
# Mexican Wolf Recovery Program Quarterly Update

*Fourth Quarter, 2021 (October, November, December)*

The following is a summary of Mexican Wolf Recovery Program activities in the Mexican Wolf Experimental Population Area (MWEPA) in Arizona, including the Fort Apache Indian Reservation (FAIR), San Carlos Apache Reservation (SCAR), and New Mexico. Additional Program information can be obtained by calling (928) 339-4329 or toll free at (888) 459-9653, or by visiting the Arizona Game and Fish Department website at azgfd.gov/wolf or by visiting the U.S. Fish and Wildlife Service website at fws.gov/southwest/es/mexicanwolf. For information on the FAIR, call (928) 338-4385 ext. 226 or visit wmatoutdoor.org. Past updates may be viewed at these websites. Interested parties may sign up to receive this update electronically by visiting azgfd.com and clicking on the E-news Signup tab on the top left corner of the webpage. This update is a public document and information in it can be used for any purpose. The Mexican Wolf Recovery Program is a multi-agency cooperative effort among the Arizona Game and Fish Department (AZGFD), New Mexico Department of Game and Fish (NMDGF), USDA Forest Service (USFS), USDA-Animal and Plant Health Inspection Service, Wildlife Services (USDA-APHIS WS), U.S. Fish and Wildlife Service (USFWS), White Mountain Apache Tribe (WMAT), Bureau of Land Management (BLM), and the U.S. National Park Service (NPS).

To view semi-monthly wolf location information please visit https://arcg.is/bLyPO

**Please report any wolf sightings or suspected livestock depredations to:** the Alpine wolf office (928) 339-4329, Pinetop wolf office (928) 532-2391 or toll free at (888) 459-9653. For sightings or suspected depredations on the FAIR, please call the WMAT wolf office in Whiteriver at (928) 338-4385 ext. 226. To report incidents of take or harassment of wolves, please call the AZGFD 24-hour dispatch (Operation Game Thief) at (800) 352-0700.

## Overall Mexican Wolf Recovery Program Quarterly Updates

On October 27, 2021, the USFWS announced its proposed changes to the management regulations for Mexican wolves in the Mexican Wolf Experimental Population Area in Arizona and New Mexico under section 10(j) of the Endangered Species Act. This action was taken in response to a court-ordered remand from the Tucson District Court, wherein the Court directed revision to four elements of the rule including addressing the need to reduce human-caused mortality, changes in genetic management, modify the limit of wolves required for recovery and a review of the determination that the wild population was not essential for recovery.

The USFWS is proposing revisions to modify the population objective, establish a genetic objective and temporarily restrict three allowable forms of take of Mexican wolves in the MWEPA that were established in the 2015 10(j) rule. The proposed changes to the rule will bring the management of the wild population in line with recovery criteria for the species as identified in the 2017 Mexican Wolf Recovery Plan, First Revision. The USFWS has a court-ordered deadline of July 1, 2022 to deliver a final revised 10j rule to the District Court of Arizona.

The USFWS is committed to providing robust opportunities for meaningful public participation in this rule-making process. The proposal published in the Federal Register (docket # FWS–R2–ES–2021–0103) Friday, October 29th; the public had 90 days to review and comment on the proposal.

The Service held one virtual information session on November 18th to answer questions on the proposed rule revision. The USFWS also held two additional virtual information sessions followed by public hearings on December 8th and January 11th to gather public comments for the record. Please visit the USFWS' website for information on how to register for the information session and/or public hearings.
The proposed rule, draft supplemental environmental impact statement, news release and FAQs are posted at: https://www.fws.gov/southwest/es/mexicanwolf/10j-revision/

**Numbering System:** Mexican wolves are given an identification number recorded in an official studbook that tracks their history. Capital letters (M = Male, F = Female) preceding the number indicate adult animals 24 months or older. Lower case letters (m = male, f = female) are used to indicate wolves younger than 24 months. A lowercase letter "p" preceding the number is used to indicate a wolf pup born in the most recent spring. The capital letter "A" preceding the letter and number indicates breeding wolves.

**Definitions:** A "wolf pack" is defined as two or more wolves that maintain an established territory. In the event that one of the two breeding (dominant) wolves dies, the remaining breeding wolf, regardless of pack size, retains the pack status. The packs referenced in this update contain at least one wolf wearing a radio telemetry collar. The Interagency Field Team (IFT) recognizes that wolves without radio telemetry collars may also form packs. If the IFT confirms that wolves are associating with each other and are resident within the same home range, they will be referenced as a pack.

### CURRENT POPULATION STATUS

**The end of year census for 2020 generated a minimum abundance of 186 Mexican wolves in the wild (72 in AZ and 114 in NM).** This was a 14% increase in the population from the 2019 end of year census. The end of year census for 2021 is currently underway. Results of the 2021 census are anticipated to be available in March 2022. Annual surveys are conducted in the winter as this is when the population experiences the least amount of natural fluctuation (i.e. in the spring the population increases dramatically with the birth of new pups and declines throughout the summer and fall as pup mortality generally occurs in this period). Thus, the IFT summarizes the total number of counted wolves in winter. Counting the population at the end of each year allows for comparable year-to-year trends at a time of year when the Mexican wolf population is most stable.

## WOLF PACK UPDATES:

For each documented wolf pack in the table below, wolves fitted with functioning collars at the end of the quarter are listed by studbook number. Studbook numbers of wolves without collars or with non-functioning collars are not listed in the pack updates. Not all wolves in the population are collared or have assigned studbook numbers. Captures, mortalities, removals, and food caching are listed in the corresponding column for the given time period. If a pack was food cached at any time within the quarter, the food cache column will indicate the type of food cache. The primary reason for food caching will be noted with "S" for supplemental and "D" for diversionary; the reason for a food cache may change over time. If a wolf dies, becomes fate unknown, or is removed in the current time period, its studbook number will be removed from the pack column in the following time period. After three months of consistent dispersal behavior away from pack territory, a dispersing wolf is no longer considered a member of its originating pack and will be added to a new row as a single wolf or member of a different pack. Packs that have raised pups in the quarter will be listed as "Yes" in the "Raising pups" column. This will remain for the calendar year if the pack was documented rearing pups in the period of April through September. Any fields that require further comment will be annotated with "*" and further comments are listed in the "Comments" column.

### ARIZONA:

| **Wolf Pack**<br>Collared Wolves | **Captures** | **Mortalities** | **Removals** | **Food cache** | **Raising pups (April – Sept)** | **Cross foster (April/May)** | ***Comments** |
|---|---|---|---|---|---|---|---|
| **Bear Canyon**<br>AM2563, AF1823 | 0 | 0 | 0 | 0 | Yes | No | |
| **Castle Rock**<br>AF1686, f2540 | 0 | 3* | 0 | S | Yes | Yes | Uncollared sub-adult f2541, mp2628, and an uncollared male wolf (assigned studbook number 2696) were found dead in the Castle Rock territory; the incidents are under investigation. Necropsy results for mp2628 confirmed cause of death to be intraspecific conflict. |
| **Eagle Creek**<br>M1477, F1548 | 0 | 0 | 0 | 0 | No | No | |

| **Wolf Pack**<br>Collared Wolves | **Captures** | **Mortalities** | **Removals** | **Food cache** | **Raising pups (April – Sept)** | **Cross foster (April/May)** | ***Comments** |
|---|---|---|---|---|---|---|---|
| **Elk Horn**<br>AF1294, AM1838 | 0 | 0 | 0 | S | Yes | Yes | |
| **Hoodoo**<br>AM1290, AF1333, M1789, F1938, f1890, m1888, f1889, mp2602, fp2603 | 1* | 0 | 0 | S | Yes | Yes | fp2603 was captured, collared, and released by the IFT in October. m1888, a cross-foster into the Hoodoo pack in 2020 continued dispersal behavior that began in early October. |
| **Noble Mountain**<br>AM1571, AF1918 | 0 | 0 | 0 | 0 | Yes | No | |
| **Panther Creek**<br>AF1683 | 0 | 0 | 0 | 0 | Yes | No | |
| **Prime Canyon**<br>F1920, M1921 | 1* | 1* | 0 | D | Yes | No | mp2692 was captured, collared, and released by the IFT in October. In December, mp2692 was found dead in AZ. Necropsy results confirmed the presence of canine distemper. |
| **Rocky Prairie**<br>AM1383, AF1489, f2534, f2536 | 1* | 0 | 0 | 0 | Yes | No | In November, f2534 was captured, recollared, and released by the IFT. |
| **Rose**<br>M1704 | 0 | 0 | 0 | 0 | Yes | No | |
| **Saffel**<br>M1852, M1854, AF1939, fp2694 | 2* | 0 | 0 | D | Yes | No | fp2694 was captured, collared, and released by the IFT in November. M1852 was also captured, recollared, and released by the IFT in November. |
| **Sierra Blanca**<br>AF1550 | 0 | 0 | 0 | 0 | No | No | |
| **Slade**<br>fp2691 | 1* | 0 | 0 | 0 | Yes | No | In October, an uncollared female pup was captured, collared, and released by the IFT. The pup was documented traveling with a pack of uncollared wolves which was named the Slade pack. |
| **Single m2520** | 0 | 0 | 0 | 0 | No | No | |

**FAIR:**

| **Wolf Pack**<br>Collared Wolves | **Captures** | **Mortalities** | **Removals** | **Food Cache** | **Raising pups (April – Sept)** | **Cross foster (April/May)** | ***Comments** |
|---|---|---|---|---|---|---|---|
| **Baldy**<br>AM1347 | 0 | 0 | 0 | 0 | Yes | No | |
| **Poker**<br>F1841 | 0 | 0 | 2* | 0 | No | No | Poker F1841 and uncollared mate (M2693) were captured on SCAR in November and removed to captivity per tribal request. The wolves were subsequently released in Mexico to further Mexican wolf recovery efforts in the country of Mexico. |
| **Tsay-O-Ah**<br>AF1283 | 0 | 1* | 0 | 0 | Yes | No | M1559 was found dead in November; the incident is under investigation. |
| **Tu dil hil**<br>AM1338, AF1679 | 0 | 0 | 0 | 0 | Yes | No | |

**NEW MEXICO:**

| **Wolf Pack**<br>Collared Wolves | **Captures** | **Mortalities** | **Removals** | **Food Cache** | **Raising pups (April – Sept)** | **Cross foster (April/May)** | ***Comments** |
|---|---|---|---|---|---|---|---|
| **Agua Frio**<br>AF1936, AM1875 | 0 | 0 | 0 | 0 | Yes | No | |
| **Aldo**<br>M2561, AF1712 | 0 | 0 | 0 | 0 | No | No | |
| **Beaver Point**<br>AF1837 | 0 | 0 | 0 | 0 | Yes | No | |
| **Blue Canyon**<br>M1953 | 0 | 0 | 0 | 0 | Yes* | No | The den failed in early May |
| **Buzzard Peak**<br>M1831, F1726 | 0 | 0 | 0 | 0 | Yes | No | |
| **Canovas Creek**<br>F2569 | 0 | 0 | 0 | D | No | No | |
| **Centerfire**<br>F1916 | 0 | 0 | 0 | 0 | Yes | No | |
| **Cimmaron Mesa**<br>AF1705 | 0 | 0 | 0 | 0 | No | No | |
| **Colibri**<br>AM1555, M1856 | 0 | 0 | 0 | 0 | No | No | |
| **Cottonwood Canyon**<br>f2503 | 0 | 0 | 0 | 0 | No | No | |

| **Wolf Pack**<br>Collared Wolves | **Captures** | **Mortalities** | **Removals** | **Food Cache** | **Raising pups (April – Sept)** | **Cross foster (April/May)** | ***Comments** |
|---|---|---|---|---|---|---|---|
| **Dark Canyon**<br>AM1354, AF1456, M1855 | 0 | 0 | 0 | 0 | Yes | Yes | |
| **Frieborn**<br>AF1443 | 0 | 0 | 0 | 0 | Yes | No | |
| **Iron Creek**<br>AM1240, AF1278, m2545, m2549 | 0 | 0 | 0 | 0 | Yes | No | |
| **Lava**<br>AM1285, AF1405 | 0 | 0 | 0 | 0 | Yes | Yes | |
| **Leon**<br>AM1824, AF1578 | 0 | 0 | 0 | 0 | Yes* | Yes | The den failed in early May. |
| **Luna**<br>AM1158, AF1487, m2567 | 0 | 0 | 0 | D | No | No | |
| **Mangas**<br>AM1296, AF1439, mp2687 | 0 | 0 | 0 | D | Yes | No | |
| **Owl Canyon**<br>AM1790, AF1701, fp2588, fp2589, mp2590, fp2593 | 0 | 0 | 0 | 0 | Yes | Yes | |
| **Pitchfork Canyon**<br>F1853, M2566 | 0 | 0 | 0 | 0 | Yes | No | |
| **Point of Rocks**<br>AM1717, fp2688, mp2689 | 2* | 0 | 0 | 0 | Yes | No | fp2688 and mp2689 were captured, collared, and released on site by the IFT. |
| **San Mateo**<br>AF1399, mp2636 | 0 | 0 | 0 | 0 | Yes | Yes | |
| **Seco Creek**<br>AM1693, AF1728 | 0 | 0 | 0 | S | Yes | No | |
| **Sheepherders Baseball Park (SBP)**<br>AF1553, M2557 | 0 | 1* | 0 | 0 | Yes | No | f2558 was located dead in NM, the incident is under investigation. |
| **Squirrel Springs**<br>AF1788, f2690 | 1* | 0 | 0 | 0 | Yes | No | In October, f2690 was captured, collared, and released by the IFT. |
| **Wagontongue**<br>M1946 and F1951 | 0 | 1* | 0 | 0 | No | No | F1951 was located dead in NM, the incident is under investigation. |
| **Whiskey Creek**<br>M1842 | 0 | 0 | 0 | 0 | No | No | |
| **Whitewater Canyon**<br>AF1684 | 0 | 0 | 0 | 0 | Yes | No | |

| **Wolf Pack** Collared Wolves | **Captures** | **Mortalities** | **Removals** | **Food Cache** | **Raising pups (April – Sept)** | **Cross foster (April/May)** | ***Comments** |
|---|---|---|---|---|---|---|---|
| **Single F1692** | 0 | 0 | 0 | 0 | No | No | |
| **Single M1859** | 0 | 0 | 0 | 0 | No | No | |
| **Single M1857** | 0 | 0 | 0 | 0 | No | No | |

## ANNUAL MORTALITY

Seven Mexican wolf mortalities were documented in the current quarter, which brings the total number of documented mortalities in 2021 to 25 (AZ-15, NM-10). This is an estimated (based on preliminary data of the proportion of the population that died) mortality rate of 13.4% of the population and is lower than the estimated mortality rate for 2020, which was 17.7%. With this mortality rate in 2020, the population grew at a rate of about 14%.

In 2021 there were a variety of causes of mortality including natural mortalities, road kills, and illegal shootings. Of the 25 documented mortalities, 7 were pups, a segment of the population that normally experiences high mortality during the year. Four of the mortalities were juveniles and 14 were adults. The impact of these mortalities is uncertain but based on the 2017 Population Viability Assessment (PVA) completed for recovery planning purposes, continued population growth is expected.

The established mortality rates used in the 2017 Population Viability Assessment (PVA), which was based on radio collars in the wild for Mexican wolves was estimated at 28.2% for pups (0-1 years), 32.7% for juveniles (1-2 years) and 18.9% for adults (2+ years). The PVA simulated scenarios used adult mortality rates of 18.9%, plus 21.9%, 24.9%, 27.9%, and 30.9%. As long as adult mortality rate (human caused + natural) stayed below 24.9%, which appears to be the case in 2021, there is minimal influence on Mexican wolf recovery. Adult mortality rates are most important demographic parameter affecting population expansion and the 2021 estimated 11.5% (14 adult mortalities/122 adults estimated to be present in 2021 from the 2020 annual count) adult mortality rate is well below the threshold to cause population declines.

## GENETIC MANAGEMENT

| **Captive pups cross-fostered** (since 2016) | **Captive pups cross-fostered in 2021** | **[a,b]Cross-fosters documented alive at the end of the quarter** | **[a]Documented mortalities of cross-fosters** | **[a,b]Cross-fosters surviving to breeding age** | **[a,b]Cross-fosters documented producing pups** |
|---|---|---|---|---|---|
| **72** | **22** | **11** | **7** | **7** | **4** |

*[a]These are only **MINIMUM** values that have been documented by the IFT. The IFT does not affix radio collars on pups at the time of the cross-foster, as the pups are still too small. Pups are collared opportunistically when cross-fostered wolves are captured later in the year or in subsequent years. Not all cross-fosters that survive are captured and collared.*

[b]*In 2014, F1126 was released from captivity pregnant with a mate and they split up immediately. F1126 and its pups were brought back into captivity, except for two pups (AF1346 and AM1347) which were fostered into the Dark Canyon Pack and are have both been successful breeders in their own packs. These two wolves represent a successful cross-fostering event and are contributing valuable genetics to the wild population, but are not included in these totals since this event occurred prior to December 2015 and they do not count toward recovery criteria.*

## INCIDENTS

The following are investigations of livestock depredations conducted by Wildlife Services during the quarter that were determined to be caused by wolves. Investigations of dead and injured livestock conducted by Wildlife Services during this time period that were determined to be from causes other than wolves (i.e. vehicle strike, illness, coyote predation, bear predation, or unknown cause) are not listed in this quarterly update.

## DEPREDATIONS

| | Confirmed Wolf (Current Quarter) | | Yearly Total Confirmed Wolf killed or died from injuries | Probable Wolf (Current Quarter) | | Yearly Total Probable Wolf by State |
|---|---|---|---|---|---|---|
| | Killed or died from injuries | Injured | | Killed or died from injuries | Injured | |
| **Arizona** | **17** | **1** | **48** | **0** | **0** | **1** |
| **New Mexico** | **15** | **0** | **79** | **0** | **0** | **2** |
| **2021 Total** | | | **127** | | | **3** |

*White cells contain totals for the given time period, grey cells contain totals for the year.*

## PUBLIC INCIDENTS

On October 21, 2021, the IFT received a report of an uncollared wolf that had been observed on October 20, 2021 chasing 2 domestic dogs on National Forest south of Reserve, NM. The reporting party (RP) stated that he was walking his fence line on his allotment with his two dogs when an uncollared wolf was observed by the RP and his two dogs. The two dogs chased the wolf off and then shortly after the RP stated that the wolf was seen chasing his two dogs and biting at their heels. The wolf ran away when it saw the RP. The IFT did not respond further into this incident.

On October 25, 2021, the IFT took a report of 4 wolves observed feeding on a dead livestock calf approximately 300 yards from an unoccupied residence in Greer, AZ. The IFT responded to the area and conducted sign search and VHF monitoring for collared wolves. No collared wolves were found in the area. Wolf tracks were observed near the residence. Wildlife Services investigated the dead calf and determined it was a confirmed wolf kill. The incident was assigned to uncollared wolves. The IFT initiated multiple days of hazing effort in the area following the incident. No wolves were documented or hazed during the hazing effort.

On December 6, 2021, a reporting party contacted the IFT to report a domestic sheep that had been killed at their residence outside of Saint Johns, AZ. Wildlife Services conducted an investigation and determined the sheep had not been killed by wolves. The cause of death was unknown.

## PROACTIVE MANAGEMENT

| State | **Hazing efforts** (separate attempts to haze wolves) | **Hazing events** (successful hazing of a wolf) | **Diversionary food caches*** | **Carcasses removed** | **Proactive Equipment Deployed** (RAG boxes, fox lights, fladry) |
|---|---|---|---|---|---|
| **Arizona** | **86** | **5** | **5** | **3** | **2** |
| **New Mexico** | **14** | **8** | **4** | **0** | **0** |
| **2021 Totals** | **389** | **86** | **20** | **31** | **7** |

*White cells contain totals for the given time period, grey cells contain totals for the year.*
**Includes supplemental food caches, as these also served as diversionary food caches this year.*

## PROGRAM PERSONNEL

During the fourth quarter, Sara Eno left the Mexican Wolf Recovery Program to begin working for the National Park Service in Arizona. Sara served as the White Mountain Apache IFT Lead for several years before joining the USFWS in 2019. Thank you for all the hard work and dedication to the Mexican Wolf Recovery Program Sara, and best of luck with the NPS!

Vicente Ordonez retired from his position of US Forest Service Liaison to the IFT. Vicente worked in this position since 2014 and was a leader on the IFT in his efforts to reduce wolf/livestock conflict and continue to look for innovative ways to improve mitigation measures and build relationships with stakeholders. Thank you Vicente for the enthusiasm and dedicated efforts that you have contributed to the Mexican Wolf Recovery Program.

Jared Black left the Mexican Wolf Recovery Program in October as the Mexican wolf biologist for the AZGFD. Jared started in 2018 as a Mexican Wolf technician for the AZGFD. Bailey Dilgard was selected to replace Jared in the AZGFD Mexican wolf biologist position. Thank you Jared for

your leadership and the many contributions you made to Mexican wolf recovery in the last 3 years.

Ashely Everroad and David Drever left the Program in December. Ashley and David worked in 2021 as range riders for the AZGFD to reduce wolf/livestock conflict in Arizona. Thank you Ashley and David for all your hard work.

## REWARDS OFFERED

The USFWS is offering a reward of up to $10,000, the AZGFD Operation Game Thief is offering a reward of up to $1,000, and the NMDGF is offering a reward of up to $1,000 for information leading to the conviction of the individual(s) responsible for the shooting deaths of Mexican wolves. A variety of non-governmental organizations and private individuals have pledged additional funding for a total reward amount of up to $37,000, depending on the information provided.

Individuals with information they believe may be helpful are urged to call one of the following agencies: USFWS special agents in Mesa, Arizona, at (480) 967-7900, in Alpine, Arizona, at (928) 339-4232, or in Albuquerque, New Mexico, at (505) 346-7828; the WMAT at (928) 338-1023 or (928) 338-4385; AZGFD Operation Game Thief at (800) 352-0700; or NMDGF Operation Game Thief at (800) 432-4263. Killing a Mexican wolf is a violation of state law and the Federal Endangered Species Act and can result in criminal penalties of up to $50,000, and/or not more than one year in jail, and/or a civil penalty of up to $25,000.