

Demographic Aspect of Mexican Wolf Recovery



BACKGROUND

Recovery of any endangered species relies on three factors (threats to wolves themselves, genetics and population numbers) that must be resolved before there is any hope for restoration. One of the main recovery actions has to be the reduction or elimination of the factors that led to population decline originally and any new threats to their persistence. For the Mexican wolf, the primary factors that led to their extirpation in the wild was widespread persecution as Anglo-Europeans and their livestock came to the American Southwest and Mexico. Soon, cattle and sheep occupied most of the state and with low prey densities, livestock depredations were common.

HUMAN-CAUSED MORTALITY

Importantly, the persecution of wolves occurred before conservation laws were written and many tools including indiscriminate use of poison were largely

responsible for the demise of Mexican wolves. Now there are state and federal laws that protect all endangered species like the Mexican wolf and their prey base. In addition to the legal framework supporting the agency's response plan to reduce human-caused mortalities, there has been extensive effort to provide information to hunters and other outdoor enthusiasts to minimize this source of mortality. But is it working? Yes, in 2022, the last full year where data are available, seven Mexican wolf mortalities were attributed to illegal killing and the total mortality of 12 individuals was the lowest number in the last eight years despite a rapidly growing wolf population.

GENETICS

Another key factor in endangered species recovery is management of genetics. The Saving Animals From Extinction program is actively collaborating with wildlife management agencies and progress is being made in genetic management.

POPULATION STATUS IN THE WILD

The last factor discussed here is the demographic (population numbers) within the recovery program since the first release in 1998. While growth was relatively slow in the first decade of recovery, since 2009, the Mexican wolf population in the wild has increased by almost six times from 42 in 2009 to 242 in 2022. In looking at the graph, there are two important factors to point out. Since 2016, the rate of increase in the population has shown a much steeper growth rate than in the prior years and the number of pups has shown dramatic increases. As the year-end count was completed, the adult population showed a 23% increase, which is remarkable for Mexican wolf recovery. The data from 2022 showed that 92% of the adults were alive at the end of the year; great success.

The pup segment of the population has also shown great survival in the last couple of years. In 2022, the pup survival rate was 68%, which is much higher than the 39% average pup survival rate from 2012 to 2021. The adult and pup survival rates for 2022 show the potential truly exists to meet the numeric targets as outlined in the 2022 Mexican Wolf Recovery Plan, Second Revision. There are also some important metrics regarding the population growth rate for the Mexican wolf population in Arizona and New Mexico:

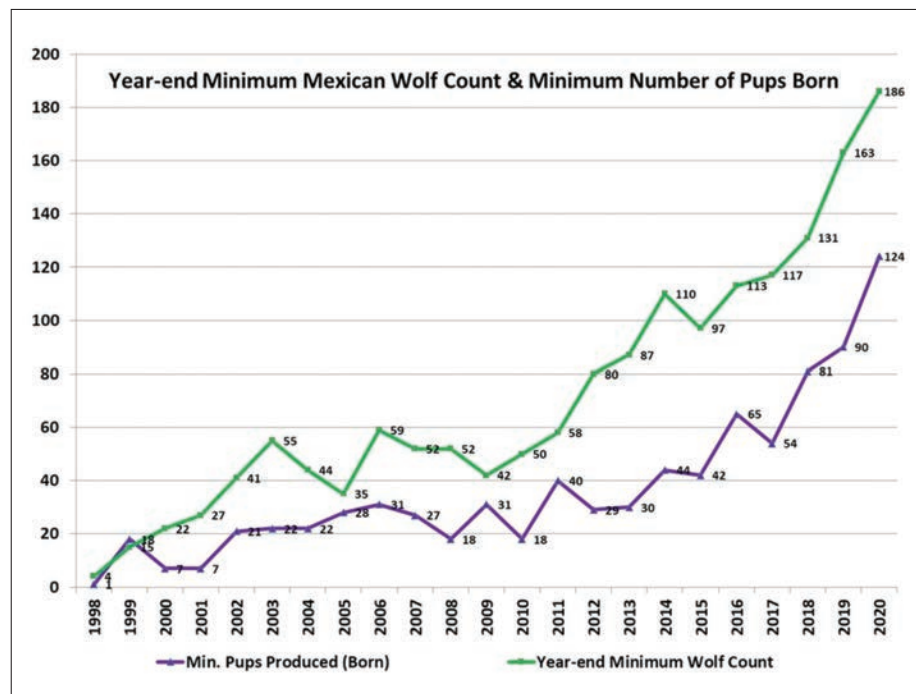
- Thirty-two breeding pairs were documented in the Mexican Wolf Experimental Population Area at the end of 2022.



- Eleven new packs and one new pair were documented at the end of 2022.
- A total of 99 genetically important pups have been fostered into wild dens bolstering both genetics and increasing the wolves in the wild.
- In 2022, the overall (inclusive of all age classes) survival rate (0.89) was higher than the previous 10-year (2012-2021) period (0.73).

The captive population is essential in the recovery of the Mexican wolf as it houses the animals that are used to provide genetically valuable pups for release into the wild for both genetic and demographic criteria. Further, these captives provide the basis for future releases into the wild should there be a catastrophic collapse in the wild population. These captive facilities have done amazing work to produce animals for release into the wild, and without their dedication, Mexican wolf recovery would be slowed or not possible at all.

As of July 2022, the SSP population includes 366 Mexican wolves managed in approximately 57 facilities in the United States and Mexico. The SSP goal is to house a minimum of 240 wolves, with a target population size of 300, to ensure the security of the subspecies in captivity and produce animals for reintroduction. Recently rebranded as Saving Animals From Extinction, this program determines suitable release candidates



are determined based on criteria such as genetic makeup, reproductive performance, behavior and physical suitability thus ensuring that retention of the maximum genetic diversity possible given the low number of initial Mexican wolf founders.

There are other positive factors that bode well for the recovery of the Mexican wolf population that were documented during the 2022 annual count. Importantly, 36 packs exhibited denning behavior, which included 13 packs in Arizona and 23

packs in New Mexico. Of the 36 packs, 32 of those were considered breeding pairs at the end of the year. The importance of this metric is reflected in the increase to 32 breeding pairs in 2022, compared to 25 in 2021.

All of the demographic metrics from 2022 show improvements, and as a result, the future of Mexican wolf recovery has never been brighter.

Learn more: www.azgfd.gov/wolf



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