped) and when a mortality has occurred. GPS/VHF collars also help the IFT manage wolves to prevent depredations of cattle through a variety of non-lethal techniques (e.g., hazing wolves and providing diversionary food caches to avoid depredations).

Two aircraft are used in the count and capture. A spotter plane locates the day's target wolves. Once the spotter plane has a location, it is relayed to the helicopter. When the helicopter finds a pack, the helicopter crew counts the number of wolves in the pack from the air. If a target wolf is located, and if the surrounding terrain accommodates a capture, the gunner will attempt to dart the wolf from the air.

After a wolf has been darted and anesthetized, the helicopter will land and the gunner and mugger will retrieve the anesthetized wolf. There is a quick check of vital signs before it is carried back to the helicopter to be loaded. Once crew and wolf are safely secured, the helicopter transports the wolf to the nearest ground crew for processing. The processing crew works quickly to examine the wolf, administer vaccines, draw blood, take body measurements and fit it with a tracking collar. The wolf is then crated and monitored while the drug wears off. Once the animal is ready to be released, it is loaded onto a truck, UTV or even a snowmobile to be taken back to its territory.

Once aerial operations conclude, all the data from the count are analyzed and reviewed. The final tally is released in the spring of the following year.

the United States and Mexico established a bi-national captive-breeding program, beginning with just seven animals, to save the species from extinction and provide animals for future reintroductions to the wild.

As the captive Mexican wolf program demonstrated increasing success through the 1980s, attention turned to reintroducing the animal to its historical habitat. Management activities during the 1990s included public-opinion surveys, public meetings, site feasibility studies and surveys for areas that would support naturally occurring wolves. Eventually, the Apache National Forest in eastern

Arizona and Gila National Forest in western New Mexico were identified as appropriate areas for reintroduction.

In 1998, 11 captive-raised Mexican wolves were released to the wild for the first time within a range called the Mexican Wolf Experimental Population Area in New Mexico and Arizona. In 2002, the birth of the first wild-born litter from a wild-born parent occurred. From that point forward, Mexican wolf recovery entered a new phase in which natural reproduction slowly and steadily began to reduce the need to release captive-reared wolves in order to promote population growth.

Today, the wild population of Mexican wolves is managed by the U.S. Fish and Wildlife Service in collaboration with the Arizona Game and Fish Department, New Mexico Department of Game and Fish, USDA Forest Service, USDA APHIS Wildlife Services, White Mountain Apache Tribe, Bureau of Land Management, the U.S. National Park Service and several participating counties.

## A Long Road to Recovery

In November 2017, the U.S. Fish and Wildlife Service completed the Mexican



Wolf Recovery Plan, First Revision. The recovery plan charts a path forward for the Mexican wolf that can be accommodated within the species' historical range in the Southwestern United States and Mexico. It includes measurable, objective criteria for downlisting and delisting. Criteria include (1) reaching a population average of 320 wolves in the U.S. for eight consecutive years, and (2) achieving a genetic diversity goal of at least 22 Mexican wolves released since December 2015 that survive to breeding age (usually 2-3 years of age).

There are also recovery goals for the population in Mexico, where federal agencies initiated a reintroduction effort in 2011 pursuant to Mexico's federal laws and regulations.

With a minimum of 163 Mexican wolves in the wild in the U.S. and approximately 30 in Mexico, it will likely take 25-35 years to achieve recovery for the subspecies. In the immediate future, the IFT plans to continue using cross-fostering—the process of placing young

(less than two weeks old) captive-born Mexican wolf pups into a litter of similarly aged wild-born pups—to improve the genetic diversity of the wild population. In 2019, 12 captive-born pups were cross-fostered into wild dens. A record 20 captive-born pups were cross-fostered into wild packs in 2020, and more cross-fostering efforts are planned.

## Management of Captive Mexican Wolves

The captive population of Mexican wolves is managed under the Association of Zoos and Aquariums through the Mexican Wolf Species Survival Plan (Mexican Wolf SSP). This captive management program is an essential component of Mexican wolf recovery.


The Mexican Wolf SSP was developed from 1977 to 1980 with the capture of the last remaining wild Mexican wolves in Mexico. As part of the binational captive breeding program, the

SSP has steadily expanded and currently houses more than 350 wolves in approximately 55 facilities in the United States and Mexico. Mexican wolves are routinely transferred among the zoos and other SSP holding facilities to facilitate genetic exchange, thus maintaining the health and genetic diversity of the captive population.

“It is only through the dedicated support by our federal, state, tribal and local partners that we continue making progress in Mexican wolf recovery,” says Brady McGee, Mexican wolf recovery coordinator with the U.S. Fish and Wildlife Service. “We are on this path together, adapting and adjusting course as needed, to achieve our shared goal of one day removing the Mexican wolf from the list of endangered species.” ■

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