Mexican Wolf Blue Range Reintroduction Project
Interagency Field Team Annual Report
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New Mexico Department of Game and Fish (NMDGF)
USDA-APHIS Wildlife Services (USDA-WS)
US Fish and Wildlife Service (USFWS)
US Forest Service (USFS)
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Introduction

This report summarizes results of Mexican Wolf Interagency Field Team (IFT) activities during 2007. The IFT operates under guidance from an interagency Adaptive Management Oversight Committee (AMOC), which is composed of representatives from the six cooperators (agencies) listed above. The project is part of a larger recovery program that is intended to reestablish the Mexican wolf (*Canis lupus baileyi*) across its historical range.

The Blue Range Reintroduction Project is conducted in accordance with a nonessential experimental population final rule (USFWS 1998) that established the 6850 mi^2 (17,740 km^2) Blue Range Wolf Recovery Area (BRWRA) (Fig. 1). In 2000, the White Mountain Apache Tribe (WMAT) agreed to allow free-ranging Mexican wolves to inhabit the Fort Apache Indian Reservation (FAIR). In 2002, the WMAT signed an agreement with the U.S. Fish and Wildlife Service (USFWS) that enabled direct release of Mexican wolves on the FAIR. This added approximately 2440 mi^2 (6319 km^2) to area available for Mexican wolf reintroduction, bringing the total to 9290 mi^2 (24,059 km^2). The reintroduction area lies within the Alpine, Clifton, and Springerville Ranger Districts of the Apache-Sitgreaves National Forests (ASNF) and the FAIR in east-central Arizona, and the Gila National Forest (GNF) in west-central New Mexico.

In March 1998, the first release of Mexican wolves occurred, on the Alpine and Clifton Ranger Districts of the Apache National Forest, Arizona. At the end of 1998, the wild population in Arizona and New Mexico consisted of four wolves in two packs. By the end of 2007, the wild population in Arizona and New Mexico had grown through natural reproduction, translocations, and initial releases, to a minimum of 52 wolves and 12 packs.

Wolf age and sex abbreviations used in this document:
A = alpha
M = adult male (> two years old)
F = adult female (> two years old)
m = subadult male (one-two years old)

f = subadult female (one-two years old)
mp = male pup (< one year old)
fp = female pup (< one year old)

Methods

The IFT followed Standard Operating Procedures (SOP) that have been approved by AMOC and the Directors of the six cooperating agencies listed above (i.e. the "Lead Agencies"). These SOPs can be found at http://azgfd/wolf. The following definitions apply to the SOPs and to this report:

> *Breeding pair:* an adult male and an adult female that have produced at least two pups during the previous breeding season that survived until December 31 of the year of their birth (USFWS 1998).
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> *Wolf pack:* ≥ two wolves that maintain an established territory. In the event that one of the two alpha (dominant) wolves dies, the remaining alpha wolf, regardless of pack size, retains the pack status or name.
>
> *Releases:* wolves that are released directly from captivity, with no previous free-ranging experience. These "initial releases" may only occur in the Primary Recovery Zone, which is entirely within Greenlee County, Arizona (see Fig. 1 and Fig. 2).
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> *Translocations:* free-ranging wolves that are captured and moved to a location away from their site of capture; this includes captured free-ranging wolves that have been temporarily placed in captivity. Unlike initial releases, translocations can occur in the Primary Recovery Zone or in the Secondary Recovery Zone (Fig. 1). The Secondary Recovery Zone contains portions of Apache and Greenlee counties in Arizona, and Catron, Sierra, and Grant counties in New Mexico (Fig. 2).
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> *Depredation:* confirmed killing or wounding of lawfully-present domestic livestock by one or more wolves.
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> *Depredation incident:* refers to the aggregate number of livestock killed or mortally wounded by an individual wolf or by a single pack of wolves at a single location within a one-day (24 hr) period, beginning with the first confirmed kill, as documented in an initial IFT incident investigation pursuant to SOP 11.0.

Releases and Translocations

Initial release candidates are genetically surplus to the captive breeding program. Once selected for release, wolves are acclimated in USFWS-approved facilities prior to release. These facilities include the Ladder Ranch Wolf Management Facility, managed by the Turner Endangered Species Fund, and the Sevilleta Wolf Management Facility, managed by the USFWS at Sevilleta National Wildlife Refuge. Both facilities are located in New Mexico.

In the management facilities, contact between wolves and humans is minimized. Carcasses of road-killed native prey species (primarily deer (*Odocoileus* spp.) and elk (*Cervus elaphus*)) supplement the routine diet of processed canine food. Genetically and socially compatible

breeding pairs are established and evaluated for physical, reproductive, and behavioral suitability for direct release into the wild.

Wolves are released using either a soft release or a hard release method. The soft release method holds wolves at the release site for up to several months to acclimate them to the specific area. Soft release pens are generally constructed of chain link or soft plastic with electrified or non-electrified mesh. A hard release is a direct release of a wolf (or wolves) from a crate into the wild or into an enclosure built of fladry (flagging hanging on a rope surrounding a small protected area; sometimes the fladry "fence-line" is electrified).

Adult wolves selected for initial release or for translocation are radio-collared and given complete physical examinations before they are moved to translocation sites. Pups are also given complete physicals, but radio collars are not affixed to them due to their small size. Carcasses of native prey or commercially processed canine "meat logs" and fresh water are provided as needed in the release/translocation pens. Areas within approximately 0.5 mi (0.8 km) of release pens are posted "closed to the public," by the USFS. IFT personnel camp nearby to maintain additional security.

The acclimation pen for the 2007 translocation was approximately 0.13 acres (526 m^2) in size and built of nylon mesh, with electric fencing interwoven into the structure. Flagging was also attached to the pen walls approximately every two feet, as a visual barrier to discourage wolves from running into pen walls.

Following release, wolves are provided road-killed elk and deer, or meat logs, as supplemental food. The duration of supplemental feeding varies, depending on time of year, availability of vulnerable prey, and whether pups are present. Supplemental feeding is gradually discontinued as wolves became self-sufficient, usually within one to two months after release. Monitoring is most intense immediately after release, to determine when wolves began killing prey.

Radio Telemetry Monitoring

All radio-collared wolves were monitored by standard radio telemetry from the ground, as opportunity allowed, and one to two times weekly from the air. Visual observations, wolf behavior, evidence of a kill site, associated uncollared wolves, and fresh sign were also noted at each location. Location data were entered into the project's Access database for analysis.

Aerial locations of wolves were used to develop home ranges (White and Garrott 1990), which were calculated based on the definition in the final rule (USFWS 1998). Home ranges were calculated using $\geq$20 individual aerial locations on a pack, pair, or single wolf exhibiting territorial behavior over a period of $\geq$ six months. To maximize sample independence, individual radio-collared wolf locations were included in home range calculations only if individual wolf locations were spatially or temporally separated from other radio-collared pack members. This limited pseudo-replication of locations. Home range polygons were generated at the 95% confidence level, using the minimum convex polygon (MCP) method (White and Garrott 1990) in the animal movement extension in the program ArcView (Hooge et al. 1999; ESRI, Redlands, CA, USA). Home ranges were not calculated for wolves that had <20 aerial radio locations, displayed dispersal behavior, or exhibited non-territorial behavior during 2007.

Occupied Range
Occupied wolf range was calculated based on the definition in the Final Rule (USFWS 1998) and using the following criteria: (1) a five mi (eight km) radius around all locations of non radio monitored wolves and wolf sign occurring in an area consistently used over a period of at least one month; (2) a five mi (eight km) radius around radio locations of resident wolves when $\leq$ 20 radio locations are available (for radio monitored wolves only); (3) a five mi (eight km) radius around radio monitored wolf locations (for wolves exhibiting dispersal or non-territorial behavior); and (4) a three mi (five km) radius around the convex polygon developed from $\geq$20 radio locations of a pack, pair, or single wolf exhibiting territorial behavior.

Predation and Depredation Investigations
Throughout the year, project personnel investigated ungulate carcasses as they were discovered to determine sex, age, general body condition, and whether the carcass had been scavenged or was a wolf kill. In addition, from March 1 to March 26, 2007 the IFT conducted intensive winter monitoring of five packs through daily aerial telemetry flights to locate the packs, pinpoint kills, and observe wolf numbers; ground crews examined these kill sites to ascertain: prey species, age, and sex; general body condition of prey; cause of death; and minimum kill rates.

USDA-WS wolf specialists investigated suspected wolf depredations on livestock within 24 hours of receiving a report. However, not all dead livestock were found, or found in time to document cause of death. Accordingly, depredation numbers in this report represent the minimum number of livestock killed by wolves.

Wolf Management
The IFT hazed wolves (purposefully harassed them) on foot or by vehicle if the wolves localized near areas of human activity or were found feeding on, chasing, or killing livestock (< three depredation incidents). When necessary, the IFT used rubber bullets, cracker shells, radio activated guard (RAG) boxes, and fladry to encourage aversive response to humans and to discourage nuisance and depredation behavior. If hazing was not effective, the IFT captured and retained or re-released the wolf (or wolves) pursuant to SOP 13.0. The IFT captured wolves with leg hold traps; occasionally, conditions required use of darts and nets shot from helicopters. In addition, wolves that established themselves outside the BRWRA were captured and brought back into the BRWRA or temporarily held in captivity, per the final rule (USFWS 1998). The IFT permanently removed, sometimes lethally, wolves that were involved in three or more depredation incidents within a 365-day period.

Population Estimation
The IFT maintained the expanded efforts that were initiated in 2006 to make the 2007 year-end population estimate more comprehensive. This included increasing ground surveys for uncollared wolves, increasing flight hours for helicopter operations, greater coordination of wolf sightings by the public and other agencies, and use of remote cameras.

Wolf sign (i.e. tracks, scats) was documented by driving roads and hiking canyons, trails, or other areas closed to motor vehicles. Confirmation of uncollared wolves was achieved via visual observation, howling, scats, and tracks. Ground survey efforts for suspected, but uncollared packs, were documented using global positioning system (GPS) and geographical information

systems (GIS) software and hardware. GPS tracks were recorded and downloaded into GIS software for analysis and mapping. Survey data were also recorded daily on forms and a dedicated survey effort spreadsheet.

In January 2008, aircraft were used to help document free-ranging wolves for the end-of-year 2007 population count, and to capture wolves as necessary to affix radio-collars. Including January data in the December 31 end-of-year count (and in this 2007 annual report) is appropriate, because wolves alive in January were also alive in December (i.e. whelping does not occur in mid-winter). Fixed-wing aircraft were used to locate wolves and assess the potential for darting them from the helicopter. Where the terrain allowed, a helicopter was used to more accurately count the number of uncollared wolves associated with collared wolves and to capture target animals (e.g. uncollared wolves, wolves with old collars, wolves outside the 10j boundary, and wolves targeted for removal for nuisance or depredation).

As part of the 2007 population estimate, members of the local public were also surveyed for possible wolf sightings. Ranchers, private landowners, wildlife managers, USFS personnel, and others were contacted to develop a wolf-sighting database. Sighting reports from agency cooperators were also collected. All sightings were analyzed to determine which most likely represented unknown wolves or packs.

Remote digital cameras (regular flash and infrared) were used to document wolf presence. Information gleaned from public reports, surveys, and wolf sign were used to guide IFT efforts to trap uncollared single wolves or groups. The objective was to have at least one member of each pack radio collared. Using these methods, the IFT counted the number of uncollared wolves that were not associated with collared wolves.

Mortality

Wolf mortalities were identified via telemetry and public reports. Mortality signals were investigated within 12 hours of detection to determine the status of the wolf. Carcasses were investigated by law enforcement agents and were necropsied to determine proximate cause of death. Causes were summarized for all known deaths. For radio-collared wolves, mortality, missing, and removal rates were calculated using methods presented in Heisey and Fuller (1985).

The IFT calculated yearly cause-specific mortality rates (i.e. human-caused versus natural/unknown mortality). Management removals may have an equivalent effect as mortalities on the free-ranging population of Mexican wolves (see Paquet et al. 2001). Thus, the IFT also calculated yearly cause-specific removal rates for radio-collared wolves. Later in recovery, these removals may actually be deaths, as wolves will be increasingly removed through lethal control (Bangs et al. 1998). Wolves were removed from the population for four primary causes during the reintroduction: (1) dispersal outside the BRWRA, (2) cattle depredations, (3) nuisance to humans, and (4) other (principally to pair with other wolves or to move a wolf to a better area without any of the other causes occurring first). Each time a wolf was moved, it was considered a removal, regardless of the animal's status later in the year (e.g. if the wolf was translocated or held in captivity). The IFT calculated an overall failure rate of wolves in the wild by combining mortality, missing (only those wolves that went missing under questionable scenarios), and

removal rates to represent the overall yearly rate of wolves that were affected (i.e. managed, dead, or missing) in a given year.

Outreach

The IFT outreach efforts affirm the project's commitment to engage in effective communication, identification of various outreach mechanisms, and standardization of certain outreach activities. These goals help ensure timely, accurate, and effective two-way communication between and among cooperating agencies and the public. Project personnel conducted outreach activities on a regular basis, as a means of disseminating information to stakeholders, concerned citizens, and government and non-government organizations. This was facilitated through monthly updates, field contacts, handouts, informational display booths, Web page updates, phone contacts, and formal presentations.

During 2007, the IFT posted Mexican wolf reintroduction project updates within the BRWRA once each month, at places such as USFS offices, US post offices, and libraries, as well as on the AGFD Mexican wolf Web site at http://azgfd.gov/wolf and on the USFWS Mexican wolf Web site at http://www.fws.gov/southwest/es/mexicanwolf. Interested parties could also sign up to receive the update electronically by visiting the AGFD Web site at http://azgfd.gov/signup. The IFT also faxed monthly project updates to stakeholders and interested citizens.

The IFT produced a location map to inform cooperators and the public of areas occupied by wolves. The map was updated monthly and contained the previous three months of wolf aerial locations. The map was posted on the AGFD Web site at http://azgfd.gov/wolf. In addition to the map, a description of wolf locations from weekly flights was posted to this Web site within 48 hours of each flight.

Project personnel made personal contact with campers, hunters, and other members of the public within the BRWRA, and provided them with information about the wolf project. These contacts advised the public of the potential for encountering wolves, provided general recommendations for recreating in wolf-occupied areas, and explained legal provisions of the non-essential experimental population rule.

Results

Information on the number of wolves and specific locations from the FAIR and the San Carlos Apache Reservation (SCAR) is not included in this report, in accordance with Tribal agreements.

Population Status

At the end of 2007, 20 radio-collared wolves (14 adults, five subadults, and one pup) and 32 uncollared wolves were documented in the Mexican Wolf Nonessential Experimental Population Zone (MWNEPZ) (note: the six wolves captured during the January 2008 helicopter operation were included as uncollared animals associated with known packs above). Nineteen of the 32 uncollared wolves, including eight pups of the year, were associated with 12 known packs at the end of 2007, six in Arizona and six in New Mexico (Table 1). In addition, there were four known single wolves (all in New Mexico). Approximately 75% of the radio-collared individuals and 90% of all documented wolves were born in the wild.

AM991 of the Rim Pack died from unknown causes and was replaced via translocation of M1107 in December 2007. Additional pairings in the wild that occurred during 2007 include Dark Canyon, Elk Mountain, Fox Mountain, Hawk's Nest, and San Mateo. Reports and sign of uncollared wolves led the IFT to first document the Lofer Pack for the 2006 population count. In June 2007, the WMAT IFT radio-collared AF1056 and successfully marked this target group from 2006. Sign of the Coleman Creek group was observed again in 2007. However, this group evaded capture efforts during 2007 and remains an uncollared group that is counted within the minimum population estimate.

Reproduction

In 2007, seven packs (Aspen, Bluestem, Lofer, Middle Fork, Paradise, Rim, and Saddle) produced wild-conceived, wild-born litters. The IFT documented a minimum of 27 pups born with a minimum of nine surviving in the wild until year-end (Table 1). This marked the sixth year in which wild born wolves bred and raised pups in the wild. Of the 12 known packs at the end of 2007, ten were composed of at least one wild-born wolf and 11 of these pairs formed naturally in the wild. The Saddle and Aspen packs reproduced in 2007 but were removed due to repeated depredations. However, the seven Saddle and three Aspen pups are available for future translocations.

Releases and Translocations

The IFT conducted one modified soft release translocation of a new pack and three hard release translocations in 2007 to increase genetic diversity and the number of wolves in the wild.

On April 12, 2007, the Durango Pack (AM973, AF924) was transported from captivity to the Miller Springs release site in the Wilderness Ranger District of the GNF (Table 2, Fig. 3). The Durango Pack was released from the pen on April 25, 2007. (See Appendix A for detailed summaries of all packs).

On November 1, 2007, the IFT translocated Aspen fp1105 and fp1106 from outside the BRWRA boundary to the Whitewater Canyon area in the Black Range Ranger District of the GNF. Both wolves were hard released.

On November 25, 2007, the IFT translocated M1107 from outside the BRWRA boundary to the Bear Wallow area in the Clifton Ranger District of the ASNF. M1107 was hard released in the Rim Territory.

Home Ranges and Movements

The IFT calculated home ranges for 13 packs exhibiting territorial behavior. The MCP method produced an average home range size of 223 mi^2 (578 km^2), with home ranges varying from 58 mi^2 to 674 mi^2 (150 km^2 to 1746 km^2) (Fig. 4, Table 3). Home ranges were not calculated for 12 wolves (M863, F923, M925, M992, f1028, m1038, m1039, f1040, m1041, m1043, m1045, f1048) that dispersed during 2007 (see Appendix A for detailed summaries of these individuals).

Mexican wolves occupied 6469 mi^2 (16,755 km^2) of the Mexican Wolf Nonessential Experimental Zone (MWNEPZ) during 2007 (Fig. 5). Sixty-four percent of the occupied range (4132 mi^2 [10,702 km^2]) occurred in the BRWRA and 12% of the occupied range (790 mi^2 [2046

km^2]) occurred on the FAIR. Sixteen percent of the occupied range (1053 mi^2 (2727 km^2) fell outside the BRWRA, FAIR, and SCAR. Eight percent of the occupied range (494 mi^2 (1279 km^2) occurred on SCAR. In comparison, Mexican wolves occupied 6542 mi^2 (16,944 km^2) of the MWNEPZ during 2006.

Mortality

The IFT has documented 53 wolf mortalities since 1998 (Table 4), four of which occurred in 2007 (Table 5). Mortalities in 2007 included: AM991 from unknown causes, M925 from illegal shooting, m1041 from unknown causes, and f1048 from natural causes. This should be considered a minimum estimate of mortalities, since some pups and uncollared wolves die without being documented. Five wolves are "fate unknown" and are not likely to be alive. The number of wolves lethally controlled is covered in the *Management Actions* section of this report.

The IFT monitored 39 individual radio-collared wolves for a total of 9,647 radio days during 2007. A total of 17 radio-collared wolves were considered managed (n = 9), dead (n = 4), or missing (n = 4). The overall survival rate was 0.53, or a corresponding failure rate of 0.47. The overall failure rate was composed of the cattle depredation removal rate (0.22; n = 8), missing radio-collared wolves rate (0.11; n = 4), unknown/natural mortality rate (0.08; n = 3), human caused mortality rate (0.03; n = 1), nuisance removal rate (0.03; n = 1), boundary removal rate (0.00; n = 0), and other removal rate (0.00; n = 0).

Winter Predation Study

In 2007, the IFT intensively monitored the Aspen, Hawks Nest, Luna, Saddle, and San Mateo packs during the aerial winter survey to determine prey characteristics. Twenty-four flights were conduct between March 1 and March 26. Two flights were cancelled due to weather.

A total of 15 carcasses were found, an average of one carcass located every 1.6 flights. One carcass was not accessible for investigation of species, age, and condition. The 14 carcasses investigated included: 11 elk, one domestic cow, one turkey (*Meleagris gallopavo*), and one mule deer (*O. hemionus*). Age determinations of the elk revealed: two adults, seven calves, and two of undetermined age. The single mule deer located was an adult.

Of the 14 carcasses investigated, 11 were confirmed or probable wolf kills, two were possible kills, and one was scavenged. Of the 11 confirmed or probable wolf kills, ten were elk and one was a mule deer. Of the two possible kills, one was a turkey and one was an elk. The single scavenged carcass was a domestic cow, which, as reported by the owner, died of natural causes.

In addition, the IFT investigated three carcasses unrelated to the winter survey in 2007. All three carcasses were elk; age determinations revealed one calf, one yearling, and one adult. Of these carcasses, two were confirmed wolf kills and one was a possible wolf kill.

Wolf Depredation

The 1996 Final Environmental Impact Statement (FEIS) predicted 1-34 confirmed killed cattle per year with a population of 100 Mexican wolves. This represents <0.05 % of all cattle present on the range (USFWS 1996). The Mexican Wolf Blue Range Reintroduction Project 5-year

Review (AMOC and IFT 2005) reported that, between 1998 and 2003, the mean number of cattle confirmed killed per year by wolves was 3.8, which extrapolates to 13.8 cattle killed per year from a population of 100 Mexican wolves.

During 2007, USDA-WS members of the IFT completed 128 investigations with potential Mexican wolf involvement. Of these 128 investigations, 112 involved livestock including cattle (*n* = 87), sheep (*n* = 14), horses (*n* = 10), and a donkey (*n* = 1). In addition, the IFT conducted 16 non-livestock investigations involving dead or injured domestic dogs, chickens, guinea hens, and ducks. Average IFT response time between the reporting of an incident to the initiation of an on-site investigation was <18 hours.

Of the 112 individual livestock investigated, 48% (*n* = 54) were determined to have confirmed, probable, or possible wolf involvement resulting in livestock injury or death, 28% (*n* = 31) had confirmed or suspected cause of death or injury other than wolf, and 24% (*n* = 27) were classified as unknown. Forty-nine investigations of livestock fatalities were classified as confirmed (*n* = 36), probable (*n* = 3), or possible (*n* = 10) wolf-caused mortalities (Table 6, Table 7). Also, four confirmed injuries and one possible livestock injury were investigated. Seventy-six percent (*n* = 37) of the fatality investigations determined to have confirmed, probable, or possible wolf involvement occurred in New Mexico and 24% (*n* = 12) occurred in Arizona (Table 7). Three of the five IFT investigations involving wolf-caused injuries occurred in Arizona (Table 7). Seven separate mortality causes were identified in the non-wolf related investigations, including: coyote (*C. latrans*) (*n* = 7), natural causes (*n* = 9), suspected plant poisoning (*n* = 3), black bears (*Ursus americanus*) (*n* = 1), lightning (*n* = 3), accidents (*n* = 2), and unknown (*n* = 24). Four separate injury causes were identified in non-wolf related investigations, including: dogs (*C. familiarus*) (*n* = 4), black bear (*n* = 1), accident (*n* = 1), and unknown (*n* = 3).

Seventy-seven percent (*n* = 86) of the 112 livestock investigations conducted in 2007 were in response to reports from the public and 23% (*n* = 26) were initiated by the IFT. In addition, the IFT found and reported 26% (*n* = 12) of the confirmed, probable, or possible wolf-caused livestock mortalities that occurred during 2007 (Table 7). IFT investigations involved 37 livestock producers as well as the WMAT and the SCAT.

The impact of depredations on livestock allotments was not distributed evenly; the majority occurred on four individual allotments or livestock associations. In total, 53% (*n* = 27) of the 49 confirmed, probable, and possible depredations were caused by two packs (Aspen and Saddle) and a single individual (m1043) (Table 7). These packs and m1043 were permanently removed in 2007 due to repeated depredations. The confirmed killed cattle rate for 2007 extrapolates to 50 depredations/100 wolves using the number of confirmed killed cattle (*n* = 26; table 7) compared to the 2007 final population count (*n* = 52). This projected number of depredations was higher than the 1-34 confirmed killed cattle per 100 wolves that were predicted in the FEIS. However, the 2007 final population count did not include the two packs and individual wolves that were removed following excessive depredation incidents (*n* = 9 adults).

In 2007, USDA-WS, in conjunction with other Lead Agencies in the reintroduction project, continued a research study in New Mexico to assess domestic cattle mortality in an area of sympatric carnivores (Mexican wolves, mountain lions (*Felis concolor*), black bears, and

coyotes). 2007 was the fifth year of a proposed five-year carnivore study, with the ultimate goal of identifying methods for reducing livestock mortality and producing data that can be used to develop an alternative compensation program. In 2007, Defenders of Wildlife (Defenders) paid $31,117 to individuals who filed wolf-related depredation claims.

Management Actions

In 2007, 28 different wolves were captured and/or removed a total of 31 times. Eight were captured, collared, processed, and released on site for routine monitoring purposes (Table 8).

The IFT captured two wolves (AM732, AF797) and seven dependent pups (mp1049, mp1050, mp1051, mp1052, fp1053, fp1054, fp1055) from the Saddle Pack and removed them to captivity after confirmed involvement in three depredation incidents (Table 8). After six confirmed depredation incidents, m1043 was captured and removed to captivity. Continuous nuisance behavior led to f1028's capture and removal to captivity. Due to persistence outside the BRWRA boundary, fp1105 and fp1106 were captured and translocated in New Mexico.

The IFT captured six wolves (AM863, AF667, f1046, fp1105, fp1106, fp1108) from the Aspen Pack and removed them to captivity after confirmed multiple depredations. M1107 was captured and translocated to Arizona after persistence outside of the BRWRA. In addition, three wolves (AF924, AM796, M1007) were lethally removed after confirmed involvement in three or more depredation incidents. Of 17 wolves captured and placed in captivity in 2007, six were permanently removed. Eleven wolves removed to temporary captivity remain available for translocation (fp1105, fp1106, fp1108, f1028, mp1049, mp1050, mp1051, mp1052, fp1053, fp1054, fp1055); one was translocated and remains in the wild (M1107).

In response to several depredation incidents involving an uncollared wolf in the Paradise Pack territory, the IFT erected turbo fladry fencing around the perimeter of a sheep pasture. There were no further depredation incidences within the perimeter of the turbo fladry.

The IFT conducted management actions in response to 12 cases of recurring nuisance wolf behavior in 2007 (Table 9). Most nuisance reports involved wolves near people or residences. Nine of the 12 nuisance reports were caused by two wolves. After repeated hazing efforts were unsuccessful, and as a result of a foot injury, one wolf (f1028) was captured, placed in captivity with a potential mate, and is available for translocation. The other wolf (AM973) disappeared and its fate is unknown.

Non-IFT Wolf Sighting Reports

In 2007, the IFT received a total of 113 wolf sighting reports from the public (Appendix B). These reports included: 74 from Arizona, 39 from New Mexico, one from California, one from Georgia, and one from Texas. The IFT determined 22 reports were sightings of known wolves within established territories (Arizona n = 17, New Mexico n = 5), three reports were likely uncollared/unknown wolves (Arizona n = 2, New Mexico n = 1), 33 reports were non-wolf sightings (coyote, dogs, etc.), and 55 reports did not have enough information to make a determination. To report a sighting of a Mexican wolf, please call 1-888-459-WOLF (9653). The public is encouraged to report Mexican wolf sightings to help the IFT locate undocumented packs and track movements of wolves within and around the BRWRA.

Uncollared wolf sign

The IFT used uncollared wolf sign and sighting reports to target ten core areas (Fig. 6) in an effort to document and/or radio collar unknown wolves in and around the BRWRA. During 2007, the IFT searched a total of 2252 mi (3624 km) of roads and trails. The IFT captured and radio collared a previously unknown wolf on the FAIR, which led to confirmation of what was subsequently named the Lofer Pack (Fig. 4). The IFT documented three groups of uncollared wolves in Arizona: one on the SCAR, one in Coleman Creek, and one in Auger Canyon (Fig. 7). Three single wolves and one group of two wolves were documented in New Mexico (Fig. 7).

Outreach

The IFT revised and updated the draft Mexican Wolf Blue Range Reintroduction Project Outreach Plan in January 2007. The plan provides an outline of activities that AMOC and the IFT will use to inform various target audiences about the reintroduction project and stimulate productive dialogue between stakeholders and cooperating agencies. The outreach plan was then incorporated into the Mexican Wolf Interagency Field Team 2008 Annual Work Plan, which describes and prioritizes activities the IFT will conduct in 2008.

The IFT and other project personnel gave 50 presentations and status reports to approximately 2955 people in federal and state agencies, conservation groups, rural communities, guide/outfitter organizations, schools, fairs, festivals, wildlife workshops, and various other public and private institutions throughout Arizona, New Mexico and White Mountain Apache Tribal lands, 52% of which were to the BRWRA target audience. These include IFT presentations at quarterly Adaptive Management Work Group (AMWG) meetings. In addition, 3356 weekly contacts were made to cooperating agencies and stakeholders and Endangered Species Updates containing current project and recovery program information went out to an average of 6000 persons a month during 2007. Also, as part of the National Environmental Policy Act review process, USFWS conducted 12 scoping meetings (6 in Arizona, 6 in New Mexico) during 2007 and received approximately 12,000 comments. Presentations can be scheduled by contacting the IFT at 1-888-459-9653.

At available USFS kiosks and various road pull-outs in the BRWRA, the IFT maintained metal signs and laminated posters that provide information on how to minimize conflicts with wolves at USFS kiosks and road pull-outs in the BRWRA. In addition, at the request of Congressman S. Pearce (R-NM), 7500 wallet-size cards listing wolf encounter safety tips were printed and distributed to hunters and campers in the BRWRA. The IFT also replaced USFWS reward posters at USFS kiosks and local businesses in the BRWRA as necessary, to provide notice of a $10,000 reward for information leading to the apprehension of individuals responsible for illegal Mexicana wolf killings.

Summary

The 2007 end-of-year count confirmed 20 radio-collared (14 adults, five subadults, and one pup) and 32 uncollared wolves, including documented uncollared singles and groups. The population consisted of 12 packs (six in Arizona and six in New Mexico) and four single wolves in New Mexico. There are likely more undocumented, free-ranging wolves in the population, but most of

these are likely single animals, as a wolf pack usually leaves more sign and its existence is easier to document.

The IFT conducted three translocations, involving a total of five wolves, during 2007. However, only one of these wolves remained in the wild at year's end.

Seven packs produced wild-conceived, wild-born litters. This marks the sixth year that wild-born Mexican wolves bred and raised pups in the wild. In addition, approximately 90% of the documented wolves in the BRWRA were wild-born.

The IFT documented four mortalities of free-ranging wolves in 2007, including two adults and two subadults.

Home ranges were calculated for 13 packs, producing an average home range size of 223 mi^2 (578 km^2), with home ranges varying in size from 58 mi^2 to 674 mi^2 (150 km^2 to 1746 km^2). Native prey used by wolves consisted primarily of elk. However, during 2007 there were also 36 confirmed, three probable, and ten possible livestock depredations. The IFT also attributed four confirmed livestock injuries and one possible livestock injury to wolves. In addition wolves killed one dog and injured three others.

The IFT captured 28 wolves a total of 31 times for cattle depredations (n = 19) plus three lethal control actions and the removal of seven dependent pups, routine monitoring (n = 11), persistence outside the BRWRA boundary (n = 3), nuisance behavior and injury (n = 1). Of the 18 wolves captured and placed in captivity in 2007, six were permanently removed and 12 retained the possibility of future translocation.

The IFT analyzed 113 reports of wolf sightings from the public; 29% of these reports were non-wolf sightings (coyote, dogs, deer, etc.), 20% were sightings of known wolves within established territories, 3% were likely uncollared/unknown wolves, and the remainder was categorized as unknown due to insufficient information. In response to these sightings, the IFT searched 2252 mi (3624 km) of roads, trails, and canyons in 2007 looking for unknown wolves in and around the BRWRA. As a result, the IFT was successful in documenting one pack and one pair of previously unknown or uncollared wolves and three single animals in 2007 through increased field search efforts.

Project personnel gave 62 presentations and status reports to more than 15,832 people in federal and state agencies, conservation groups, rural and urban communities, guide/outfitter organizations, livestock associations, schools, fairs, and various other public and private institutions. In addition, 3356 weekly contacts were made to cooperating agencies and stakeholders. *Endangered Species Updates* containing current project and recovery program information went out to an average of 6000 persons a month.

The IFT acknowledges the assistance of all agency personnel and volunteers who provided data and support services for the operational field portion of the Mexican wolf reintroduction project during this reporting period. Individuals listed in Appendix C collected data or provided other information for this report.

Discussion

The IFT documented a decrease in the Mexican wolf population during 2007 from approximately 59 wolves in 2006 to a minimum population of 52 wolves in 2007 (Table 1, Fig. 8*).* In addition, the number of breeding pairs decreased from a minimum of seven breeding pairs in 2006 to a minimum of four in 2007 (Table 1, Fig. 4). The total number of pups that were alive at the end of the year was lower than the previous year, due in part to the removal of the Saddle Pack, the Aspen Pack, the San Mateo alpha male, and the Durango alpha female. However, the number of mortalities decreased from six in 2006 to four in 2007 (Table 4). Furthermore, the wolf population displayed encouraging signs with three new packs forming naturally (Dark Canyon, Elk Mountain, Fox Mountain) and two new pairings after the lost of an alpha (Hawks Nest, San Mateo). Wild-born wolves (Middle Fork, Paradise, Rim) also successfully reproduced.

Fuller et al. (2003) identified a 0.34 mortality rate as the inflection point of wolf populations, based on meta-analysis of gray wolf literature. Theoretically, wolf populations below a 0.34 mortality rate would increase naturally, and wolf populations above a 0.34 mortality rate would decrease. The Mexican wolf population had an overall failure (mortality plus removal) rate of 0.47 in 2007, which is too high for natural (unassisted) population growth. This suggests the project must reduce management related losses (e.g. removals) and/or release and/or translocate more wolves in 2008 to provide for desired population increase.

In response to higher than predicted depredation rates, the number of wolves removed following depredations was equal to the most removals since the start of the project in 1998 (n = 19; Fig. 9). The 2007 confirmed killed cattle rate extrapolates to approximately 50 depredations/100 wolves using the number of confirmed killed cattle (n = 26) compared to the final 2007 population count (n = 52). This projected number of depredations was higher than the 1-34 confirmed killed cattle per 100 wolves predicted in the FEIS. It is important to note that the standard for extrapolating the annual confirmed killed cattle rate/100 wolves uses the end of year population count, which does not include wolves removed during the year due to excessive livestock depredation incidents. Wolves not counted in the end-of-year population count, due to being removed from the wild, accounted for 57% (n = 15) of the 26 confirmed killed cattle and were caused by two packs. The IFT has continued to respond to and resolve major conflicts including livestock depredations and nuisance wolves. Such responsive management of depredating wolves should help to reduce the overall confirmed killed cattle rate next year.

Aggressive removal actions in response to depredations, nuisance, and boundary issues may exceed growth from natural recruitment, translocations, and initial releases in a given year. Nonetheless, a combination of initial releases, translocations, natural pair formations, and reproduction in 2008 should result in an increase in the Mexican wolf population. The Project management objective for 2008 is a 10% increase in the minimum wolf population counts and/or the addition of at least one breeding pair, while minimizing negative impacts of wolves. Critical suggested changes to the Mexican wolf reintroduction project are outlined in the Five Year Review. The IFT and AMOC will continue to work on implementing these improvements in 2008.

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Table 1. Status of Mexican wolf packs present in 2007 in Arizona and New Mexico, as of December 31, 2007.

Pack	Wolf ID	Reproduction[a]	Pups at Year End[b]	No. Collared	No. Uncollared	Min Pack Size[c]
Aspen[f]	AM512[g], AF667[g], AM863[g], f1046[g], fp1105[i], fp1106[i], fp1108[i]	4	0	0	0	0
Bacho	AM990	N/A[e]	N/A[e]	N/A[e]	N/A[e]	N/A[e]
Bluestem*	AM806, AF521, m1041[g], f1042, fp1113[d]	3	3	3	3	6
Dark Canyon	AM992, AF923	0	0	2	0	2
Durango[f]	AM973[g], AF924[g], f1047[g]	4	0	0	0	0
Elk Mountain	AM1045, AF1112[d]	0	0	1	1	2
Fox Mountain	AM1038, AF1111[d]	0	0	1	1	2
Hawks Nest	AM619, AF1110[d]	0	0	1	1	2
Lofer	AF1056	N/A[e]	N/A[e]	N/A[e]	N/A[e]	N/A[e]
Luna	AM583	0	0	1	3	4
Middle Fork*	AM871, AF861, f1115[d]	2	2	2	3	5
Paradise*	AM795, m1044	2	2	2	3	5
Rim*	AM991[g], AF858, f1048[g],M1107, fp1104,	3	2	3	1	4
Saddle[f]	AM732[g], AF797[g], m1007[g], f1016[g] mp1049[i], mp1050[i], mp1051[i], mp1052[i], fp1053[i], fp1054[i], fp1055[i]	7	0	0	0	0
San Mateo	AM796[g], AF903, AM1114[d]	0	0	1	1	2
Single wolves	M925[g], f1028[i], m1039[h], f1040[g], m1043[g]	0	0	1	0	1
Coleman Creek, AZ	uncollared wolves	0	0	0	4	4
Auger Canyon, AZ	uncollared wolves	0	0	0	2	2
Musick Canyon, NM	uncollared wolf	0	0	0	1	1
Gordon Canyon, NM	uncollared wolf	0	0	0	1	1
Keller Canyon, NM	uncollared wolf	0	0	0	1	1
Aldo Leopold, NM	uncollared wolves	0	0	0	2	2
Uncollared WMAT	N/A	0	0	0	N/A[e]	N/A[e]
Uncollared SCAT	N/A	0	0	0	N/A[e]	N/A[e]
Totals		27	9	20	32	52

[a]Reproduction-maximum number of pups documented in 2007.
[b]Pups at year end-pups documented surviving until December 31, 2007.
[c]Min pack size-total number of wolves (collared, uncollared, pups) documented at year end.
[d] AF1110, AF1111, AF1112, fp1113, AM1114, f1115 were captured and assigned studbook numbers in January 2008 but considered uncollared wolves on 12/31/07.
[e]Wolf numbers on WMAT and SCAT lands are proprietary and therefore not displayed.
[f]Pack considered defunct due to lost collars, dispersal, removal or death.
[g]Died, fate unknown, or permanently removed during 2007.
[h]Remain in the wild, no longer associated with defunct pack.
[i]Removed from the wild, remains in captivity, available for future translocation.
*A pack that meets the definition of a breeding pair per the final rule.

Table 2. Mexican wolves translocated from captivity or the wild in Arizona and New Mexico during January 1 – December 31, 2007.

Wolf Pack	Wolf #	Release Site	Release Date
Durango	AM973	Miller Springs, NM	4-25-07
Durango	AF924	Miller Springs, NM	4-25-07
Aspen	fp1105	Whitewater Canyon, NM	11-1-07
Aspen	fp1106	Whitewater Canyon, NM	11-1-07
Single	M1107	Bear Wallow Area, AZ	11-25-07

Table 3. Home range sizes of free-ranging Mexican wolf packs in Arizona and New Mexico, January 1 – December 31, 2007.

Pack/Group	Home Range Size 95% Min. Convex Polygon mi^2 (km^2)	Number of Independent Aerial Locations	Duration of Time Radio Locations were Available during 2007
Aspen	382 (989)	104	11 months
Bacho	78(202)	44	12 months
Bluestem	377 (976)	69	12 months
Dark Canyon	65 (168)	21	5 months
Durango	58 (150)	32	6 months
Hawks Nest	127 (329)	69	12 months
Lofer	141 (365)	21	6 months
Luna	255 (660)	71	12 months
Middle Fork	65 (168)	57	12 months
Paradise	302 (782)	79	12 months
Rim	113 (293)	82	12 months
Saddle	268 (694)	56	5 months
San Mateo	674 (1746)	73	12 months
Average[a]	**223(578)**	**60**	**10 months**

[a]Averages were based on packs with enough locations to calculate home ranges.

Table 4. Wild Mexican wolf mortalities documented in Arizona and New Mexico, 1998-2007.

Mortality Cause	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**Totals**
Illegal shooting	4	0	1	4	3	7	1	3	0	1	24
Vehicle collision	0	1	2	1	0	4	1	0	1	0	10
Natural [a]	0	2	1	2	0	0	1	0	1	1	8
Other [b]	1	0	0	1	0	0	0	0	1	0	3
Unknown[c]	0	0	0	1	0	1	0	1	3	2	8
Annual Total	**5**	**3**	**4**	**9**	**3**	**12**	**3**	**4**	**6**	**4**	**53**

[a] Includes wolves lost to predation, disease, whelping complications, and asphyxiation (snake bite).
[b] Includes non-IFT legal shootings and capture related mortality.
[c] Includes wolf mortalities awaiting necropsies and mortalities from unknown causes.

Table 5. Mexican wolf mortalities documented in Arizona and New Mexico during January 1 - December 31, 2007.

Wolf ID	**Pack**	**Age (years)**	**Date Found**	**Cause of Death**
AM991	Rim	2	4-24-07	Unknown
M925	Single	2	5-9-07	Illegal shooting
m1041	Single	1	6-6-07	Unknown
f1048	Rim	1.5	10-21-07	Natural

Table 6. Mexican wolf depredations of livestock documented in Arizona and New Mexico during January 1 – December 31, 2007.

	Confirmed	**Probable**	**Possible**	**Total**
Fatal	36	3	10	49
Injury	4	0	1	5

Table 7. Investigations of Mexican wolf-caused confirmed, probable, and possible depredation and injuries to cattle, sheep, horses, and dogs during 2007 in New Mexico and Arizona. Depredation incidents are defined within SOP 13.0 as the aggregate number of livestock confirmed killed or mortally wounded by an individual wolf or a single pack of wolves at a single location within a 1-day (24-hour) period, beginning with the first confirmed kill, as documented in the initial IFT incident investigation pursuant to SOP 11.0. Number of depredation incidents on a given wolf at a given point in time is calculated based on the number of incidents in the preceding 365 days.

	Wolves in Area	Investigation Date	Located By IFT	Species	State	Killed/ Injured	Call	Wolves Responsible	Depredation Incident?	No. of Incidents	Management Action
1	667, 1046	6/29/07	NO	Cattle	NM	Killed	Confirmed	667,1046	YES	2	Monitoring, supplemental feeding
2	795, uncollared	12/27/07	NO	Cattle	AZ	Killed	Confirmed	795 and uncollared	YES	1	Searched area for trapping opportunity
3	863	06/06/07	NO	Cattle	NM	Killed	Confirmed	863	YES	1	Monitoring
4	863	06/27/07	NO	Cattle	NM	Killed	Confirmed	863	YES	2	Monitoring, supplemental feeding
5	992	04/11/07	NO	Cattle	NM	Killed	Confirmed	992	YES	1	Trapped 992
6	992	05/16/07	NO	Cattle	NM	Killed	Confirmed	992	YES	2	Monitoring
7	1043	05/21/07	NO	Sheep	AZ	Killed	Confirmed	1043	YES	1	Hazing/monitoring, turbo fladry
8	1043	06/22/07	NO	Sheep	AZ	Injured	Confirmed	1043	YES	0	Hazing/monitoring, turbo fladry
9	1043	07/07/07	NO	Sheep	AZ	Killed	Confirmed	1043	YES	2	Hazing/monitoring, turbo fladry
10	1043	07/07/07	NO	Sheep	AZ	Killed	Confirmed	1043	NO	2[a]	Hazing/monitoring, turbo fladry
11	1043	07/16/07	NO	Sheep	AZ	Killed	Confirmed	1043	YES	3	Hazing/monitoring, turbo fladry, supplemental feeding, permanent removal order
12	1043	07/16/07	NO	Sheep	AZ	Killed	Confirmed	1043	NO	3[a]	Hazing/monitoring, turbo fladry, supplemental feeding, permanent removal order
13	1043	07/16/07	NO	Sheep	AZ	Killed	Confirmed	1043	YES	4	Hazing/monitoring, turbo fladry, supplemental feeding, permanent removal order

	Wolves in Area	Investigation Date	Located By IFT	Species	State	Killed/ Injured	Call	Wolves Responsible	Depredation Incident?	No. of Incidents	Management Action
14	1043	07/20/07	NO	Sheep	AZ	Killed	Confirmed	1043	YES	5	Hazing/monitoring, turbo fladry, supplemental feeding, permanent removal order
15	1043	08/4/07	NO	Sheep	AZ	Killed	Confirmed	1043	YES	6	Permanent removal 1043 (captivity)
16	1048	04/23/07	NO	Cattle	AZ	Injured	Confirmed	1048	NO	0	Attempted trapping
17	1048	04/23/07	NO	Cattle	AZ	Killed	Probable	1048	NO	0	Attempted trapping
18	1048	04/24/07	NO	Cattle	AZ	Injured	Confirmed	1048	NO	0	Attempted trapping
19	1048	04/24/07	NO	Cattle	AZ	Killed	Probable	1048	NO	0	Trapped 1048
20	1056	12/06/07	NO	Cattle	AZ	Killed	Confirmed	1056	YES	1	Searched area for trapping opportunity
21	Aspen	01/09/07	NO	Horse	NM	Killed	Confirmed	512, 667, 1038, 1039, 1040, 1046	YES	1	Hazing/monitoring, RAG boxes
22	Aspen	10/15/07	NO	Cattle	NM	Killed	Confirmed	863, 667, 1046, 1105, 1106, 1108	YES	3- 863, 667, 1046 1 – 1105, 1106, 1108	
23	Aspen	10/21/07	NO	Cattle	NM	Killed	Confirmed	863, 667, 1046	YES	4	
24	Aspen	10/31/07	YES	Cattle	NM	Killed	Confirmed	863, 667, 1046	YES	5	Permanent removal order for 863 and 1046
25	Aspen	11/02/07	NO	Cattle	NM	Killed	Confirmed	863, 667, 1046	YES	6	Permanent removal 863 (captivity)
26	Aspen	11/02/07	YES	Cattle	NM	Killed	Probable	N/A	NO	0	Permanent removal order for 863 and 1046
27	Aspen	11/24/07	YES	Cattle	NM	Killed	Confirmed	667, 1046, 1105, 1106, 1108	YES	7 – 667, 1046 2 – 1105, 1106, 1108	Permanent removal order for entire pack
28	Aspen	11/25/07	YES	Cattle	NM	Killed	Confirmed	667, 1046, 1105, 1106, 1108	NO	7 – 667, 1046 2 – 1105, 1106, 1108[a]	Permanent removal order for entire pack

	Wolves in Area	Investigation Date	Located By IFT	Species	State	Killed/ Injured	Call	Wolves Responsible	Depredation Incident?	No. of Incidents	Management Action
29	Aspen	11/27/07	YES	Cattle	NM	Killed	Confirmed	667, 1046, 1105, 1108	YES	8 – 667, 1046 3 – 1105, 1108	Permanent removal 667, 1046 (captivity) Temporary removal 1105, 1106, 1108 (captivity)
30	Durango	06/29/07	NO	Cattle	NM	Killed	Confirmed	924, 973	YES	1 - 973 3 - 924	Permanent removal 924 (Lethal)
31	Durango	06/29/07	NO	Cattle	NM	Killed	Confirmed	924, 973	NO	1 - 973 3 - 924	Permanent removal 924 (Lethal)
32	Saddle	01/31/07	YES	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
33	Saddle	02/12/07	NO	Cattle	NM	Killed	Confirmed	732, 797, 1007, 1016	YES	3- 732, 797, 1007 2 - 1016	Permanent removal 1007 (Lethal)
34	Saddle	04/01/07	NO	Cattle	NM	Killed	Confirmed	732, 797	YES	3	Permanent removal 732, 797 (captivity)
35	Saddle	04/13/07	NO	Cattle	NM	Killed	Confirmed	732, 797	NO	3[a]	Permanent removal 732, 797 (captivity)
36	Saddle	05/07/07	YES	Cattle	NM	Killed	Confirmed	732,797	YES	4	Permanent removal 732, 797 (captivity)
37	San Mateo	01/31/07	NO	Cattle	NM	Killed	Confirmed	903, 796	YES	1 – 903 3 - 796	Permanent removal 796 (Lethal)
38	San Mateo	04/9/07	YES	Cattle	NM	Killed	Confirmed	903	YES	2	Monitoring
39	Unknown	01/28/07	NO	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
40	Unknown	01/28/07	NO	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
41	Unknown	01/31/07	NO	Dog	NM	Killed	Confirmed	N/A	NO	0	Searched area for trapping opportunity
42	Unknown	02/02/07	NO	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
43	Unknown	02/02/07	NO	Cattle	NM	Killed	Confirmed	N/A	YES	1[b]	Searched area for trapping opportunity
44	Unknown	02/23/07	NO	Cattle	NM	Killed	Confirmed	N/A	YES	1[b]	Searched area for trapping opportunity
45	Unknown	02/23/07	NO	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
46	Unknown	02/26/07	NO	Dog	AZ	Injured	Confirmed	N/A	NO	0	Owner given cracker

	Wolves in Area	Investigation Date	Located By IFT	Species	State	Killed/ Injured	Call	Wolves Responsible	Depredation Incident?	No. of Incidents	Management Action
											shells
47	Unknown	03/01/07	NO	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
48	Unknown	03/23/07	NO	Dog	NM	Injured	Confirmed	N/A	NO	0	Searched area for trapping opportunity
49	Unknown	03/29/07	NO	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
50	Unknown	03/30/07	NO	Cattle	NM	Killed	Confirmed	N/A	YES	1[b]	Searched area for trapping opportunity
51	Unknown	04/03/07	YES	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
52	Unknown	04/03/07	YES	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
53	Unknown	04/06/07	NO	Cattle	NM	Killed	Possible	N/A	NO	0	Searched area for trapping opportunity
54	Unknown	05/02/07	NO	Cattle	NM	Killed	Confirmed	N/A	YES	1[b]	Searched area for trapping opportunity
55	Unknown	05/03/07	NO	Dog	AZ	Injured	Confirmed	N/A	NO	0	Working with owner to install fencing
56	Unknown	06/18/07	NO	Cattle	NM	Injured	Confirmed	N/A	NO	0	Searched area for trapping opportunity
57	Unknown	07/05/07	NO	Horse	NM	Injured	Possible	N/A	NO	0	Searched area for trapping opportunity
58	Unknown	11/06/07	YES	Cattle	NM	Killed	Confirmed	N/A	YES	1[b]	Searched area for trapping opportunity

[a] No depredation incident was assigned. Livestock was killed within the same 24 hour period as the preceding entry.
[b] Depredation incident was assigned to uncollared animal(s).

Table 8. Mexican wolves captured in Arizona and New Mexico from January 1 – December 31, 2007.

Pack	Wolf ID	Capture Date	Reason for Capture
Paradise	m1045	1/16/2007	Helicopter capture, collared and released.
Paradise	AM795	1/16/2007	Helicopter capture, re-collared and released.
Saddle	f1016	1/18/2007	Helicopter capture, collared and released.
Aspen	f1046	1/23/2007	Helicopter capture, collared and released.
Luna	fp1047	1/23/2007	Helicopter capture, collared and released.
San Mateo	AM796	2/20/2007	Lethally removed for three depredations.
Saddle	M1007	3/16/2007	Lethally removed for three depredation incidents.
Rim	f1048	4/25/2007	Routine monitoring purposes. Captured, collared and released on site.
Saddle	AM732	5/26/2007	Trapped and permanently removed for three or more depredations.
Saddle	AF797	6/1/2007	Trapped and permanently removed for three or more depredations.
Saddle	mp1049	6/1/2007	Removed with alpha female, but available for future translocation.
Saddle	mp1050	6/1/2007	Removed with alpha female, but available for future translocation.
Saddle	mp1051	6/1/2007	Removed with alpha female, but available for future translocation.
Saddle	mp1052	6/1/2007	Removed with alpha female, but available for future translocation.
Saddle	fp1053	6/1/2007	Removed with alpha female, but available for future translocation.
Saddle	fp1054	6/1/2007	Removed with alpha female, but available for future translocation.
Saddle	fp1055	6/1/2007	Removed with alpha female, but available for future translocation.
Lofer	AF1056	6/23/2007	Routine monitoring purposes. Captured, collared and released on site.
Single	f1028	6/28/2007	Temporarily removed for injury and nuisance behavior, but available for future translocation.
Durango	AF924	7/5/2008	Lethally removed for multiple depredation incidents.

Pack	Wolf ID	Capture Date	Reason for Capture
Rim	m1043	8/17/2007	Trapped and permanently removed for three or more depredations.
Rim	f1104	10/19/2007	Routine monitoring purposes. Captured, collared and released on site.
Aspen	AM863	11/1/2007	Trapped and permanently removed for three or more depredations.
Aspen	f1105	11/1/2007	Trapped outside the BRWRA. Captured, collared and translocated.
Aspen	f1106	11/1/2007	Trapped outside the BRWRA. Captured, collared and translocated.
Aspen	f1106	11/26/2007	Trapped outside the BRWRA and moved to captivity for depredations but available for future translocation.
Single	M1107	11/26/2007	Trapped outside the BRWRA. Captured, collared and translocated.
Aspen	AF667	12/4/2007	Captured and permanently removed for three or more depredations.
Aspen	f1046	12/4/2007	Captured and permanently removed for three or more depredations.
Aspen	f1105	12/4/2007	Captured and temporarily removed for depredations, but available for future translocation.
Aspen	f1108	12/4/2007	Captured and temporarily removed for depredations, but available for future translocation.

Table 9. IFT management actions resulting from recurring Mexican wolf nuisance activities in Arizona and New Mexico during 2007.

Date	Wolf Pack or #	General Location	Type of Activity	IFT Response	Management Result
2/24/2007	Uncollared	Beaver Creek, AZ	Dog interactions (non-injurious), and proximity to residences	Investigated, searched for additional wolf sign to trap (none found) IFT issued cracker shells for hazing to landowner	No wolves in area, no trapping, nuisance behavior ended
3/21/2007	f1028	Alpine Divide, AZ	Duck interaction (fatal), proximity to residences	Intensive monitoring and hazing	Wolf left the residence, but remained in the area
3/22/07 – 6/03/07	f1028	Alpine Divide, Alpine Valley, AZ	Close proximity to Alpine, AZ / Hwy 191/180, seen with leg injury	Intensive monitoring	Wolf remained in the area
6/4/2007	f1028	Alpine Valley, AZ	Duck interaction (fatal), proximity to residences	Intensive monitoring and hazing	Wolf remained in the area
6/4/07 – 6/24/07	f1028	Alpine Divide, Alpine Valley, AZ	Close proximity to Alpine, AZ / Hwy 191/180, seen with leg injury;	Intensive monitoring and hazing	Wolf remained in the area
6/25/2007	f1028	Alpine Valley, AZ	Duck interaction (fatal), proximity to residences	Trapping for temporary removal and possible veterinary treatment	Trapped and removed on 6/28/07
9/10/07 – 9/25/07	Durango	Indian Peaks, NM	Close proximity to residence	Investigated, searched for wolf sign, intensive monitoring, hazing on public land	Wolves left the immediate area, but remained in the general vicinity
9/30/07 – 10/9/07	Durango	Corduroy Canyon, NM	Close proximity to residence, food reward	Intensive monitoring from public land	Wolves left the immediate area, but remained in the general vicinity
10/15/07 – 10/28/07	Durango	Indian Peaks, NM	Close proximity to residence	Intensive monitoring and hazing from public land	Wolves remained in the general vicinity
11/1/2007	Durango	Indian Peaks, NM	Close proximity to residence	Intensive monitoring and hazing efforts conducted	Wolves Fate Unknown
11/24/2007	Uncollared	Glenwood, NM	Close proximity to Community Center	Searched area for wolf sign	Wolf remained in the area
11/29/2007	Uncollared	Glenwood, NM	Close proximity to School	Trapping, Intensive searching of area for wolf sign	Nuisance behavior ended

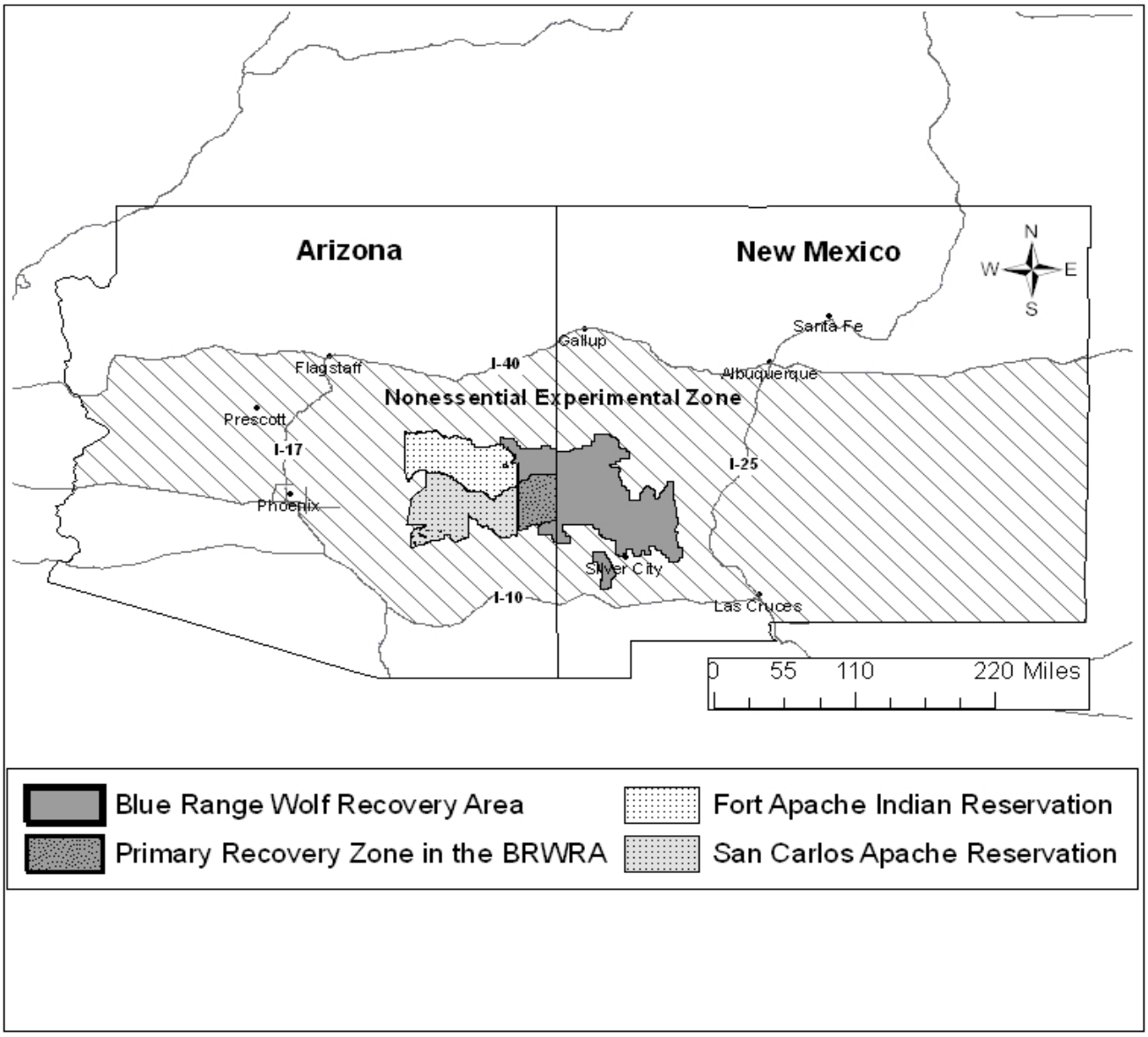

Figure 1. The Blue Range Wolf Recovery Area and Mexican wolf nonessential experimental zone (cross-hatched area) in Arizona and New Mexico.

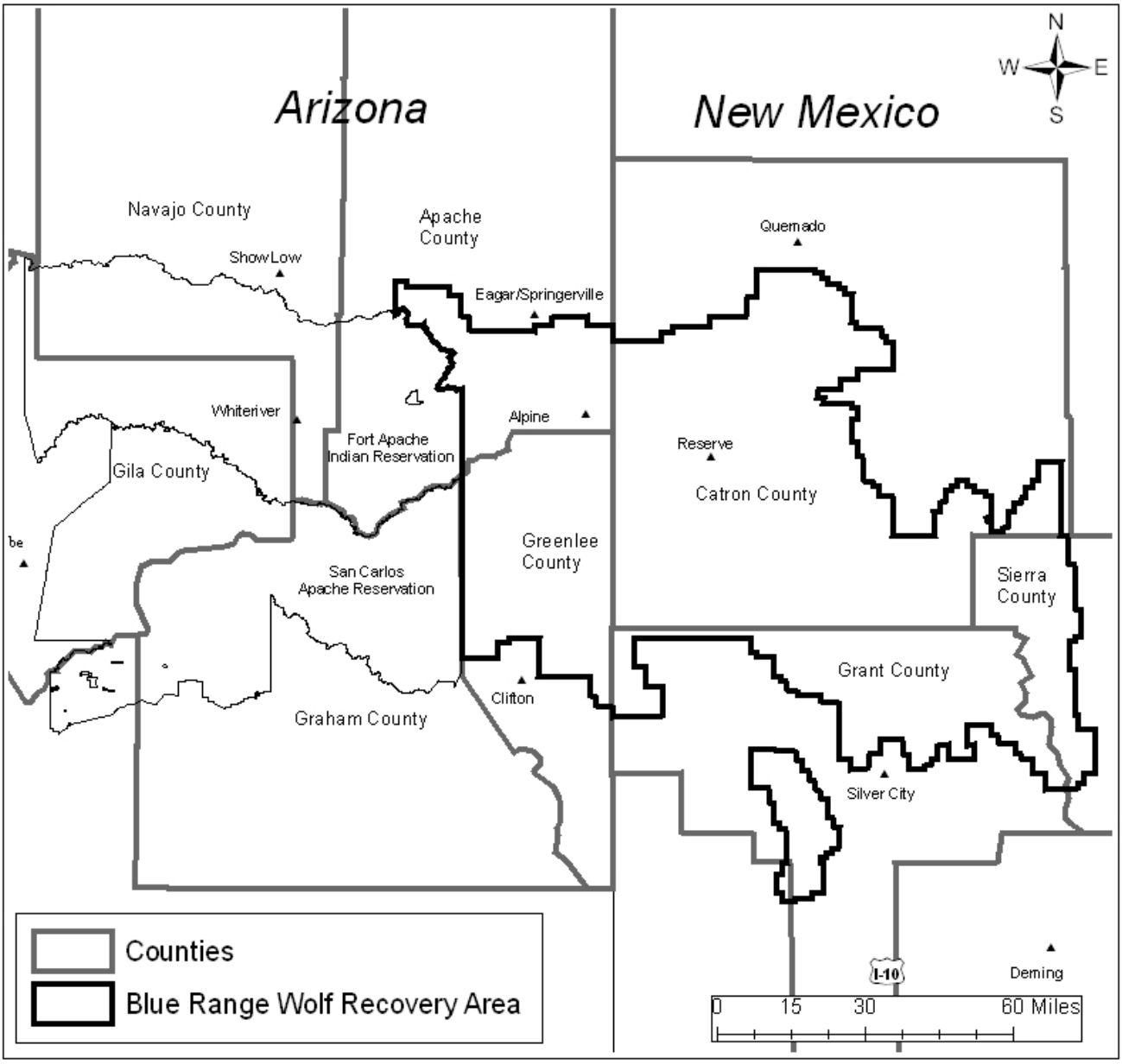

Figure 2. Counties that occur in or adjacent to the Blue Range Wolf Recovery Area in Arizona and New Mexico.

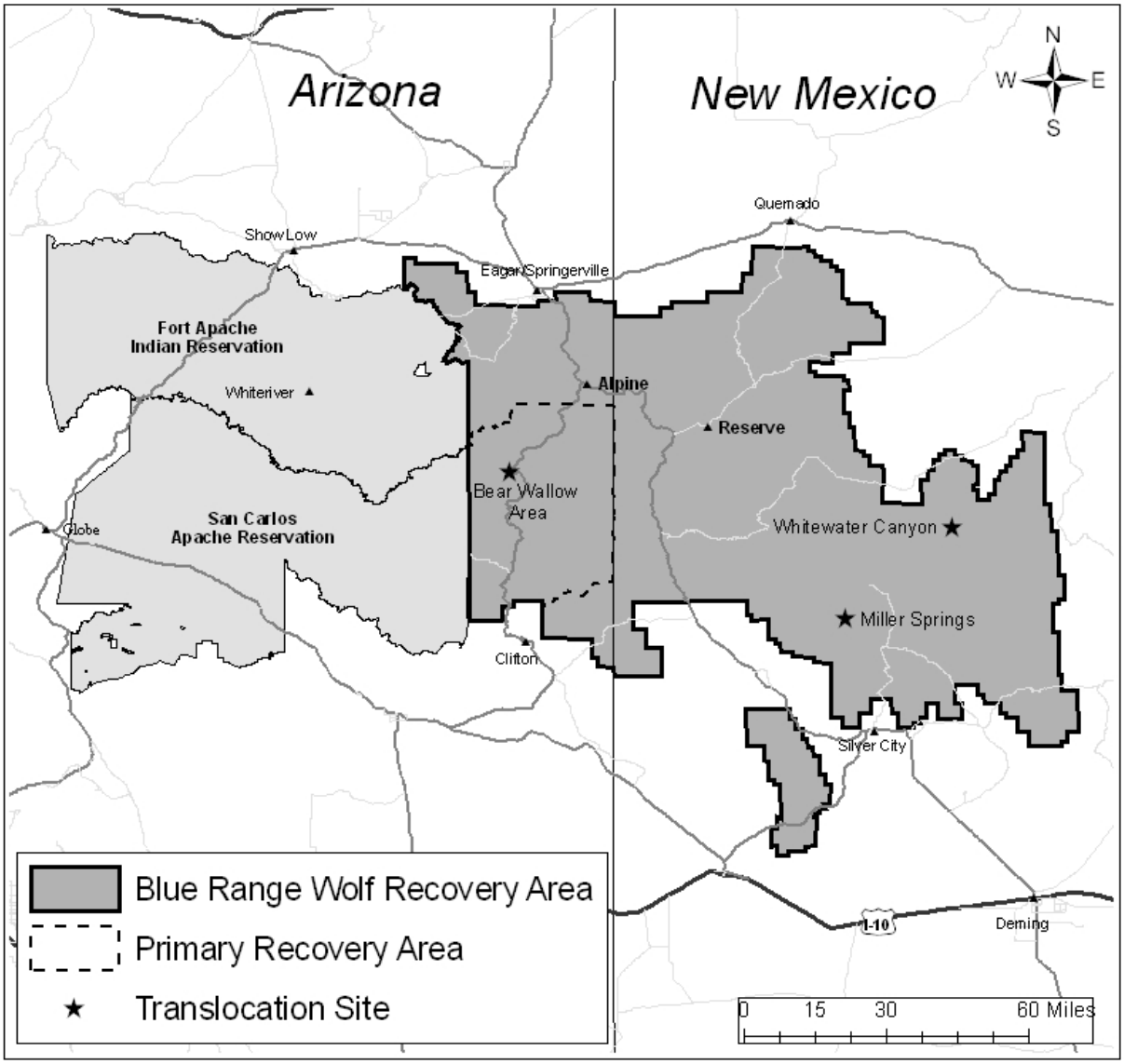

Figure 3. Translocation sites used during 2007 in Arizona and New Mexico within the Blue Range Wolf Recovery Area.

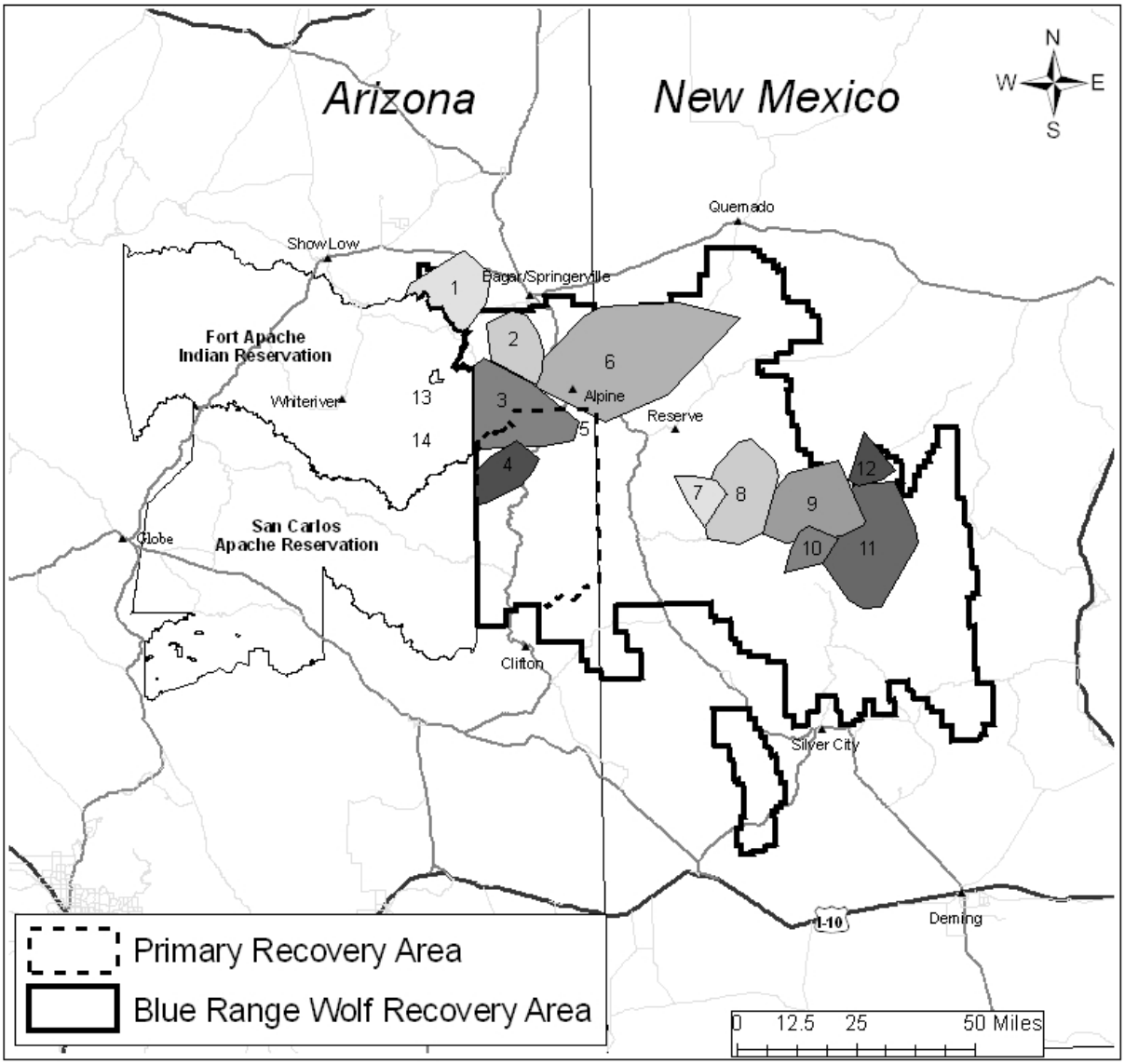

Figure 4. Mexican wolf home ranges for 2007 in Arizona and New Mexico. The shaded polygons and corresponding numbers on the map represent wolves having >20 independent radio locations and exhibiting movement characteristics consistent with a home range during 2007. See the following page for information regarding the wolf packs and home ranges.

Figure 4. Continued.

Map Number	Wolf Pack or Wolf ID	Number of Wolves	Wolf Fate at the End of 2007	Breeding Pair Status	Home Range Size (mi^2)
1	Paradise	5	Free-ranging	Yes	302
2	Hawks Nest	2	Free-ranging	No	127
3	Bluestem	6	Free-ranging	Yes	377
4	Rim	4	Free-ranging	Yes	113
5	Coleman Creek	4	Uncollared free-ranging	Unknown	Unknown
6	San Mateo	2	Free-ranging	No	674
7	Dark Canyon	2	Free-ranging	No	65
8	Luna	4	Free-ranging	No	255
9	Saddle	0	Permanent Removal	No	268
10	Middle Fork	5	Free-ranging	Yes	65
11	Aspen	0	Permanent Removal	No	382
12	Durango	0	Fate Unknown	No	58
13	Lofer	NA[b]	Free-ranging	No	NA[b]
14	Bacho	NA[b]	Free-ranging	No	NA[b]

[a] <20 independent aerial locations were available for these packs therefore, no home ranges were calculated.

[b]Wolf information (including numbers and home ranges) on the Fort Apache Indian Reservation and the San Carlos Apache Reservation is proprietary and is not displayed.

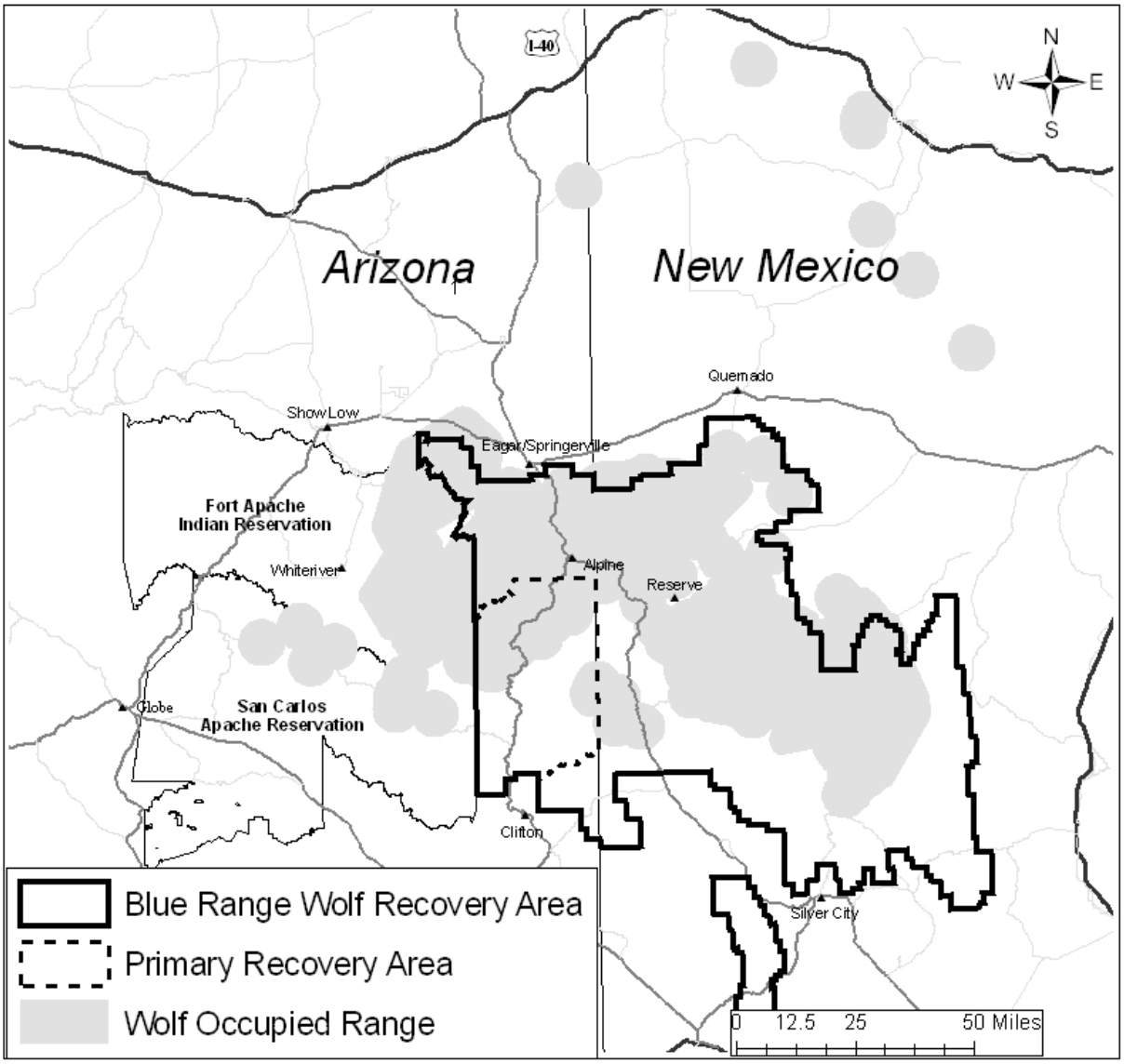

Figure 5. Mexican wolf occupied range in Arizona and New Mexico within the Mexican Wolf Nonessential Experimental Zone as defined in the Final Rule (USFWS 1998).

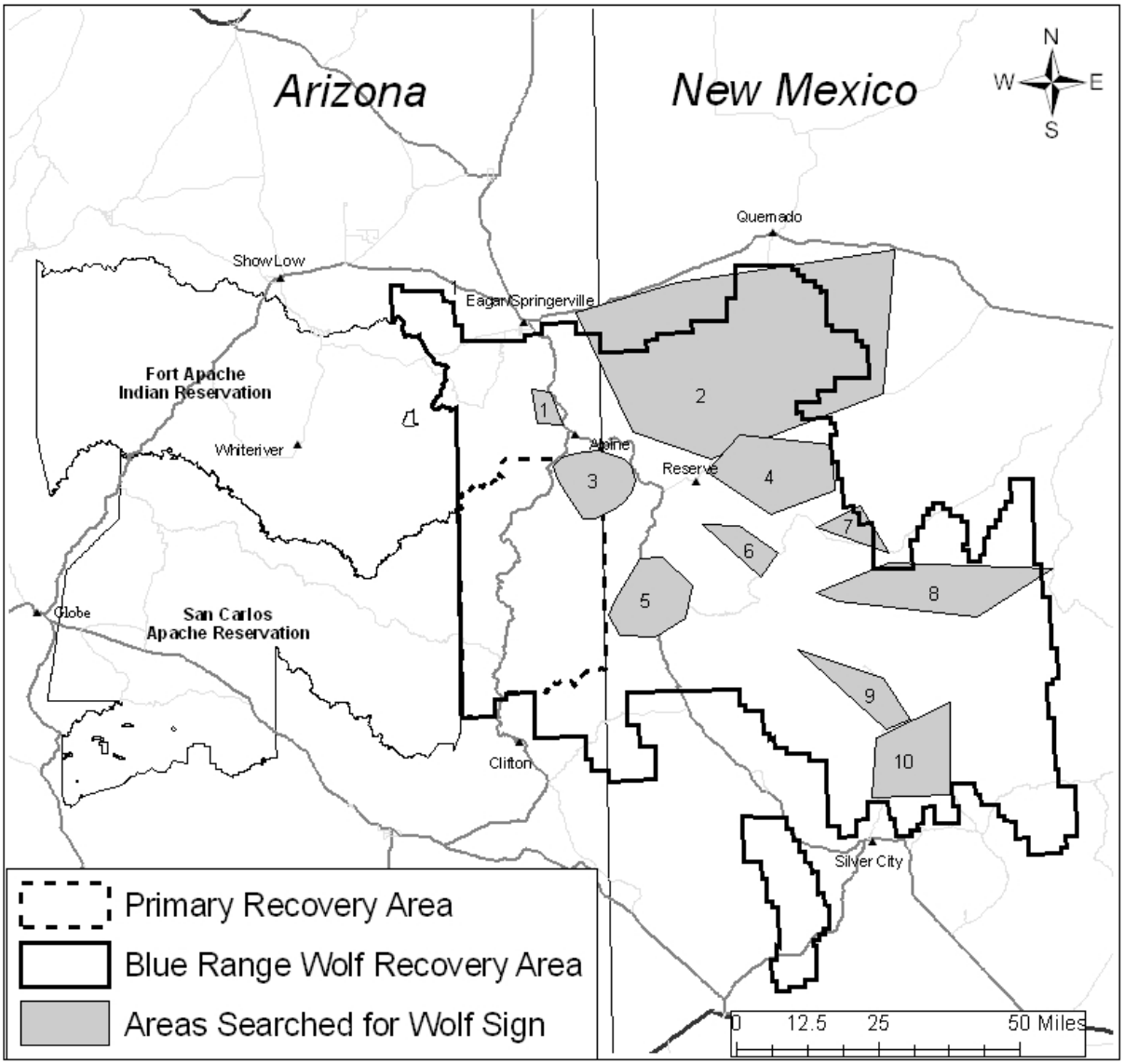

Figure 6. Areas searched and corresponding miles searched (driven or hiked) for uncollared wolf sign in Arizona and New Mexico. Search areas corresponding to "map numbers" as follows:

Map Numbers	Search Area	Miles Searched in AZ	Miles Searched in NM
1	Auger Canyon	187	0
2	Northern Gila National Forest	0	618
3	Coleman Creek – Maness Area	532	60
4	Tularosa Mountains	0	128
5	Glenwood	0	323
6	Rainy Mesa	0	54
7	O Bar O Mountains	0	46
8	Indian Peaks Area	0	89
9	Gila Wilderness	0	52
10	Lake Roberts	0	223
	Total	**719**	**1533**
	Grand Total for AZ and NM	**2252**	

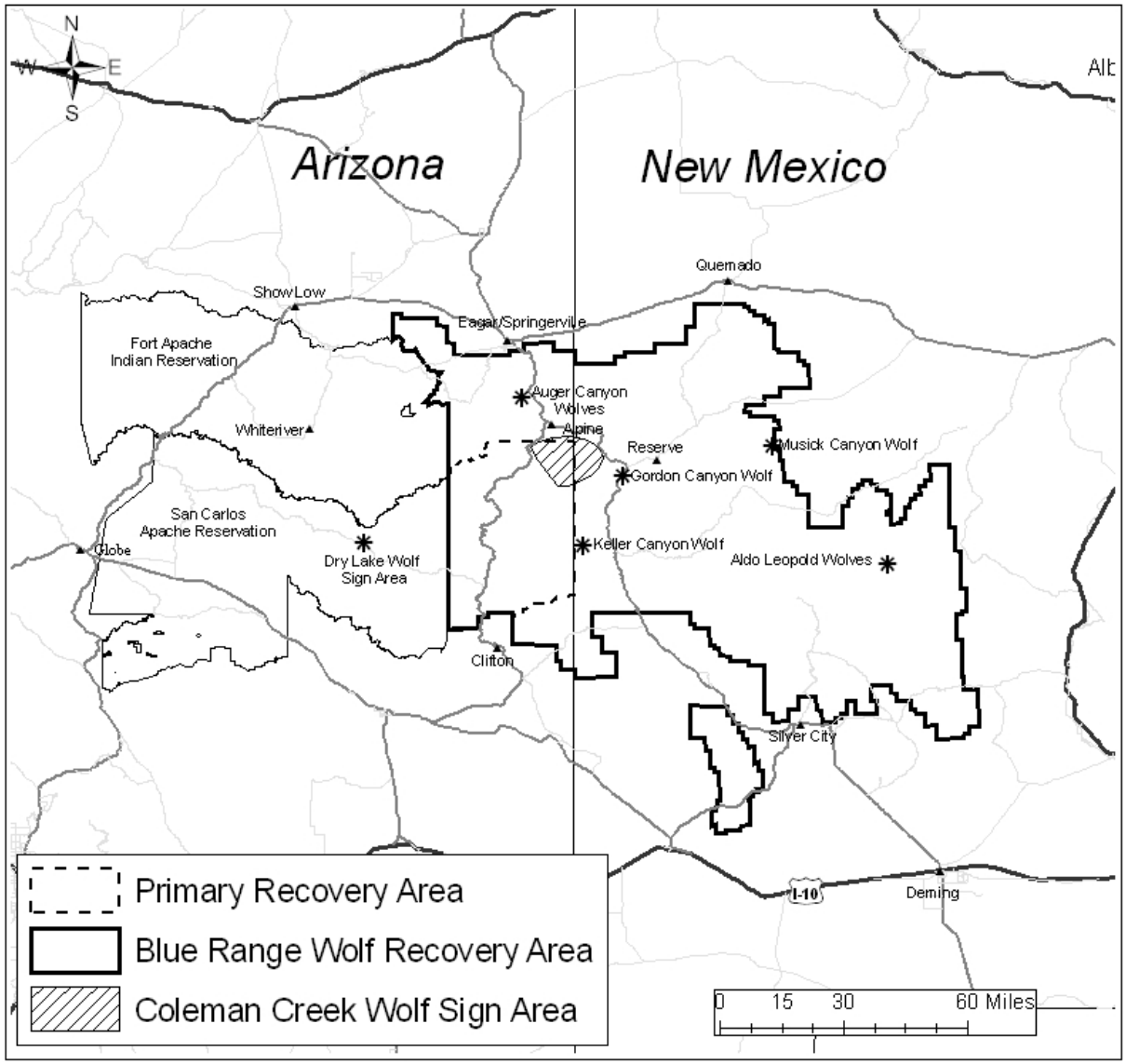

Figure 7. Uncollared wolves documented and counted in the 2007 wolf population in Arizona and New Mexico.

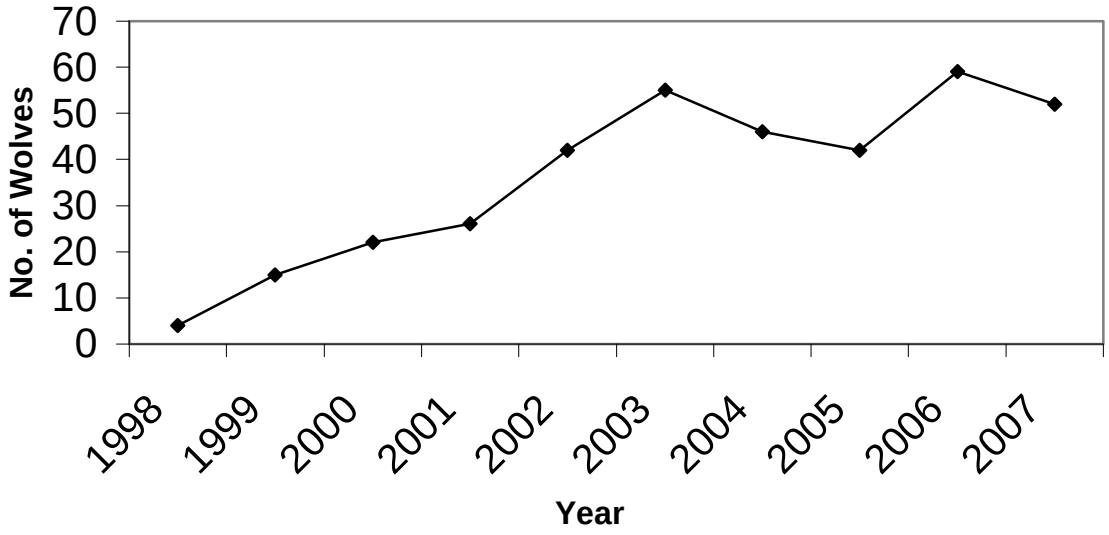

Figure 8. Mexican wolf minimum population estimates from 1998 through 2007 in Arizona and New Mexico.

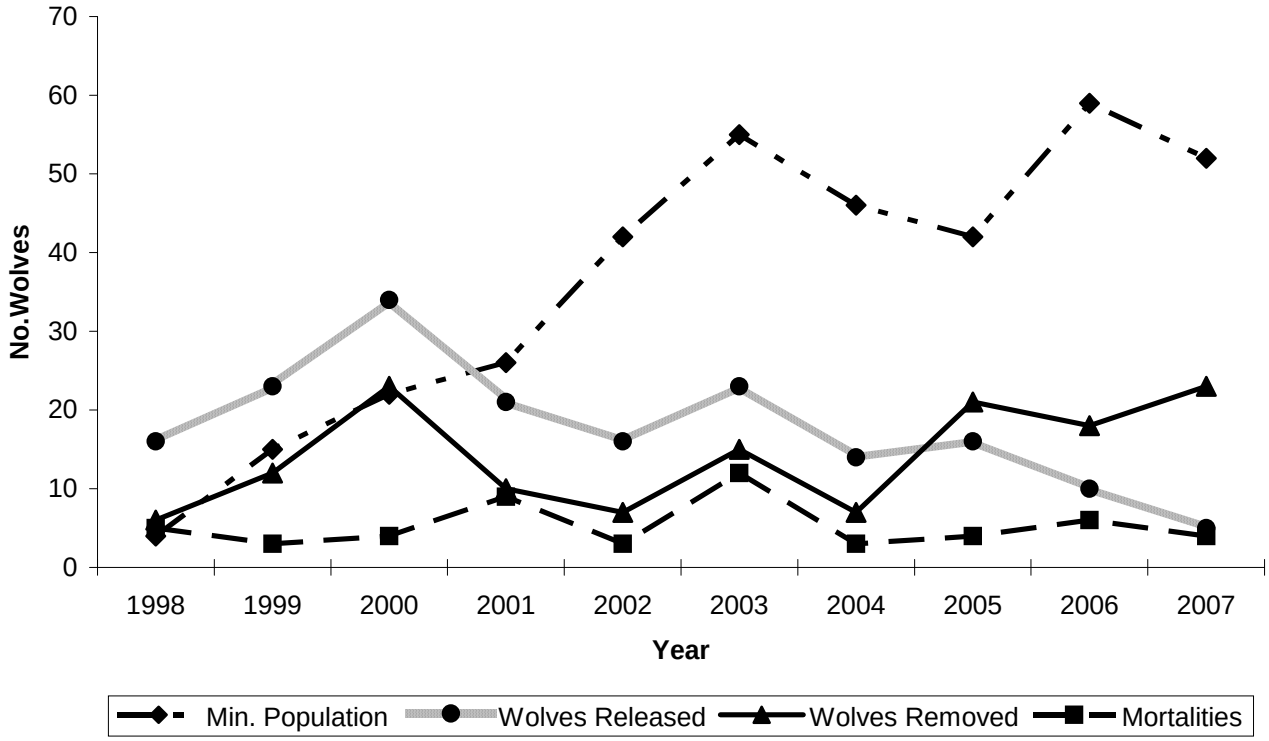

Figure 9. Mexican wolf population estimates and associated population parameters. Wolves released included: translocations (wolves re-released from captivity back into the wild) and initial releases (wolves with no wild experience). Lethal control of wolves was counted within the wolves removed figures because they are associated with management actions.

Appendix A. 2007 Pack and Single Wolf Summaries.

Pack Summaries

Aspen Pack (AM512, AF667, mp1038, mp1039, fp1040, fp1046)
In January 2007, the Aspen Pack consisted of AM512, AF667, mp1038, mp1039, fp1040 and fp1046. On January 9, 2007, the Aspen Pack killed a horse in Grant County, New Mexico. During the annual population count and helicopter operation, the IFT attempted to capture and remove AM512 but was unsuccessful. On January 23, the only uncollared wolf observed with the radio-collared wolves, a 53-pound female pup (fp1046), was captured and fitted with a radio collar. Following the unsuccessful capture of AM512, the IFT intensively hazed the Aspen Pack through late-February at the residence of the January 9 incident. The pack then moved into the Gila Wilderness and removal efforts for AM512 were suspended. On January 26, residents observed a single uncollared wolf, likely AM512, from approximately 300-400 yards away. No further interactions occurred. This was the last known observation of AM512; its fate remains unknown. During April-October 2007, the IFT located m1038, m1039, and f1040 separate from the pack, but within traditional Aspen Pack territory.

Aspen Pack (AM863, AF667, f1046, fp1105, fp1106, fp1108)
On February 14, the Aspen Pack moved north and single M863 joined it. During April and May, the IFT detected denning behavior based on aerial telemetry locations of AF667. Following a depredation incident in June, the IFT commenced supplemental feeding to deter additional depredations. Supplemental feeding continued though October 7. During early August 2007, a ranch hand observed four pups with the Aspen Pack. Throughout October and November, the Aspen Pack was located on private land outside the BRWRA boundary. Following five depredation incidents, the USFWS issued a Permanent Removal Order for AM863 and f1046 (Table 7). On November 1, the IFT captured three wolves (AM863, fp1105, fp1106) of the Aspen Pack. AM863 was moved to captivity per the removal order. Both fp1105 and fp1106 were translocated back inside the BRWRA boundary, seven mi southwest from the depredation incident location and released near the den area. On November 26, fp1106 was captured for a second time outside the BRWRA boundary and moved to captivity for management purposes. On November 28, following an eighth depredation incident, the USFWS issued a Permanent Removal Order for the remaining Aspen Pack members. On December 4, Aspen Pack members (AF667, f1046, fp1105, fp1108) were removed during a helicopter capture, thereby completing the removal order; AF667 and f1046 were permanently moved to captivity. The three pups (fp1105, fp1106, fp1108) remain eligible for future release. The Aspen Pack is now considered defunct. Therefore, per the definition in the Final Rule, the Aspen Pack was not considered a "Breeding Pair" in 2007.

Bluestem Pack (AM806, AF521, mp1041, fp1042, fp1113)
In January 2007, the Bluestem Pack consisted of seven wolves; four with functioning radio collars (AM806, AF521, mp1041, fp1042) and three uncollared individuals, which were observed during the helicopter population survey. Throughout January, the IFT located AM806, formerly of the Meridian Pack, with AF521. On the February 5 telemetry flight, the IFT located f1028 with the pack. On the February 20 telemetry flight, the IFT observed seven wolves, but f1028 was not among them. In March, m1041 and f1042 began making dispersal movements.

The IFT located m1041 in the northwestern portion of the BRWRA in the GNF and f1042 in the San Mateo Pack territory. From April to September, the IFT located the Bluestem Pack in the central portion of the ASNF and on the FAIR. During August, the IFT observed two pups with this pack. On November 28, the IFT had a visual observation of three Bluestem pups. Throughout 2007, Bluestem continued to use the same territory as in previous years on the ASNF and the FAIR. As of December 2007, the Bluestem Pack was confirmed to consist of six animals including AF521, AM806, f1042, fp1113 and two uncollared wolves. Therefore, the Bluestem Pack was confirmed as a "Breeding Pair" per the definition in the Final Rule. No confirmed depredations, removals or translocations involving the Bluestem Pack occurred in 2007.

Dark Canyon Pack (AM992, AF923)
The Dark Canyon Pack was newly formed, consisting of AM992 and AF923. On June 18, the IFT located AM992 and AF923 together in the GNF. On July 2, the IFT located AM992 within 10 mi of single AF923 in the central portion of the GNF and in the vicinity of the Luna Pack. Throughout August to December, the IFT located AM992 and AF923 together in the southwest and central portions of the GNF. The Dark Canyon Pack formed after the breeding season and did not produce pups. Therefore, per the definition in the Final Rule, the Dark Canyon Pack was not considered a "Breeding Pair" in 2007.

Durango Pack (AM973, AF924, uncollared pup, f1047)
On April 12, the Durango Pack (AM973 and AF924) was mule-packed to the Miller Springs translocation site and placed in a soft-release pen. AF924 was pregnant and the best estimates suggested she would whelp around April 27. Therefore, the IFT turned off the electric fence and opened up one side of the pen on April 25. During the aerial telemetry flight on May 1, the IFT located the pair over 30 mi northeast of their translocation site in an area where AF924 had previously been removed. The IFT documented denning behavior in this pack. Following a depredation incident in June, the USFWS issued a Permanent Removal Order for AF924 (Table 7). On July 5, the IFT lethally removed AF924 for three depredation incidents within a 365-day period. The IFT established a supplemental food cache near the den site to assist AM973 in feeding the pups and to help prevent subsequent depredation incidents. Throughout August, the IFT located AM973 in the northeastern portion of the GNF. On August 5, the IFT observed two pups, approximately 13-weeks old, with AM973. Later in August, a trail camera captured an image of one pup and AM973. Throughout September and October, the IFT located AM973 in the northeastern portion of the GNF. During September, a permittee located tracks near a residence. Since the tracks likely belonged to AM973, the IFT went to the area on several occasions to haze the wolf from the area. They were not able to locate the wolf. During October, a permittee located tracks and scat near a residence. Again the tracks likely belonged to AM973. As a result, the IFT reinitiated hazing efforts (Table 9). In October, the IFT located AM973 with f1047, formerly of the Luna Pack, in the northeastern portion of the GNF. Since November 1, the IFT has been unable to locate AM973 and f1047 in their traditional territory. The Durango Pack is considered fate unknown. Per the definition in the Final Rule, the Durango Pack was not considered a "Breeding Pair" in 2007.

Hawks Nest Pack (AM619, AF486, f1110)
In January 2007, the Hawks Nest Pack consisted of AM619 and two other wolves, one of which was likely AF486 with a non-functional radio collar. Throughout the year, the Hawks Nest Pack remained in its traditional home range in the northern portion of the ASNF. On March 16 and 23 telemetry flights, the IFT observed AM619 with another wolf, assumed to be AF486. On June 4, a GPS collar was returned to the IFT by a USFS employee. The collar had been fitted on AF486 on January 18, 2006. On June 11, during the aerial telemetry flight, the IFT observed one wolf, determined to be AM619 based on radio telemetry signals. The IFT documented possible denning behavior in this pack. On August 12, the IFT observed AM619 and two uncollared wolves, one believed to be AF486. Three wolves were documented until the January 2008 helicopter operation, when only AM619 and one uncollared wolf were observed. It is believed that AF486 is now deceased, due to its age. The uncollared wolf with AM619 was a dispersing individual that has been with the pack since 2006 and is not a pup produced by AF486 and AM619. No indications of reproduction were observed during the 2007 denning season. Therefore, the Hawks Nest Pack was not considered a "Breeding Pair" per the definition in the Final Rule.

Luna Pack (AM583, uncollared AF562, fp1047)
In January 2007, the Luna Pack consisted of AM583, AF562, fp1047 and two additional uncollared wolves, which were observed during the annual population count. On January 23, the IFT captured fp1047 and fitted it with a radio collar. From January to June, the Luna Pack remained north of the Gila Wilderness and central portion of the GNF. On the February 5, the IFT located fp1047 approximately five mi south of the pack. The IFT documented possible denning behavior in this pack. During July and August, the IFT located the Luna Pack in the central portion of the GNF, with f1047 located separate from AM583. On July 27, the IFT observed AM583 with two uncollared wolves on a deer kill. On August 11, the IFT observed two uncollared wolves and possible pup tracks in the Luna Pack territory. The IFT observed AM583 and three uncollared, adult-sized wolves on August 17. On the August 27, the IFT located f1047 in the Middle Fork Pack territory. Throughout September and October, the IFT located the Luna Pack in the central portion of the GNF, with f1047 located separate from AM583. In October, the IFT located f1047 with AM973 of the Durango Pack, in the northeastern portion of the GNF. On November 9, the IFT received a second-hand report of an incident that occurred on November 5. Four to six wolves were reported to be near a deer hunting camp. The wolves remained in the vicinity of the camp for approximately 30 minutes, howling and barking before moving off. The November 5, telemetry flight placed the Luna Pack in the vicinity of the incident. Throughout November and December, the IFT located the pack in the southwest-central portion of the GNF. The IFT was not able to confirm the presence of pups. Per the definition in the Final Rule, the Luna Pack was not considered a "Breeding Pair" in 2007. No confirmed mortalities, depredations, removals or translocations involving the Luna Pack occurred in 2007.

Middle Fork Pack (AM871, AF861)
In January 2007, the Middle Fork Pack consisted of AM871 and AF861. Throughout 2007, the IFT located the alpha pair together in the northern portions of the Gila Wilderness. In June, location data indicated denning behavior in the Middle Fork Pack. The IFT made attempts to count and trap potential pups in the Gila Wilderness during the first two weeks of October, but were unsuccessful. However, during the January 2008 helicopter operation five wolves were

visually confirmed. As of December 2007, the Middle Fork Pack consisted of AM871, AF861, and three uncollared animals. Per the definition in the Final Rule, the Middle Fork Pack was considered a "Breeding Pair" in 2007. No confirmed mortalities, depredations, removals or translocations involving the Middle Fork Pack occurred in 2007.

Paradise Pack (AM795, mp1044, mp1045)

In January 2007, the Paradise Pack consisted of M795, mp1044, and mp1045. The IFT captured two wolves (mp1045 and M795) and fitted them with radio collars on January 16, 2007. Genetic testing showed that M795 sired mp1044 and mp1045, thus it will now be referred to as the alpha male of this pack. The IFT lost radio contact with AM795 in 2005 when it was traveling as a single wolf. Throughout 2007 the Paradise Pack was located on the FAIR and the northwest portion of the ASNF. From May through September, as a result of several depredations incidences involving an uncollared wolf in the Paradise Pack territory, the IFT began obtaining three ground locations of the pack per week, erected turbo fladry fencing around the perimeter of a sheep pasture, maintained supplemental feeding stations, and provided regular updates to the permittee (Table 7). On August 4, five wolves were observed chasing elk on the FAIR near a location where the Paradise Pack had recently killed an elk. The IFT documented denning behavior in this pack. On August 14, the IFT observed two pups and five adults. On September 2, the IFT observed four adult-sized wolves. The IFT located m1045 with the Paradise Pack on the November 19 telemetry flight. In December, m1045 was located in New Mexico as a single wolf. On the December 17 telemetry flight, the IFT located AM795 approximately five mi outside the BRWRA boundary. Per the definition in the Final Rule, the Paradise Pack was considered a "Breeding Pair" in 2007.

Rim Pack (AM991, AF858, mp1043, fp1048, fp1104, M1107 joined the pack in early December)

In January 2007, the Rim Pack consisted of AM991, AF858, M992, and mp1043. Throughout January, the IFT located M991, formerly of the Bluestem Pack, with AF858. In February, mp1043 was located on the FAIR, separate from the alpha pair. M992 started making dispersal movements and was no longer considered part of the Rim Pack. M992 was reclassified as a single wolf in New Mexico in February. On the April 2 telemetry flight, the IFT located the pack on the SCAR. On April 24, the IFT found AM991 dead after receiving a mortality signal on the telemetry flight. After an investigation, AM991 death was ruled as unknown (Table 5). On the July 30 telemetry flight, the IFT located AF858 on the SCAR. The following day, the IFT located AF858 back on the ASNF. The IFT documented denning behavior in this pack. Throughout May and June, the IFT located the pack within its traditional home range in the central portion of the ASNF. On August 28, the IFT observed f1048 howling. During September, the IFT set leg hold traps in an attempt to capture and fit potential pups with radio collars. On October 17, the IFT observed one adult-sized wolf and one pup. On October 19, the IFT captured a female pup, fitted it with a radio collar, assigned it studbook number fp1104, and released it on site. On October 21, the IFT recovered the remains of f1048 west of Hannagan Meadow. The investigation revealed f1048 died from natural causes (Table 5). On October 27, the IFT heard one adult and two pups howling. Throughout November and December, the IFT located the pack within its traditional home range in the central portion of the ASNF. M1107 was translocated to the Rim Pack territory in November and joined the Rim Pack by early December. The Rim Pack was confirmed as a "Breeding Pair" per the definition in the Final Rule (USFWS 1998).

Saddle Pack (AM732, AF797, m1007, fp1016, mp1049, mp1050, mp1051, mp1052, fp1053, fp1054, fp1055)

In January 2007, the Saddle Pack consists of AM732, AF797, m1007, f1016. On January 18, the IFT captured fp1016 and fitted it with a radio collar. The pack remained in the northern portion of the Gila Wilderness. On February 24, the USFWS issued a Permanent Removal Order for m1007 for three confirmed depredation incidents involving three cows in New Mexico (Table 7). The IFT lethally removed m1007 on March 16. The IFT has been unable to located f1016 since March and it is considered "fate unknown." Throughout March and April, the IFT located the pack in the GNF and in the northern portion of the Gila Wilderness. On April 2, the USFWS issued a Permanent Removal Order for AM732 and AF797 for three confirmed depredation incidences (Table 7). The IFT captured AM732 and removed it to permanent captivity on May 26. On May 31, the IFT captured AF797, in addition to seven pups and placed them in captivity with AM732. The Saddle Pack is considered defunct. Per the definition in the Final Rule, the Saddle Pack was not considered a "Breeding Pair" in 2007.

San Mateo Pack (AM796, AF903)

In January 2007, the San Mateo Pack consisted of AM796 and AF903. Throughout 2007, the San Mateo Pack continued to use areas from Escudilla Mountain in Arizona to Alegres Mountain in New Mexico. On January 31, the IFT confirmed AM796 was involved in a calf depredation (Table 7). On February 5, the USFWS issued a Permanent Removal Order for AM796. On February 20, the IFT lethally removed AM796 in an area east of Escudilla Mountain in GNF. In March, April, and May, AF903 continued to use areas east of Escudilla Mountain in the GNF. On April 9, the IFT investigated a freshly killed calf while monitoring AF903. The IFT confirmed AF903 was responsible for the mortality. This was the second depredation incident for AF903 (Table 7). The following day, the IFT located AF903 more than 10 mi away. In June and July, the IFT documented possible denning behavior. From August to December, AF903 continued to make wide-ranging movements. On October 23, the IFT located AF903 over 30 mi east of the previous week's location and approximately nine mi outside the BRWRA boundary in New Mexico. On October 29, the IFT located AF903 within the BRWRA in eastern Arizona. On November 19, the IFT again located AF903 over 50 mi east of the previous week's location and approximately nine mi outside the BRWRA boundary in New Mexico. The IFT was unable to confirm the presence of pups. Therefore, the San Mateo Pack was not considered a "Breeding Pair" per the definition in the Final Rule.

Individual Wolf Summaries

M863

The IFT observed M863 alone during the annual population survey. M863 continued to make wide-ranging movements from New Mexico to Arizona and back to the northern portion of the GNF. M863 joined the Aspen Pack on February 14.

F923

The IFT observed F923 alone during the annual population survey. In January, the IFT located F923 in the east-central portion of the GNF. During February, F923 made wide-ranging movements. The IFT located F923 along the New Mexico/Arizona border and in the west-central

portion of the GNF. Throughout March, F923 continued to make wide-ranging movements. The IFT located F923 in Arizona during the first part of March, then later, more than 15 mi east of the New Mexico border in the western portion of the GNF. In April, the IFT located F923 in the southern portion of the ASNF and on the SCAR. On April 13, F923 was seen at a pump station on the SCAR. On April 14, IFT personnel traveled to the SCAR to attempt to dart and remove F923 from the reservation per the Tribe's request. On April 20, a USFWS employee observed F923 harassing a calf on the SCAR. On May 21, F923 was located over 14 mi west of the previous flight locations and was within two mi of the SCAR and ASNF border. On May 22, despite intensive efforts, F923 was not located on the SCAR. On May 23, IFT received a report from several people on the Blue River corridor regarding a wolf wearing a collar. IFT investigated and confirmed the collared wolf was F923. On May 29, the IFT located F923 near the west-central boundary of the GNF. During June, the IFT located F923 in the west-central portion of the GNF. On June 18, the IFT located F923 with single M992.

M925

During the annual population survey, the IFT observed M925 alone. M925 made dispersal movements and continued to be located widely separate from the Luna Pack during February and March. The IFT first located M925 in the San Mateo Pack territory and then traveled to the northern border of the BRWRA in the GNF. On March 19, the IFT located M925 in the northwest portion of the BRWRA in the GNF. On April 2, the IFT located M925 in the central portion of the GNF, just south of the Luna Pack territory. On April 12, the IFT observed M925 for the last time. On May 9, M925 was found dead by Forest Service personnel (Table 5).

M992

In February, M992 left the Rim Pack and traveled widely, ending up as a single wolf in the west-central portion of the GNF in New Mexico. Throughout March and June, the IFT located M992 in the northern portion of the Gila Wilderness and in the west-central portion of the GNF. On April 11, a rancher in Catron County, New Mexico hazed a wolf chasing a cow. A recently killed calf steer was later found in the same area and was later assigned as M992's first depredation incident. On April 13, M992 was captured, given a new radio collar, and released on site. On May 16, the IFT confirmed a wolf killed cow in Catron County, New Mexico. The IFT located M992 in the area at the time of the incident, thus M992 was assigned a second depredation incident in 365 days (Table 7). On June 18, M992 was located with F923.

f1028

The IFT observed f1028 alone during the population survey. Throughout January, f1028 made wide-ranging movements. On the January 14 telemetry flight, the IFT located f1028 in the northern portion of the recovery area in Arizona. By the end of January, the IFT located f1028 near its release site at Middle Mountain. On the February 5 telemetry flight, the IFT located f1028 with members of the Bluestem Pack. On March 21, the IFT hazed f1028 from a residential area after a report of lost chickens and a duck. Throughout April, the IFT located f1028 in the northern portion of the ASNF, just south of the Hawks Nest Pack home range. On April 1, the IFT observed f1028. On May 23 and 28, the IFT observed f1028 with a rear leg injury near Alpine, Arizona. The IFT began conducting an intensive monitoring effort to capture f1028 to assess the injury, as well as to haze the wolf away from potential residential conflict areas. Due to f1028's continued use of the Alpine area and its injury, the IFT attempted to haze it from the

area throughout June. During the last week of June, the IFT began trapping efforts to remove f1028. Hazing efforts had been unsuccessful and the IFT suspected that f1028 killed a domestic duck on June 23. On June 28, the IFT captured f1028 north of Alpine and transported the wolf to a veterinarian who concluded that the leg will be weight bearing (Table 9). The IFT transported f1028 to captivity in mid-July; it will be evaluated for potential future translocation.

m1038

In January and February, m1038 was located with AM863 and AF667 of the Aspen Pack. Throughout March and April, the IFT located m1038 separate from the pack, but within traditional Aspen Pack territory. In May, the IFT located m1038 over 50 mi north of m1039 and f1040, west of the Mangas Mountains in the ASNF. From June through December, the IFT located m1038 in the northwestern portion of the ASNF. During the annual population count in January 2008, m1038 was seen with an uncollared wolf. The IFT was able to capture the uncollared individual and assigned it studbook number f1111. The pair was named the Fox Mountain Pack.

m1039

On February 21, the IFT located m1039 approximately five mi south of the Aspen Pack. Throughout March, April and May, the IFT located m1039 separate from the pack, but within traditional Aspen Pack territory. In June and July, the IFT located m1039 south of the traditional Aspen Pack home range, in the eastern portion of the Gila Wilderness, New Mexico. In August, m1039 began making wide-ranging dispersal movements in the vicinity of the Luna Pack. On August 6, m1039 was located the northern portion of the GNF. By August 27, m1039 was in the northwestern portion of the ASNF in the San Mateo Pack territory. During September, the IFT located m1039 moving between the northwestern and eastern portions of the ASNF. On October 17, the IFT located m1039 south of U.S. Highway 60, near Alegres Mountain, outside the BRWRA. At the end of October, m1039 was 45 mi from the BRWRA boundary near the Acoma Indian Reservation. Throughout November and December, m1039 was located in the Cibola National Forest (CNF), outside the BRWRA boundary.

f1040

On February 21, the IFT located f1040 over 20 mi SSW of its natal Aspen Pack. Throughout March and April, the IFT located f1040 separate from the pack, but within traditional Aspen Pack territory. The IFT located f1040 in the eastern portion of the Gila Wilderness during June and July. From August to October, the IFT located f1040 west and southwest of the traditional Aspen Pack home range, in the eastern portion of the Gila Wilderness, New Mexico. On October 15, the IFT located f1040 northwest of the Aldo Leopold Wilderness, New Mexico. Throughout November, the IFT located f1040 in the eastern portion of the Gila Wilderness, New Mexico. The IFT was not able to locate f1040 during December; it is considered “fate unknown.”

m1041

The IFT continued to locate m1041 in the San Mateo Pack’s territory in the western portion of the GNF in New Mexico and in Arizona. On May 11, the IFT received a report of an injured wolf. The IFT confirmed the wolf to be m1041, with an apparent leg injury. The IFT observed m1041 on May 16 and 23. On May 29, the IFT discovered the remains of m1041 south of Alpine, Arizona (Table 5).

m1043

During March, the IFT located m1043, formerly of the Rim Pack, on the SCAR. On the April 2 telemetry flight, the IFT located m1043 more than 50 mi west of the ASNF border on the SCAR. m1043 then traveled back to the ASNF, but after the April 30 telemetry flight, the IFT located its radio collar on the SCAR. On May 22, an uncollared wolf in the Paradise Pack territory was involved in a depredation incident. On June 20, The IFT confirmed an uncollared wolf injured a domestic sheep. On July 7, 16, and 20, the IFT confirmed an uncollared wolf killed three domestic sheep. As a result of these depredation incidents, the USFWS issued a Permanent Removal Order on July 19. On August 3, the IFT observed an uncollared wolf in the Paradise territory. On August 4, the IFT confirmed an uncollared wolf in the Paradise territory was involved in a domestic sheep depredation (Table 7). On August 17, the IFT captured and permanently removed an uncollared wolf in the Paradise Pack territory to captivity. The IFT later confirmed the uncollared wolf was m1043.

m1045

Formerly of the Paradise Pack, m1045 began making dispersal movements in November. During the annual population count in January 2008, m1045 was seen with an uncollared wolf. The IFT captured the uncollared individual and assigned it studbook number f1112. The pair was named the Elk Mountain Pack.

f1048

On April 25, the IFT trapped an uncollared female wolf in the southwest portion of the ASNF and assigned it studbook number f1048. The IFT initiated trapping efforts after finding two calves with confirmed wolf-caused injuries and two dead calves determined to be probable wolf-caused (Table 7). On the April 30 telemetry flight, the IFT located f1048 on the ASNF, nine mi from the incidents, near AF858 of the Rim Pack. In May, the IFT located f1048 with the Rim Pack and believed that f1048 was a member of that pack.

M1107

On November 24, the IFT captured an uncollared wolf while executing a removal order for the Aspen Pack. The wolf was caught approximately 0.5 mi away from the depredation incident. The collared wolves of the Aspen Pack were not located near this animal prior to, or at the time of, the capture. This wolf was deemed either a disperser attempting to join the Aspen Pack or a member of an adjacent, undocumented pack. Furthermore, the IFT believed this wolf was not involved in any of the depredations. M1107 was translocated to Arizona on November 25 near the Rim Pack's territory with the intention of providing a potential mate to AF858. M1107 joined the Rim Pack by early December.

Appendix B. Summary of sighting reports received from the public from January 1 through December 31, 2007.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
#AZ Reports	**6**	**7**	**5**	**1**	**12**	**7**	**5**	**7**	**6**	**7**	**2**	**9**	**74**
Known Wolf Reports	1	1	2	1	5	1	1	0	2	0	0	3	**17**
Unknown/ Uncollared Reports	0	0	0	0	0	1	0	0	0	0	0	1	**2**
Non-wolf Reports	4	2	2	0	4	1	1	5	2	2	0	1	**24**
Not Enough Information	1	4	1	0	3	4	3	2	2	5	2	4	**31**
#NM Reports	**3**	**3**	**0**	**3**	**4**	**2**	**0**	**0**	**5**	**5**	**5**	**9**	**39**
Known Wolf Reports	1	0	0	0	0	0	0	0	1	2	0	1	**5**
Unknown/ Uncollared Reports	0	0	0	0	1	0	0	0	0	0	0	0	**1**
Non-wolf Reports	1	2	0	2	1	0	0	0	0	0	1	2	**9**
Not Enough Information	1	1	0	1	2	2	0	0	4	3	4	6	**24**
Outside AZ or NM	0	0	1	0	0	0	0	0	0	0	2	0	**3**
Total Sightings for Month	**9**	**10**	**5**	**4**	**16**	**9**	**5**	**7**	**11**	**12**	**7**	**18**	**113**

Appendix C. Personnel.

Arizona Game and Fish Department
Dan Groebner, Acting Field Team Leader
Shannon Barber-Meyer, Field Team Leader
Janess Vartanian, Wolf Biologist
Shawna Nelson, Mexican Wolf Outreach Specialist
Colby Gardner, Wolf Technician, Wolf Biologist
Laura Kelly, Wolf Technician
Jeff Dolphin, Wolf Technician
Beth Orning-Tschampl, Wolf Technician
Kyle McCarty, Detailed Biologist
Mike Godwin, Detailed Supervisor
Mike Sumner, Wildlife Manager
Joel Weiss, Wildlife Manager
Velma Holt, Wildlife Manager
Aaron Hartzell, Wildlife Manager
Dave Cagle, Wildlife Program Manager
John Hervert, Capture Specialist
Bill David, Chief Pilot
Basil Coffman, Pilot
Steve Sunde, Pilot
Eddie Cash, Pilot

New Mexico Department of Game and Fish
Saleen Richter, Field Team Leader
Ellen Heilhecker, Wolf Biologist
Tom Sansom, Pilot
Mark Watson, Aerial Telemetry Locations
Billy Sands, Detailed Biologist
Greg Friday, Detailed Biologist
Mischa Larisch, District Officer
K.C. Gehrt, District Officer
Storm Usrey, District Officer
Jamie Frederick, District Officer

USDA-APHIS Wildlife Services
J. Brad Miller, Wolf Management Specialist
Sterling Simpson, Wolf Management Specialist
J.R. Murdock, Wildlife Specialist
Chris Carrillo, District Supervisor
Bill Nelson, Wolf Depredation Specialist
Mike Kelly, Wildlife Biological Science Technicians
Jedediah Murphy, Wildlife Biological Science Technicians
Jon Grants, Wildlife Biological Science Technicians
Keel Price, District Supervisor

U.S. Fish and Wildlife Service
John Morgart, Mexican Wolf Recovery Coordinator
Santiago Gonzales, Assistant Mexican Wolf Recovery Coordinator
John Oakleaf, Mexican Wolf Field Projects Coordinator
Dan Stark, Wolf Biologist
Ryan Gordon, Detailed Biologist
Maggie Dwire, Mexican Wolf Biologist
Dewey Wesley, Biologist
Jim Ashburner, Lead Special Agent

White Mountain Apache Tribe
Krista Beazley, Field Team Leader
Deon Hinton, Wolf Technician
Ivan Kasey, Wolf Technician
Travis Clarkson, Wolf Technician

USFWS Volunteers
Jennifer Timmer
Andy Bennett
Mark Winterroad
Allie Hunter
Lauren Ross
Jeannine Carlton