

**Mexican Wolf Recovery Program:
Progress Report #9**

Reporting Period: January 1 – December 31, 2006

Prepared by: The U.S. Fish and Wildlife Service

Cooperators: Arizona Game and Fish Department, New Mexico Department of Game and Fish, USDA-APHIS Wildlife Services, US Forest Service, and White Mountain Apache Tribe



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Foreword

The U.S. Fish and Wildlife Service (Service) is the lead agency responsible for recovery of the Mexican wolf (*Canis lupus baileyi*), pursuant to the Endangered Species Act. The Mexican Wolf Recovery Program essentially is separated into two, interrelated components: 1) Recovery – includes aspects of the program administered primarily by the Service that pertain to the overall goal of Mexican wolf recovery and delisting from the list of threatened and endangered species, and 2) Reintroduction – includes aspects of the program implemented by the cooperating States and Tribes that pertain to management of the reintroduced Mexican wolf population in the Blue Range Wolf Recovery Area (BRWRA) in Arizona and New Mexico. This report details all aspects of the Mexican Wolf Recovery Program. The reporting period for this progress report is January 1 – December 31, 2006.

Background

The Mexican wolf, or “lobo,” is the smallest, rarest, southernmost occurring, and most genetically distinct subspecies of the North American gray wolf. It once occurred in the mountainous regions of the Southwest from central Mexico throughout portions of Texas, New Mexico, and Arizona, and perhaps even farther north, as suggested by more recent research. Mexican wolves were extirpated from the wild in the United States by 1970, primarily as a result of a concerted effort to eradicate them due to livestock conflicts. Recovery efforts for the Mexican wolf began when it was listed as an endangered species in 1976. A captive breeding program was initiated and saved the Mexican wolf from extinction with the capture of the last 5 remaining Mexican wolves in the wild in Mexico from 1977 - 1980.

A Mexican Wolf Recovery Team was convened in 1979 to write a recovery plan, which was approved by the Service in 1982. The plan contains objectives of maintaining a captive population and re-establishing Mexican wolves within their historic range. In June 1995, with the captive population numbers secure, the Service released a draft Environmental Impact Statement (EIS) entitled: “Reintroduction of the Mexican wolf within its Historic Range in the Southwestern United States.” After an extensive public review and comment period, the Final EIS was released in December 1996.

In March 1997, the Secretary of the Interior signed a Record of Decision approving the Service’s preferred alternative in the EIS to release captive-reared Mexican wolves into a portion of the BRWRA, which consists of the entire Apache and Gila National Forests in Arizona and New Mexico. The Mexican wolf Final Rule - Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico (Final Rule) was published in the Federal Register on January 12, 1998, and provided regulations for how the reintroduced population would be managed (US Fish and Wildlife Service 1998). On March 29, 1998, the first Mexican wolves were released into the wild. All wolves within the BRWRA are designated as a nonessential experimental population under the Endangered Species Act which allows for greater management flexibility to address potential conflicts such as livestock depredations and nuisance behavior. An Interagency Field Team (IFT) comprised of members from the Service, Arizona Game and Fish Department (AGFD), New Mexico Department of Game and Fish (NMDGF), White Mountain Apache Tribe (WMAT), and U.S. Department of Agriculture-Wildlife Services (USDA-WS) has been formed to monitor and manage the reintroduced population.

PART A: RECOVERY ADMINISTRATION

1. Mexican Wolf Captive Breeding Program

a. Mexican Wolf Species Survival Plan

The Mexican Wolf Recovery Plan 1982 (Recovery Plan) contains the objective of establishing and maintaining a captive breeding program as an essential component of recovery (US Fish and Wildlife Service 1982). A captive breeding program was initiated in 1977 through 1980 with the capture of the five remaining wild Mexican wolves in Mexico. The captive breeding program is managed for the Service under the Association of Zoos and Aquariums (AZA) Mexican Wolf Species Survival Plan (SSP) program. The SSP is a bi-national (United States and Mexico) captive breeding program. Its mission is to reestablish the Mexican wolf in the wild through captive breeding, public education, and research. The SSP designation is significant because it indicates to AZA member facilities the need for the species to be conserved, and triggers internal support to member facilities to help conserve imperiled species. Without the support of the SSP the recovery of the species would not be possible, because it is the sole source to reestablish the species in the wild. The SSP has been extremely successful and has steadily expanded throughout the years. In 2006, there were approximately 300 captive Mexican wolves managed in 48 facilities in the United States and Mexico. SSP members routinely transfer Mexican wolves to facilitate genetic exchange and maintain the health and genetic diversity of the captive population.



Mexican wolf. Photo courtesy of the California Wolf Center.

The SSP's goal of housing a minimum of 240 wolves ensures the security of the species in captivity and produces surplus animals for reintroduction. Potential Mexican wolf release candidates are sent to one of three pre-release facilities (see below) where they are evaluated for release suitability and undergo an acclimation process. All wolves selected for release are genetically redundant to the captive population, meaning their genes remain well represented in captivity. This minimizes any adverse effects to the genetic integrity of the captive population, in the event that wolves released to the wild do not survive.

Each July, the SSP holds a bi-national meeting to plan and coordinate wolf breeding, transfers, and related activities between facilities. The location of these meetings alternate between Mexico and the United States. In 2006, the annual SSP meeting was held in Alpine, Arizona and hosted by the California Wolf Center.

b. Mexican Wolf Pre-Release Facilities

Mexican wolves are acclimated prior to release to the wild at Service-approved facilities designed to house wolves in a manner that fosters wild characteristics and behaviors. These facilities are the Sevilleta and Ladder Ranch Wolf Management Facilities, located in New Mexico near the BRWRA, and Wolf Haven International, located in Tenino, Washington. At these facilities, wolves are managed with minimum human contact for the purpose of minimizing habituation to humans and maximizing pair bonding, breeding, pup rearing, and healthy pack structure development. They are evaluated and selected for release to the wild based on genetic makeup, reproductive performance, behavior, physical suitability, and overall response to the adaptation process. These facilities have been successful in breeding wolves for release and are integral to Mexican wolf recovery efforts. To further minimize habituation to humans, public visitation to the Sevilleta and Ladder Ranch facilities is not permitted.

Release candidates are sustained on a zoo-based diet of carnivore logs and kibble formulated for wild canids. Diets of release candidates are supplemented with carcasses of road-killed ungulate species, such as deer and elk. Release candidates are given annual examinations to vaccinate for canine diseases (e.g., parvo virus, corona virus, distemper, rabies, etc.) and to evaluate overall health conditions, and are treated for other veterinary purposes on an as-needed basis.

Sevilleta Wolf Management Facility (SWMF)

The SWMF is located on the Sevilleta National Wildlife Refuge (SNWR) near Socorro, New Mexico and is the only Mexican wolf pre-release facility managed by the Service. There are a total of eight enclosures, ranging in size from 0.25 to 1.25 acres, and a smaller quarantine pen. During 2006, the staff of SNWR assisted in the maintenance and administration of the SWMF and conducted important public outreach related to the Mexican wolf recovery program.

Ladder Ranch Wolf Management Facility (LRWMF)

The LRWMF, owned by R. E. Turner, is located on the Ladder Ranch near Truth or Consequences, New Mexico. The LRWMF is composed of five enclosures ranging in size from 0.25 to 1.0 acre. This facility is managed and operated by an employee of the Turner Endangered Species Fund. The LRWMF is supported financially by the Service to keep it operating and available for housing and pre-conditioning release candidates.

Wolf Haven International (WHI)

The WHI is located in Tenino, Washington. There are 2 pre-release enclosures at the facility for housing Mexican wolves, each just over 0.50 acres in size. Management and funding is supported entirely by WHI. The WHI houses other gray wolves on display for viewing and educational purposes.



Yearling Mexican wolf at the Minnesota Zoo. Photo courtesy of Jackie Fallon.

2. Recovery Planning

On April 1, 2003, the Service published a final rule revising the listing status of the gray wolf across most of the conterminous United States (68 Federal Register 15804). Within that rule, the Service established three distinct population segments (DPS) for the gray wolf. Gray wolves in the Western DPS and the Eastern DPS were reclassified from endangered to threatened, except where already classified as threatened or as an experimental population. Mexican wolves in the Southwestern DPS retained their previous endangered or experimental population status. Under this ruling, the SWDPS became the listed entity (instead of gray wolves being the listed entity) to base recovery planning. The Service's Southwest Region formed a Southwestern DPS Recovery Team in July 2003 to develop a recovery plan for the SWDPS that would address recovery actions for the Mexican wolf. The Service intended the SWDPS to supersede and replace the 1982 Mexican wolf recovery plan which does not contain recovery (downlisting or delisting) criteria. The team met 5 times between October 2003 and October 2004 and made progress towards developing the recovery plan. On January 31, 2005 and August 19, 2005, U.S. District Courts in Oregon and Vermont, respectively, ruled that the April 1, 2003, final rule violated the Endangered Species Act (*Defenders of Wildlife v. Norton*, 1:03-1348-JO, D.OR2005 and *National Wildlife Federation v Norton*, 1:03-CV-340, D.VT.2005). The Courts' rulings invalidated the revisions of the gray wolf listing. Therefore, the status of gray wolves outside of Minnesota and outside of areas designated as nonessential experimental populations reverted back to endangered (as had been the case prior to the 2003 reclassification). The Courts also invalidated the three DPS designations in the April 1, 2003, rule and the associated special regulations.

In response to these rulings, the Service placed the SWDPS Recovery Team on hold, because its charge to develop a recovery plan for the SWDPS was no longer valid since the DPS no longer existed. The Service instructed the Recovery Team that its work could not continue until legal issues were resolved at the national level. On December 16, 2005, the Department of Interior issued a statement that the Service would not appeal the 2005 U.S. District Courts' decisions on the reclassification of the gray wolf. The Service's Southwest Region has not made any decisions to continue, discontinue, or redefine the purpose of the Recovery Team and the recovery planning effort because clear guidance at the national level has not been obtained.

On March 27, 2006, the Service published a proposal (71 Federal Register 15266-15305) to designate a Western Great Lakes DPS of the gray wolf, to remove the Western Great Lakes DPS from the protections of the Endangered Species Act, to remove the designated critical habitat for the gray wolf in Minnesota and Michigan, and to remove special regulations for the gray wolf in Minnesota. The Final Rule Designating the Western Great Lakes Distinct Population Segment; Removing the Western Great Lakes Distinct Population Segment of Gray Wolf From the List of Endangered and Threatened Wildlife, was published on February 8, 2007. The February 8, 2007, Final Rule did not affect the status of the Mexican wolf.

3. Blue Range Wolf Reintroduction Project Structure

In 2002, the Mexican Wolf Recovery Program was restructured to allow States and Tribes to assume lead responsibility for implementing the BRWRA Reintroduction Project on lands under their jurisdiction. The Blue Range Reintroduction Project is managed jointly by the AGFD, NMDGF, USDA-Forest Service, USDA-WS, WMAT, and the Service. Other cooperators include Greenlee County, Arizona, Sierra County, New Mexico, and the New Mexico Department of Agriculture. The agencies work together under a Memorandum of Understanding which defines and formalizes the role of each cooperator in the program. An Adaptive Management Oversight Committee (AMOC), consisting of members from each of the cooperating agencies, provides guidance to the IFT on policy issues related to the management of Mexican wolves in the BRWRA, and coordinates the BRWRA reintroduction project between the various entities and the public. The AMOC was chaired by AGFD in 2006. Under this structure the IFT, is guided by 26 Standardized Operating Procedures and provides management for the free-ranging wolf population. Each year the IFT produces an Annual Report, detailing Mexican wolf field activities (e.g., population status, reproduction, mortalities, releases/translocations, dispersal, depredations, etc.) in the BRWRA. The 2006 report is included as PART B of this report. Monthly BRWRA project updates are available at <http://www.fws.gov/southwest/es/mexicanwolf> or you may sign up to receive them electronically by visiting <http://azgfd.gov/signup>. Additional information about the Blue Range Reintroduction Project can be found on Arizona Game and Fish Department's web page at: <http://azgfd.gov/wolf>.

An Adaptive Management Working Group (AMWG) has also been created and is comprised of any member of the interested public. The purpose of the AMWG is to provide a forum to all interested parties to participate in the BRWRA reintroduction project. Specifically, AMWG functions to enhance communication with interested parties and create opportunities for participants to identify local issues and concerns and provide input regarding management effectiveness of the BRWRA project. AMWG meetings are hosted quarterly throughout the year by the AMOC in an open forum accessible to any interested party to discuss pertinent Mexican wolf management issues specific to the BRWRA. Meetings alternate between Arizona and New Mexico.

4. Blue Range Reintroduction Project 5-Year Review

The 1998 Final Rule states that the Service will evaluate Mexican wolf reintroduction progress and prepare full evaluations after 3 and 5 years that recommend continuation, modification, or termination of the reintroduction effort. In 2004 - 2005, the Service initiated the 5-Year Review in full collaboration with the AMOC and the public. The review was a formal and in-depth

evaluation of the technical, administrative, and socioeconomic aspects of the BRWRA reintroduction project, and provided detailed information on population status, social and economic impacts of wolf reintroduction on surrounding communities, and program management.

Included in the 5-Year Review was a set of 37 recommendations to the Service for improving project management in the BRWRA. The recommendation to continue the project with modifications was the most significant. The AMOC recommended to modify the Final Rule to address the limitations of the existing BRWRA boundary which impedes Mexican wolf dispersal and recovery. The recommendations do not bind the AMOC or the Service to any regulatory action. They commit AMOC to further exploration of key issues and to pursuing various non-regulatory improvements to the BRWRA reintroduction project. Although the 5-Year Review went through extensive public review prior to submission to the Service, the AMOC opened an additional 30-day public review of the 37 recommendations. The Service accepted the 5-Year Review and the set of 37 recommendations in July 2006. . The 5-Year Review can be downloaded at <http://www.fws.gov/southwest/es/mexicanwolf> and <http://azgfd.gov/wolf>. If the Service seeks regulatory solutions (i.e., modifying the Final Rule), proposals will be developed, vetted, and approved or rejected through appropriate Federal, state, and/or tribal procedures that afford opportunity for public comment and for agencies to determine whether or not they support each proposed action

5. Cooperative Agreements and Contracts

In 2005, the Service sustained cooperative agreements with AGFD, NMDGF, TESH, WMAT, and San Carlos Apache Tribe (SCAT) via formal agreements with each entity. With the exception of SCAT, each cooperator provided at least one employee to serve on the Interagency Field Team (IFT) during 2006.

Agreements with AGFD and NMDGF have been matching agreements where the Service provides 75% of costs and each state agency provides 25%. However, in recent years, the Service has been unable to fund the States at the full amount requested because of reduced budget allocations. The WMAT, SCAT, and TESH were funded at the requested amount and received 100% of their funding for involvement in the Mexican wolf program from the Service during 2006. The Service no longer funds USDA-WS because of Congressional funding they now receive for responding to livestock conflict situations caused by Mexican wolves in the BRWRA.

Cooperator	Amount Funded by USFWS from Mexican Wolf Project Funds
AGFD	\$188,000
NMDGF	\$100,000
WMAT	\$178,500
SCAT	\$40,000
TESF	\$48,000

In addition to the above contracts, the Service also provided funding to the following: Mexican Wolf SSP for captive management related activities; University of New Mexico for curatorial services for Mexican wolf specimens; and miscellaneous contracts for veterinary and other services.

6. Research

a. Mexican Wolf Captive Breeding Program

The Mexican Wolf SSP program conducts a variety of research projects on behalf of the conservation of captive Mexican wolves. Several ongoing reproductive, artificial insemination, and semen collection research projects continued in 2006.

In 2005, the first successful inseminations were performed on Mexican wolves, resulting in 3 females becoming pregnant and seven pups added to the population. One of the 3 females produced 3 pups in 2005 and was artificial inseminated in 2006. Ultrasound test indicated it had 1 pup at mid-term. Unfortunately, the pup did not survive and was not added to the population. An intensive birth watch was staged and a Caesarian-section was planned at term but when the veterinarians tried to retrieve the fetus it was not present. It likely was aborted/delivered close to term. This is the first time that U.S. scientists successfully used this non-invasive technique to impregnate an endangered wolf. The ultimate success of this artificial insemination experiment could have important implications for the future genetic integrity of the captive Mexican wolf population. The artificial insemination was performed by Karen Bauman of the Saint Louis Zoo and the research was directed by Mexican Wolf SSP reproductive advisor Dr. Cheryl Asa with the assistance of other scientists from the Saint Louis Zoo and WCSRC.



Mexican wolf pups produced via artificial insemination. Photo courtesy of the Wild Canid Survival and Research Center.

The Research Department at the Saint Louis Zoo continued semen cryopreservation for Mexican wolves in 2006. In 1991, the Mexican Wolf Recovery Team selected the Saint Louis Zoo to establish and maintain a semen bank to preserve germplasm of genetically important males. Since that time the lab has been collecting, evaluating and freezing semen samples from individual wolves as directed by the Service and the Mexican Wolf SSP. In 2006, semen was collected and frozen from 4 males at the Oklahoma City Zoo and 3 at the Minnesota Zoo. Samples from a fourth male at the Minnesota Zoo were not of sufficient quality to preserve. The effects of anesthetics used during semen collection were also evaluated.

In addition, a sample was collected to look for sperm in a 10-month-old male at the WCSRC. That young male, had challenged the alpha male, courted the female and produced good quality sperm a year earlier than typical for the species. He had been hand-reared and introduced back to his parents, which may explain his precocious puberty. He was the result of artificial insemination, so the female was his mother, but the male was not his biological father, possibly affecting social dynamics.

A semen sample was collected from another male at WCSRC and used for a successful artificial insemination. Unfortunately, no pups resulted, although one healthy late-term fetus was clearly detected by ultrasound.

Three research projects continued in 2006. One is evaluating stimulus value of enrichment items approved by the SSP. Results from wolves at WCSRC and Brookfield Zoo have revealed some differences by age and social grouping. Another study monitors courtship and mating behavior of designated pairs at WCSRC each year to assess compatibility and to look for indirect indicators of estrus. The third project is developing a protocol for ovulation induction for timing artificial insemination. Of the 5 female wolves at the WCSRC, the SWREC and the Wildlife Science Center, treated in 2006, 2 ovulated, 2 did not respond and 1 had insufficient data. These results plus those from the behavioral study raise a question about the reproductive soundness of some of the Mexican wolf population. Monitoring hormones for natural cycles on a routine basis could provide vital information for population management.

Publications:

Asa, C.S., Miller, P., Agnew, M., Rivera, A.R., Lindsey, S., Callahan, M., and Bauman, K. (In press) Relationship of inbreeding to sperm quality and reproductive success in Mexican gray wolves (*Canis lupus baileyi*). *Anim. Conserv.*

Asa, C.S., Bauman, K.L., Callahan, M., Bauman, J.E., Volkmann, D.H., and Jöchle, W. (2006) Induction of fertile estrus with either natural mating or artificial insemination followed by birth of pups in gray wolves (*Canis lupus*). *Theriogenology* 66: 1778-1782.

[generic gray wolves were used as a model for Mexican gray wolves; the technique was subsequently applied successfully to Mexican wolf females]

b. Carnivore-Cattle Study

In 2003, USDA-WS National Wildlife Research Center, in conjunction with other primary cooperators in the Mexican Wolf Program, initiated a research study in Arizona within the BRWRA to assess domestic cattle mortality in an area of sympatric carnivores (Mexican wolves, mountain lions, bears, and coyotes). The goal of the study is to determine predator impacts on cattle and quantify detection rates by producers (number of livestock killed by various predators and the number of these kills that are found and correctly identified by producers). This information could help with long term management of wolves and possibly develop other compensation plans for producers.

Data have been gathered for 4 years from 1 study site and 1 year each from 2 (1 in Arizona and 1 in New Mexico) additional study sites. It is expected that these 2 additional study areas will collect data for 1 more year. At the end of the study, data from the 3 sites will be combined,

synthesized and presented to the public. This study is being funded by AGFD, USDA-WS, USFWS, NMDGF, and USFS.

c. Predation Patterns Study

Graduate research is being conducted on the Apache and Gila National Forests to determine prey selection and impacts of Mexican wolves on ungulates. This research is being conducted by the University of Arizona and the Mexican Wolf Blue Range Reintroduction Project using Global Positioning System (GPS) collars to take frequent locations of wolves and searching those areas for prey remains. The GPS collars are programmed to take 1 GPS location every hour during several months of the year. Researchers transfer data with the use of a data receiver. A software program is used to plot locations and map the data. Researchers then search the locations on the ground to detect carcasses. Carcasses and the immediate areas are investigated to determine predation by wolves and collect data on prey selection.

7. Litigation

a. Coalition of Counties Lawsuit

On December 14, 2006, the Center for Biological Diversity litigated the Service. The Center for Biological Diversity alleged the Service had been unreasonable in its delay in making a final decision to grant or deny a rulemaking petition to implement steps to stop the critically imperiled Mexican gray wolf from becoming extinct in the wild.

b. Gray Wolf Reclassification Lawsuit

On April 1, 2003, the Service changed the classification of gray wolves under the Endangered Species Act from endangered to threatened, in portions of the lower 48 states and established 3 Distinct Population Segments (DPS) for the gray wolf that encompasses the entire historical range of wolves in the United States and Mexico. A Southwestern Gray Wolf DPS was created by this ruling and encompassed all of Arizona and New Mexico, and portions of Utah, Colorado, Oklahoma, Texas, and Mexico. Several environmental groups subsequently filed lawsuits or Notices of Intents to sue regarding the Service's reclassification of gray wolves.

In 2005, the Service lost the lawsuits and the 2003 reclassification was invalidated (see Recovery Planning section). The Service reverted to the 1978 gray wolf listing. The Service announced on December 16, 2005 that it would not appeal the U.S. District Court decisions and further, planned to issue separate, proposed rules to delist new DPS's of gray wolves in the northern Rocky Mountains and the Great Lakes as early as possible in 2006.

On March 27, 2006, the Service published a proposal (71 Federal Register 15266-15305) to designate a Western Great Lakes DPS of the gray wolf, to remove the Western Great Lakes DPS from the protections of the Endangered Species Act, to remove the designated critical habitat for gray wolf in Minnesota and Michigan, and to remove special regulation for the gray wolf in Minnesota. The Final Rule Designating the Western Great Lakes Distinct Population Segment; Removing the Western Great Lakes Distinct Population Segment of Gray Wolf From the List of Endangered and Threatened Wildlife, was published on February 8, 2007. The February 8, 2007, Final Rule did not affect the status of the Mexican wolf.

Literature Cited

US Fish and Wildlife Service. 1982, Mexican Wolf Recovery Plan 1982, US Fish and Wildlife Service, Albuquerque, New Mexico.

US Fish and Wildlife Service, 1998, Final Rule - Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico, 63 *Federal Register* 1752-1772.



Mexican wolf in the Blue Range Wolf Recovery Area. USFWS photo.

PART B: REINTRODUCTION

Mexican Wolf Blue Range Reintroduction Project
Interagency Field Team Annual Report for 2006
(Reporting Period: January 1 – December 31, 2006)

Prepared by:

Arizona Game and Fish Department, New Mexico Department of Game and Fish, U.S. Fish and Wildlife Service, U.S. Department of Agriculture - Animal and Plant Health Inspection Service - Wildlife Services, and the White Mountain Apache Tribe

Cooperators:

U.S. Fish and Wildlife Service (USFWS)
Arizona Game and Fish Department (AGFD)
New Mexico Department of Game and Fish (NMDGF)
U.S.D.A. Wildlife Service (USDA-WS)
U.S. Forest Service (USFS)
White Mountain Apache Tribe (WMAT)

1. Introduction

This report summarizes efforts of the Mexican Wolf Interagency Field Team (IFT) during 2006. These efforts are part of a larger recovery program intended to reestablish Mexican wolves (*Canis lupus baileyi*) across their historical range. The current reintroduction project is conducted in accordance with the nonessential experimental final special rule (USFWS 1998) governing Mexican wolf reintroduction into the Blue Range Wolf Recovery Area (BRWRA), (Fig. 1). In 2000, the White Mountain Apache Tribe agreed to allow wolves to inhabit the Fort Apache Indian Reservation (FAIR), adding approximately 2,440 mi² (6,319 km²) to the Recovery Area. In 2002, the WMAT signed on as a primary cooperator, providing the potential for wolves to be directly released on tribal lands. The recovery area encompasses approximately 9,290 mi², (24,060 km²) composed of 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 Mexican wolves were released on the Alpine and Clifton Districts of the ASNF, Arizona. At the end of 1998, the population consisted of two packs for a total of four Mexican wolves in the wild. By the end of 2006, the wild population grew through natural reproduction, translocations and initial releases to a minimum of 59 wolves in 12 packs in Arizona and New Mexico.

Abbreviations used in this document:

Wolf age and sex:

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)

2. Methods

The IFT followed Standard Operating Procedures (SOPs), as approved by the Adaptive Management Oversight Committee (AMOC) and the Directors of the cooperating agencies. These SOPs can be found at http://www.azgfd.gov/w_c/es/wolf_reintroduction.shtml. A “breeding pair” is defined as 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). A wolf “pack” is defined as \geq two wolves that maintain an established territory. In the event that one of the two alpha wolves dies, the remaining alpha wolf, regardless of pack size, retains the pack status or name. “Releases” are defined as wolves being initially released directly from captivity, with no previous free-ranging experience, into the Primary Recovery Zone (Fig. 1). “Translocations” occur when free-ranging wolves are captured and moved to a location away from the site of capture, and unlike releases, can occur in the Secondary Recovery Zone (Fig. 1). This includes captured free-ranging wolves that have been temporarily placed in captivity. A “depredation” means the confirmed killing or wounding of lawfully present domestic livestock by one or more wolves. “Depredation incident” refers to the aggregate number of livestock killed or mortally wounded by an individual wolf or a single pack of wolves at a single location within a one-day (24 hours) period, beginning with the first confirmed kill, as documented in the initial IFT incident investigation pursuant to SOP 11.0.

Releases and Translocations

Initial release candidates are genetically surplus animals to the captive breeding program, and once selected for release, they are acclimated prior to release in USFWS approved facilities. Contact between wolves and humans was minimized and carcasses of road-killed native prey species (primarily deer (*Odocoileus* spp.) and elk (*Cervus elaphus*)) supplemented their routine diet of processed canine food. These facilities included the Ladder Ranch Wolf Management Facility managed by the Turner Endangered Species Fund and Sevilleta Wolf Management Facility managed by the USFWS at Sevilleta National Wildlife Refuge, both located in New Mexico. Genetically and socially compatible breeding pairs were established and evaluated for physical, reproductive, and behavioral suitability for direct release into the wild.

Adult wolves selected for initial release or translocation were radiocollared and given complete physical examinations prior to being moved to release or translocation sites. Pups selected for release were also given complete physicals, but radio collars were not affixed to them due to their small size. Carcasses of native prey or commercially processed canine “meat logs” and fresh water were provided as needed in the release/translocation pens. Areas within approximately 0.5 mi (0.8 km) of release pens were posted closed to the public by the USFS. Additional security was maintained by IFT personnel camped nearby.

Release and translocation wolf acclimation pens in 2006 were approximately 0.13 acres (526 m²) 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 and to discourage wolves running into pen walls.

Following release, wolves were supplementally fed road-killed elk and deer, or meat logs. The duration of supplemental feeding varied, depending on time of year, availability of vulnerable prey, and whether pups were present. Supplemental feeding was gradually discontinued as

wolves became self-sufficient, usually within one to two months. Monitoring was most intense immediately after release, to determine when wolves began killing prey.



Nylon mesh acclimation pen. Photo by George Andrejko, Arizona Game and Fish Department.

Radio Telemetry Monitoring

All radiocollared wolves were monitored using standard radio telemetry techniques 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) and were calculated based on the definition in the final rule (USFWS 1998). Home ranges were calculated using ≥ 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 locations were only recognized from radiocollared wolves spatially or temporally separated from other radiocollared pack members. This limited pseudoreplication of locations. Home range polygons were generated at the 95% 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 radiolocations, displayed dispersal behavior, or exhibited non-territorial behavior during 2006.

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 mile (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 mile (eight km) radius around radio locations of resident wolves when ≤ 20 radio locations are available (for radio monitored wolves only); (3) a five mile (eight km) radius around radio monitored wolf locations (for wolves exhibiting dispersal or non-territorial behavior); and (4) a three mile (4.8 km) radius around the convex polygon developed from ≥ 20 radio locations of a pack, pair, or single wolf exhibiting territorial behavior.

Predation and Depredation Investigations

Project personnel investigated ungulate carcasses as they were discovered, and determined sex, age, general body condition, and whether or not the carcass was scavenged or was a wolf kill. In

addition, the IFT conducted intensive winter monitoring of four packs from February 21 to March 31, 2006, to determine the general body condition, and type of prey consumed and to document minimum kill rates. During intensive winter monitoring, the IFT conducted daily aerial telemetry flights to locate wolf packs, pinpoint kills, and observe wolf numbers. Ground crews examined kill sites to ascertain species, general body condition, and cause of death.

USDA-WS wolf specialists investigated suspected wolf depredations on livestock within 24 hours of a report being received. Not all dead livestock are found, or found in time to document cause of death, however. 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(s) if 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 (flagging hanging on a rope surrounding a small protected area, sometimes electrified) to encourage an aversive response to humans and discourage nuisance and depredation behavior. If hazing wasn't effective, the IFT captured the wolf or wolves pursuant to SOP 13.0 and removed it temporarily to captivity. The IFT captured wolves with leghold traps; on occasion conditions required the use darts and nets shot from helicopters. In addition, wolves that established 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 expanded efforts in 2006 to make the year-end population estimate more comprehensive. This included increasing ground surveys for uncollared wolves, flight hours for helicopter operations, coordination on wolf sightings by the public and other agencies, and use of remote camera traps.

The IFT documented wolf sign (i.e., tracks, scats) 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.

The helicopter operation was used to capture and radiocollar wolves in addition to contributing to the year-end population estimate. Fixed wing aircraft were used to locate wolves and assess the potential for darting from the helicopter in the area. The helicopter was used to more accurately count the number of uncollared wolves associated with collared animals and to capture target animals (e.g., wolves outside of boundary, uncollared wolves, wolves targeted for removal for nuisance or depredation, or wolves with old collars) in areas where terrain allows. We observed all collared wolves and uncollared animals associated with them. Helicopter operations were conducted after December 31, 2006 to ensure that any wolves counted were

alive at the end of the year. Although these operations were conducted in 2007, their results document the population estimated for the end of 2006 and are incorporated into the 2006 report.

The IFT surveyed members of the public from the local area for possible wolf sightings as part of the 2006 population estimate. The IFT contacted ranchers, private landowners, wildlife managers, USFS personnel, and others to develop a wolf-sighting database. The IFT also collected all sighting reports from agency cooperators. Sightings were analyzed to determine which most likely represented unknown wolves or packs.

The IFT used remote digital cameras (regular flash and infrared) to document wolf presence. The IFT used information gleaned from public reports, surveys, and wolf sign to guide efforts to trap uncollared single wolves or groups. The IFT objective was to have at least one member of a pack radiocollared. Using this information, they also counted the number of uncollared wolves not associated with collared wolves.



Luna Pack. Photographed during an aerial telemetry flight in the BRWRA. USFWS photo.

Outreach

The IFT outreach efforts affirm the project's commitment to engage in effective communication, the identification of various outreach mechanisms, and the 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 from the IFT 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 2006, the IFT posted wolf project updates within the BRWRA once a month at places such as USFS offices, US post offices, libraries, as well as on the USFWS Mexican wolf Web site at <http://www.fws.gov/southwest/es/mexicanwolf> and the AGFD Web site at

http://www.azgfd.gov/w_c/es/wolf_reintroduction.shtml. Interested parties could also sign up to receive the update electronically by visiting the AGFD Web site at <http://www.azgfd.gov/eservices/subscribe.shtml>. The IFT also faxed monthly project updates to stakeholders and interested citizens.

The IFT produced a wolf location map in 2006 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 (http://www.azgfd.gov/w_c/es/wolf_reintroduction.shtml).

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.

3. 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.

a. Population Status

At the end of 2006, there were 26 radiocollared wolves (15 adults, three sub-adults, and eight pups) and 33 documented uncollared wolves. Twenty-two of the 33 uncollared wolves, including 13 pups of the year, were associated with 12 known packs, seven in Arizona and five in New Mexico (Table 1). In addition, there were eight known single wolves (one in Arizona and seven in New Mexico). The IFT confirmed AM795 was alive by capturing and radio collaring it on January 16, 2007 (note: the five wolves captured during the January 2007 helicopter operation were included as uncollared associated with known packs above). This wolf was listed as “status unknown” in 2005 due to radiocollar failure. Five additional wolves (M860, F862, M794, M832, and AF624), designated status unknown in 2004 and 2005, retained that status in 2006. The status of AM796 (San Mateo pack), AM732 (Saddle Pack), AF486 (Hawks Nest pack), and AF562 was unknown because contact had been lost during 2005, 2004, 2006, and 2006, respectively. However, AM732 was captured during 2006, and AM796, AF486, and AF562 were observed during the helicopter operation in January 2007.

b. Reproduction

In 2006, nine packs (Bluestem, Rim, San Mateo, Paradise, Hon-Dah, Aspen, Saddle, Luna, and Middle Fork) produced wild-conceived, wild-born litters. The IFT documented a minimum of 31 pups born with a minimum of 21 surviving until year-end (Table 1). This marks the fifth year wild born wolves have bred and raised pups in the wild. Six pairs were composed of at least one wild-born wolf. Six reproductive pairs formed naturally in the wild. The Hon-Dah pack reproduced in 2006, but was removed due to repeated depredations.

AM507 of the Bluestem pack was found dead in June 2006, but AF521 appeared to have bonded with AM806 of the recently released Meridian pack by the end of December 2006. The Meridian pack AF838 was found dead in September 2006. The alpha male of the Rim pack appears to have changed from AM992 to AM991 in December of 2006. Reports of uncollared wolves led the IFT to first document the Paradise pack in late October 2006 by radiocollaring mp1044 and

observing it later with five other wolves. The IFT has not received the results of genetic testing of mp1044 to determine its lineage.

c. Releases and Translocations

The IFT conducted one initial release of a new pack, one modified soft release translocation and two hard release translocations in 2006 to increase genetic diversity and number of wolves in the wild.

On July 6, 2006, the Meridian pack (consisting of AF838, AM806, fp1028, and mp1029) was transported from captivity to the Middle Mountain release site in the Alpine Ranger District of the ASNF (Table 2, Fig. 2). The Meridian pack self-released several hours after being placed in the pen, and remained within a half-mile of the release site for approximately one week (see Appendix A for detailed summaries of all packs).



Meridian Pack. Photographed at a supplemental feed site in the BRWRA by a motion censored camera. USFWS photo.

On May 25, 2006, the IFT translocated the Nantac pack (AF873 and AM993) from captivity to the North Seco pen site in New Mexico (Table 2, Fig. 2). The pair self-released from the pen on May 28, 2006. The Nantac pack had been previously removed from the wild in 2005 for persistence on the San Carlos Apache reservation (SCAR).

On June 5, 2006, three single wolves (M859, f923, f924) were translocated from captivity to Willow Creek, New Mexico (Table 2, Fig. 2). On June 6, 2006 the three wolves were transported by mule to the West Fork of the Gila site and hard released. The wolves remained in the area for approximately three weeks, and then began traveling separately in the GNF. f923 and f924 had been previously removed from the wild in 2005 as “dependent” pups during the removal of the Francisco pack for depredations. M859 had been previously removed from the wild in 2005 after a confirmed depredation outside the BRWRA.

On December 15, 2006, M863 was translocated from captivity to the Home Creek Release site in the ASNF, Arizona and hard released (Table 2, Fig. 2). By the end of 2006, M863 was exhibiting

dispersal movements throughout the BRWRA. M863 was previously removed from the wild in March 2006 outside the BRWRA following a depredation incident.

d. Home Ranges and Movements

The IFT calculated home ranges for nine packs exhibiting territorial behavior. The MCP method produced an average home range size of 233 mi² (603 km²), with home ranges varying in size from 102 mi² to 532 mi² (264 km² to 1378 km²) (Fig. 3, Table 3). Home ranges were not calculated for three wolf packs (Meridian, Nantac, and Paradise) because ≤ 20 independent aerial radiolocations were available during a six month period. Home ranges were also not calculated for 12 wolves (M806, M859, M863, M864, f923, f924, m973, M990, M991, m1007, m1008, fp1028) that dispersed during 2006 (see Appendix A for detailed summaries of these individuals).

Mexican wolves occupied 6,542 mi² (16,944 km²) of the Mexican Wolf Nonessential Experimental Zone (MWNEZ) during 2006 (Fig. 4). Sixty-four percent of the occupied range (4,201 mi² [10,881 km²]) occurred in the BRWRA and 13% of the occupied range (835 mi² [2,163 km²]) occurred on the FAIR. Twenty-one percent of the occupied range (1,403 mi² [3,634 km²]) fell outside the BRWRA, FAIR, and SCAR. Two percent of the occupied range (103 mi² [267 km²]) occurred on SCAR. In comparison, Mexican wolves occupied 6,271 mi² (16,242 km²) of the MWNEZ during 2005.

e. Mortality

The IFT has documented 49 wolf mortalities since 1998 (Table 4), six of which occurred in 2006 (Table 5). Mortalities in 2006 included AF838 from unknown causes (necropsy pending), F487 from vehicle collision, m927 from a predator, AF1027 from capture complications, and AM507 and mp1029 from unknown causes. This should be considered a minimum estimate of mortalities since pups and uncollared wolves die and are not documented. The number of wolves lethally controlled is covered in the *Management Actions* sections of this report.

f. Wolf Predation

In 2006, the IFT intensively monitored the Hawks Nest, Luna, Saddle, and San Mateo packs during the aerial winter survey to determine prey characteristics. m1008 was also monitored daily during this period for management purposes related to a depredation. During the five-week period between February 21 and March 31, 2006, 34 flights were conducted; five flights were cancelled due to weather. A total of 12 carcasses were found for an average of one carcass located for every 2.8 flights. Of the 12 carcasses investigated, eight were elk, three were domestic cows and one was a mule deer (*O. hemionus*). Age determinations of the elk revealed four were adults, two were yearlings and two were calves. The one mule deer located during the study period was an adult.

Of the 12 carcasses investigated, nine were confirmed or probable wolf kills, and three were scavenged. Of the nine confirmed or probable wolf kills, six were elk, two were domestic calves and one was a mule deer. Of the three scavenged carcasses, two were elk and one was a domestic cow. One scavenged elk died of starvation, one was killed by a mountain lion (*Felis concolor*) and the domestic cow died of disease based on the USDA-WS investigation.

g. Wolf Depredation

The 1996 Final Environmental Impact Statement (FEIS) predicted 1-34 confirmed killed cattle per year from a population of 100 Mexican wolves. This represents <0.05 percent 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 cattle, which extrapolates to 13.8 cattle killed per year from a population of 100 Mexican wolves.



Mexican wolf in the BRWRA feeding on a domestic cow. USFWS photo.

During 2006, USDA-WS members of the IFT completed 93 investigations with potential Mexican wolf involvement. Of these 93 investigations, 88 involved livestock including cattle ($n = 80$), sheep ($n = one$), and horses ($n = seven$). In addition, the IFT conducted five non-livestock investigations involving dead or injured domestic dogs. Average IFT response time between the reporting of an incident to the initiation of an on-site investigation was <18 hours.

Of the 88 individual livestock investigated, 59% ($n = 52$) were determined to have confirmed, probable, or possible wolf involvement resulting in livestock injury or death, 26% ($n = 23$) had confirmed or suspected cause of death or injury other than wolf, and 15 % ($n = 13$) were classified as unknown. There were 45 investigations of livestock fatalities that were classified as confirmed ($n = 28$), probable ($n = 12$) or possible ($n = five$) wolf-caused mortalities (Table 6, Table 7). There were also four confirmed and three possible livestock injuries investigated. Sixty-two percent ($n = 28$) of the fatality investigations determined to have confirmed, probable, or possible wolf involvement occurred in New Mexico and 38% ($n = 17$) occurred in Arizona (Table 7). Six of the seven IFT investigations involving wolf-caused injuries occurred in New Mexico (Table 7). Eleven separate mortality causes were identified in the non-wolf related investigations, including coyote (*C. latrans*) ($n = three$), lightning ($n = four$), poisoning ($n = two$), infection ($n = one$), calving complications ($n = three$), car collisions ($n = two$), lions ($n = one$), domestic dogs ($n = two$), old age ($n = three$), black bears (*Ursus americanus*) ($n = two$), and unknown ($n = 13$).

Fifty-nine percent ($n = 52$) of the 88 livestock investigations conducted in 2006 were in response to reports from the public and 41% ($n = 36$) were initiated by the IFT. In addition, the IFT found and reported 53% ($n = 24$ out of 45) of the confirmed, probable, or possible wolf-caused livestock mortalities that occurred during 2006 (Table 7). IFT investigations involved 22 livestock producers as well as the WMAT and the SCAT.

The impact of depredations on livestock allotments was not distributed evenly with the majority occurring on four individual allotments or livestock associations. The 2006 rate extrapolates to 46 confirmed killed cattle depredations/100 wolves, which is higher than the 1-34 confirmed killed cattle depredations/100 wolves predicted in the FEIS. However, 51 percent ($n = 23$) of the 45 confirmed, probable, and possible depredations were caused by two packs, Hon-Dah and Nantac (Table 7). Both of these packs were permanently removed due to repeated depredations.

In 2006, USDA-WS, in conjunction with the other lead agencies in the Mexican wolf reintroduction project, continued a research study in Arizona and New Mexico to assess domestic cattle mortality in an area of sympatric carnivores (Mexican wolves, lions, black bears and coyotes). 2006 was the fourth 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. As a result of 2006 wolf-related depredation claims, Defenders of Wildlife (DOW) paid \$37,825 to affected individuals.

h. Management Actions

The IFT captured and/or removed 32 different wolves a total of 35 times in 2006. Sixteen were captured, collared, processed, and released on site for routine monitoring purposes (Table 8).

The IFT captured m1008, processed and released it after a single confirmed depredation incident (Table 8). M863 was captured and removed to captivity for two cattle depredations and persistence outside of the BRWRA. m1008 was captured a second time by a private trapper and removed for boundary related issues. Three additional wolves (AF1027, m1018, m1019) along with six dependent pups (fp1020, fp1021, mp1022, mp1023, mp1024, mp1025) were captured and removed to captivity after confirmed involvement in six depredation incidents (Table 8). f924 was captured and removed to captivity after confirmed involvement in two depredation incidents. m973 was captured and removed to captivity for nuisance behavior (Table 9). In addition, five wolves (AM578, M864, AM993, AF873, and M859) were lethally removed after confirmed involvement in three or more depredations. Of 13 wolves captured and placed in captivity in 2006, three were permanently removed (m1018 died while in captivity, m1019, and AF1027 [died while being transported]) and 10 retained the possibility for future translocation (M863, f924, m973, m1008, fp1020, fp1021, mp1022, mp1023, mp1024, mp1025). Of 10 wolves removed temporarily, three remained available for translocation (f924, m973, m1008), one was translocated and remains in the wild (M863), and six pups (fp1020, fp1021, mp1022, mp1023, mp1024, mp1025) died while in captivity. AF1027 died while being transported to captivity after permanent removal for multiple depredation incidents.

The IFT conducted management actions in response to 16 cases of recurring nuisance wolf behavior in 2006 (Table 9). Most nuisance reports involved wolves near people or residences, often associated with dogs. Two dogs were injured and two dogs were killed by wolves in New Mexico and two dogs were injured in Arizona. Wolf nuisance behavior temporarily ended after IFT management actions were implemented. After repeated hazing efforts were unsuccessful, one wolf (m973) was captured, placed in captivity with a potential mate, and is available for translocation.

i. Non-IFT Wolf Sighting Reports

In 2006, the IFT received a total of 123 wolf sighting reports from the public (Appendix B). Of these, 91 were from Arizona, 30 were from New Mexico, one was from California, and one was

from Mexico. The IFT determined that 36 reports were sightings of known wolves within established territories (Arizona $n = 28$, New Mexico $n =$ eight), 27 reports were likely uncollared/unknown wolves (Arizona $n = 21$, New Mexico $n =$ six), 56 reports were non-wolf sightings (coyote, dogs, etc.), and two reports did not have enough information to make a determination. The IFT used the 27 uncollared/unknown sighting reports to initiate trap lines and catch two uncollared wolves.

[Note: To report a sighting of a Mexican wolf, please call 1-888-459-WOLF (9653).]

j. Uncollared wolf sign

The IFT used uncollared wolf sign and sighting reports to target 11 core areas (Fig. 5) in an effort to document and/or radio collar unknown wolves in and around the BRWRA. During 2006, the IFT searched a total of 5,099 miles (8,206 km) of roads and trails. The IFT captured and radiocollared a previously unknown wolf on the FAIR. That capture led to confirmation of a wolf pack, subsequently named the Paradise pack (Fig. 3). The IFT documented two groups of uncollared wolves, one on the FAIR and one in Coleman Creek, Arizona (Fig. 6) in 2006. In early 2007, three single wolves were documented in New Mexico (Fig. 6). These wolves were included in the 2006 population, because they were present on December 31, 2006. The IFT captured and radio collared m973, formerly of the Aspen pack, after public sighting reports were investigated near Greer, Arizona.

k. Outreach

The IFT revised and updated the draft Mexican Wolf Blue Range Reintroduction Project Outreach Plan in November 2006. This document provides an outline of activities that AMOC and the IFT will use to inform various target audiences about the reintroduction project and to ensure productive dialogue between stakeholders and cooperating agencies. The IFT then incorporated the outreach plan into the Mexican Wolf Interagency Field Team 2007 Annual Work Plan. The Work Plan describes and prioritizes activities that the IFT plans to conduct in 2007.

The IFT and other project personnel gave 56 presentations and status reports to 3,883 people in federal and state agencies, conservation groups, rural communities, guide/outfitter organizations, schools, fairs, and various other public and private institutions throughout Arizona and New Mexico, 72 percent of which were to the BRWRA target audience. In addition, 3,715 weekly contacts were made to cooperating agencies and stakeholders. Presentations can be scheduled by contacting the IFT at 1-888-459-9653.

In August, the AMOC held a three-day Mexican Wolf Management Workshop at the Hon-Dah Resort and Casino Conference Center in Hon-Dah, Arizona. Talks were provided by a variety of speakers including the IFT, AMOC, wolf experts, conservation organizations, and affected stakeholders. On the third day a workshop was scheduled to discuss wolf management efforts with affected stakeholders.

At available USFS kiosks and various road pull-outs in the BRWRA, the IFT maintained, replaced, and/or added 122 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,

the IFT posted 86 USFWS reward posters at USFS kiosks and local businesses in the BRWRA. The posters discussed the \$10,000 reward for information leading to the apprehension of individuals responsible for illegal wolf killings.

4. Summary

The IFT confirmed 26 radiocollared (15 adults, three subadults, eight pups) and 33 uncollared wolves. The 2006 end of year population consisted of 12 packs (seven in Arizona and five in New Mexico), and eight single wolves (one in Arizona and seven in New Mexico). There are likely additional, undocumented free-ranging wolves in the population. The majority of undocumented wolves are likely single animals, as a wolf pack usually leaves more sign and its existence is easier to document.

The IFT conducted one initial release and three translocations, involving 10 wolves during 2006. However, only four of these wolves remain in the wild. Nine packs produced wild-conceived, wild-born litters. Six of these packs had at least one alpha member born in the wild. This marks the fifth year that wild-born wolves have themselves bred and raised pups in the wild. The IFT documented six mortalities of free-ranging wolves in 2006, including four adults, one subadult, and one dependent pup.

Home ranges were calculated for nine packs, producing an average home range size of 233 mi² (603 km²), with home ranges varying in size from 102 mi² to 532 mi² (264 km² to 1378 km²). Native prey use by wolves consisted primarily of elk. However, during 2006 there were also 28 confirmed, 12 probable, and five possible cattle depredations. The IFT also attributed four confirmed livestock injuries and three possible livestock injuries to wolves. In addition, four dogs were confirmed injured and two confirmed killed by wolves.

The IFT trapped 32 wolves a total of 35 times for routine monitoring ($n = 16$), association with domestic dogs and nuisance behavior ($n = 1$), boundary ($n = 1$) and cattle depredations including five lethal control actions ($n = 17$). Of 13 wolves captured and placed in captivity in 2006, three were permanently removed, three retained the possibility of future translocation, one was translocated, and six (dependent pups) died in captivity. One of the three wolves that were permanently removed died while in transport to captivity.

The IFT analyzed 123 reports of wolf sightings from the public; 30% were sightings of known wolves within established territories, 20% were likely uncollared/unknown wolves, and about half of the reports were non-wolf sightings (coyote, dogs, deer, etc.). In response to these sightings, the IFT searched 5,099 miles (8,206 km) of roads, trails, and canyons in 2006 looking for unknown wolves in and around the BRWRA. As a result, the IFT was successful in documenting three previously unknown or uncollared packs and one single animal in 2006 through increased field search efforts. In early 2007, three single wolves were documented in New Mexico, and included in the 2006 population since they were present on December 31, 2006.

Project personnel gave 56 presentations and status reports, 72% of which were within the BRWRA, to over 3,883 people in federal and state agencies, conservation groups, rural communities, guide/outfitter organizations, livestock associations, schools, fairs, and various other public and private institutions. In addition, 3,715 weekly contacts were made to cooperating agencies and stakeholders.

The IFT acknowledges the assistance of all agency personnel and volunteers who have 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.

5. Discussion

The IFT documented an increase in the Mexican wolf population during 2006 from approximately 42 wolves (± 7) in 2005 to a minimum population of 59 wolves in 2006 (Fig. 7). In addition, the number of breeding pairs increased from a minimum of five breeding pairs in 2005 to a minimum of seven in 2006. The wolf population has also displayed encouraging signs of packs forming naturally, increased pup survival, wild-born wolves reproducing successfully, and lower levels of illegal shooting and vehicle mortalities (Fig. 8). Indeed, the total number of pups that were alive at the end of the year was higher than any previous year of the reintroduction project. In addition, due to the relatively high number of documented dispersing wolves (M863, f923, m925, M992, and three uncollared wolves in New Mexico) in November and December of 2006, as well as the potential for uncollared and undocumented dispersers, there is a high probability for several packs to form naturally in 2007.

In response to higher than predicted depredation rates, wolf removal rate for depredations was also the second highest rate since the start of the project. The 2006 rate extrapolates to 46 depredations/100 wolves, which is higher than the 1-34 depredations/100 wolves predicted in the FEIS. However, 51% ($n = 23$) of the 45 confirmed, probable, and possible depredations were caused by two packs. The IFT removed both of these packs because of repeated depredations. The IFT continued to respond to and resolve major conflicts with livestock depredations and nuisance wolves. Such responsive management of depredating wolves should help to reduce the overall depredation 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 translocations, natural pair formations, and reproduction in 2007 should result in an increase in the Mexican wolf population. The IFT management objective for 2007 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 5-Year Review. The IFT and AMOC will continue to work on implementing these improvements in 2007.

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Members of the Bluestem Pack in the BRWRA. USFWS photo.

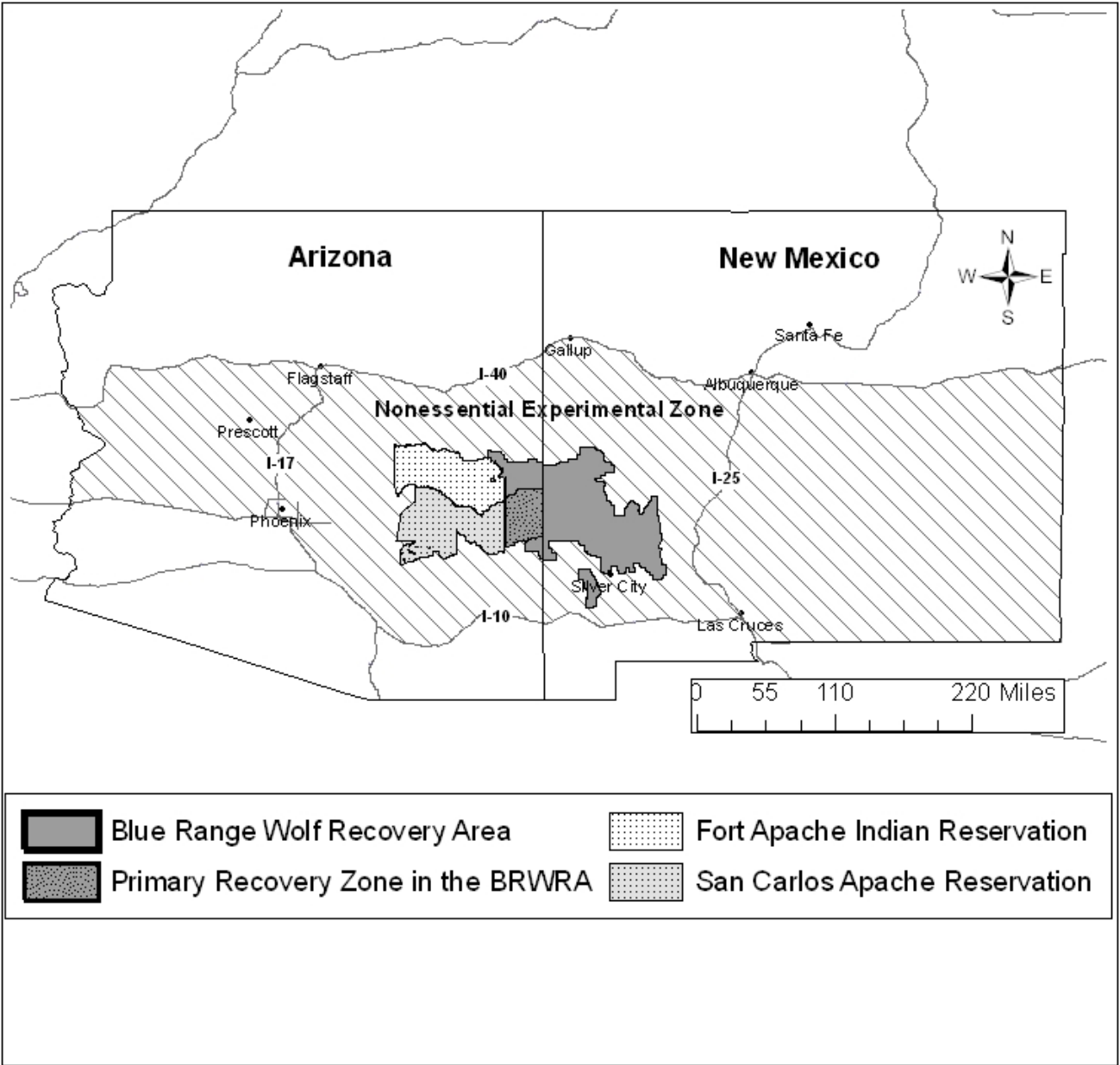


Figure 1. The Blue Range Wolf Recovery Area and Mexican wolf nonessential experimental zone (cross-hatched area) in Arizona and New Mexico.



Figure 2. Translocation and initial release sites used during 2006 in Arizona and New Mexico within the Blue Range Wolf Recovery Area.

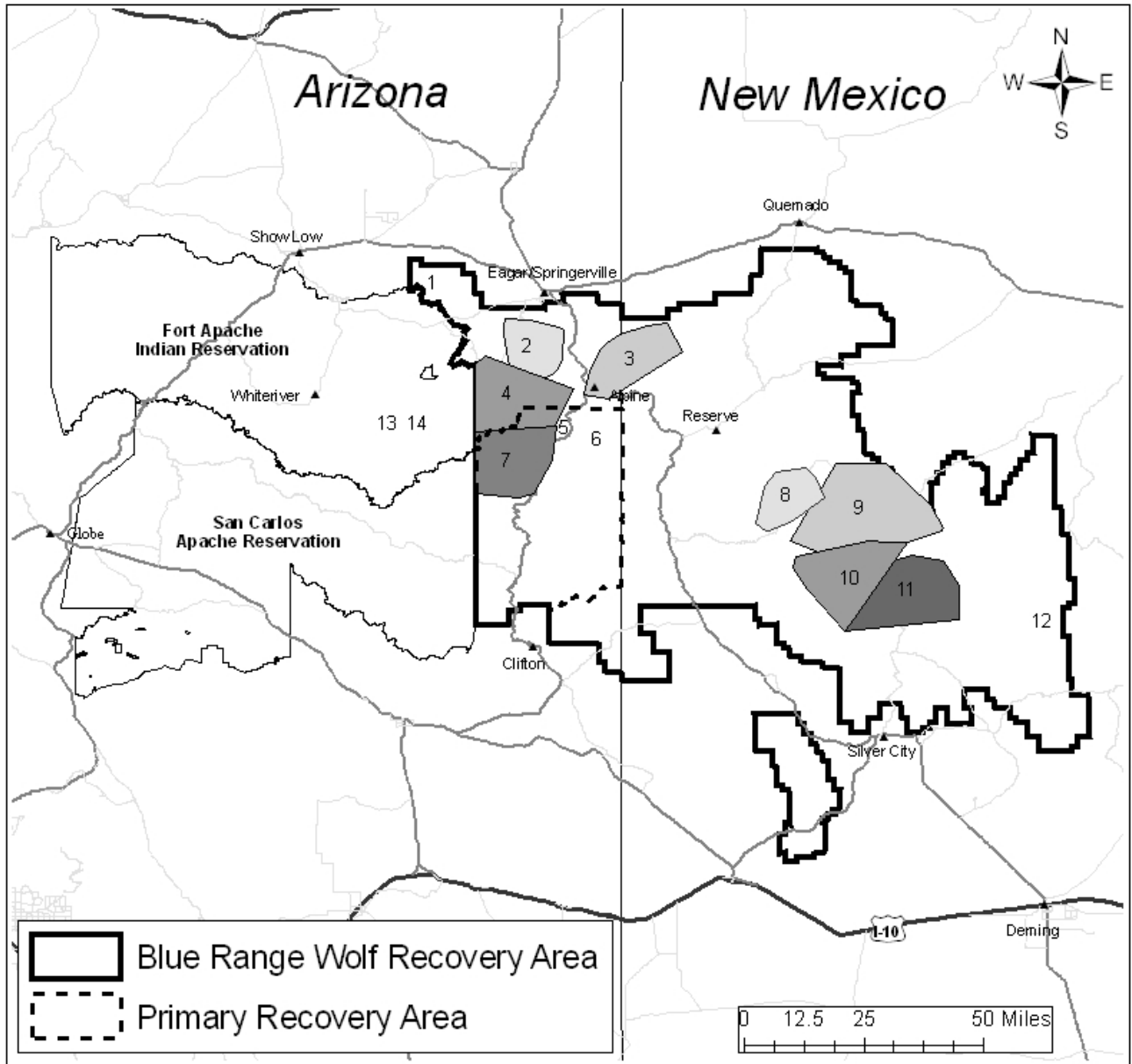


Figure 3. Mexican wolf home ranges for 2006 in Arizona and New Mexico. The shaded polygons and corresponding numbers on the map represent wolves having more than 20 independent radio locations and exhibiting movement characteristics consistent with a home range during 2006. See the table on the following page for information regarding the wolf packs and home ranges.

Figure 3. Continued.

Map Number	Wolf Pack or Wolf ID	Number of Wolves	Wolf Fate at the End of 2006	Breeding Pair Status	Home Range Size (mi ²)
1	Paradise	6	Free-ranging	Yes	NA ^a
2	Hawks Nest	3	Free-ranging	No	108
3	San Mateo	4	Free-ranging	Yes	154
4	Bluestem	7	Free-ranging	Yes	532
5	Meridian	0	AF838-dead, mp1029-dead; AM806 in Bluestem, fp1028-Single	No	NA
6	Coleman Crk	4	Uncollared free-ranging	Unknown	Unknown
7	Rim	4	Free-ranging	Yes	230
8	Luna	5	Free-ranging	Yes	102
9	Saddle	5	Free-ranging	Yes	353
10	Middle Fork	2	Free-ranging	No	197
11	Aspen	6	Free-ranging	Yes	265
12	Nantac	2	Permanent removal	No	NA ^a
13	Hon-Dah	0	Permanent removal	No	NA ^b
14	Loafer Bench	NA ^b	Uncollared 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.

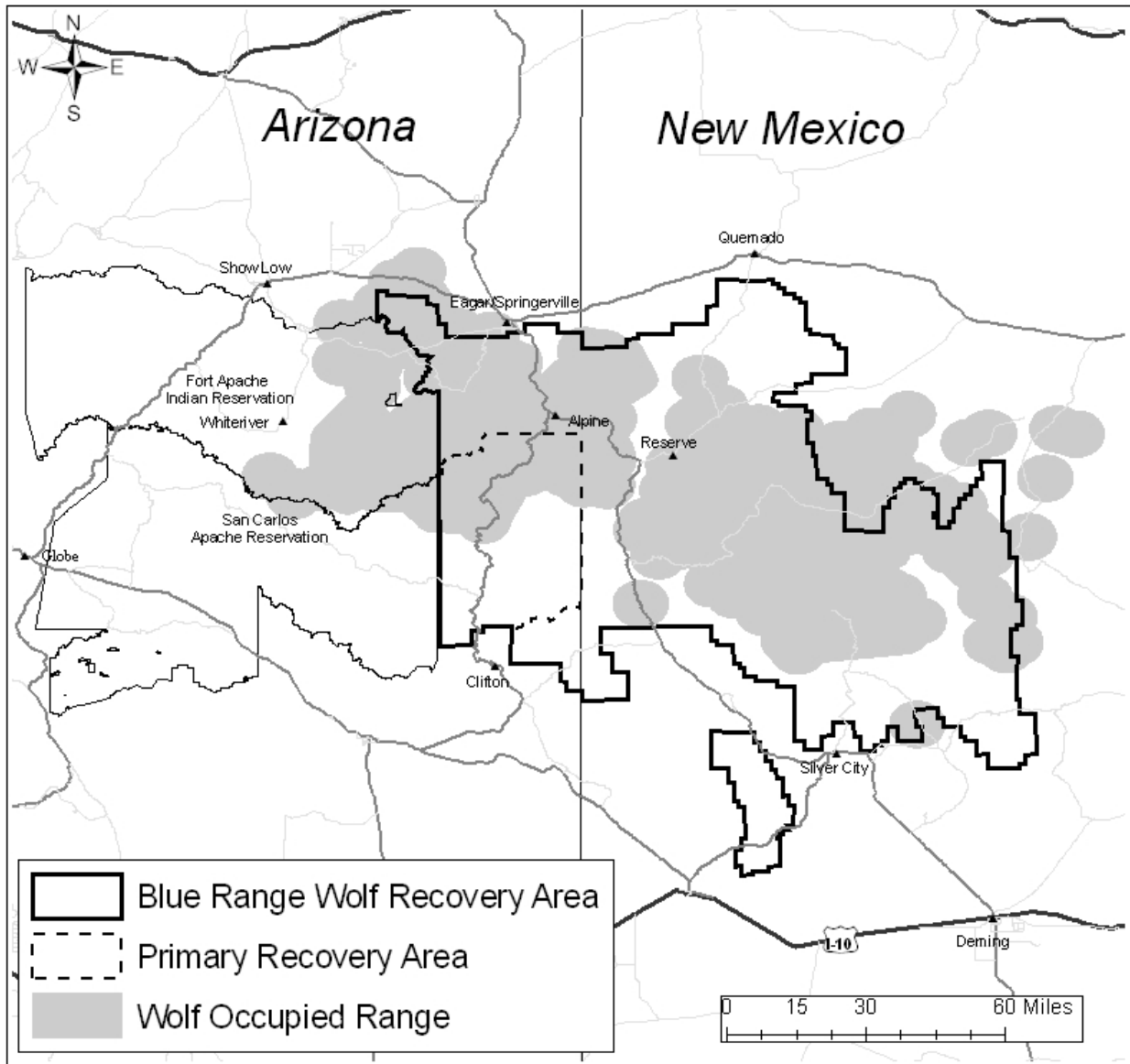


Figure 4. Mexican wolf occupied range in Arizona and New Mexico within the Mexican Wolf Nonessential Experimental Zone as defined in the Final Rule (USFWS 1998).

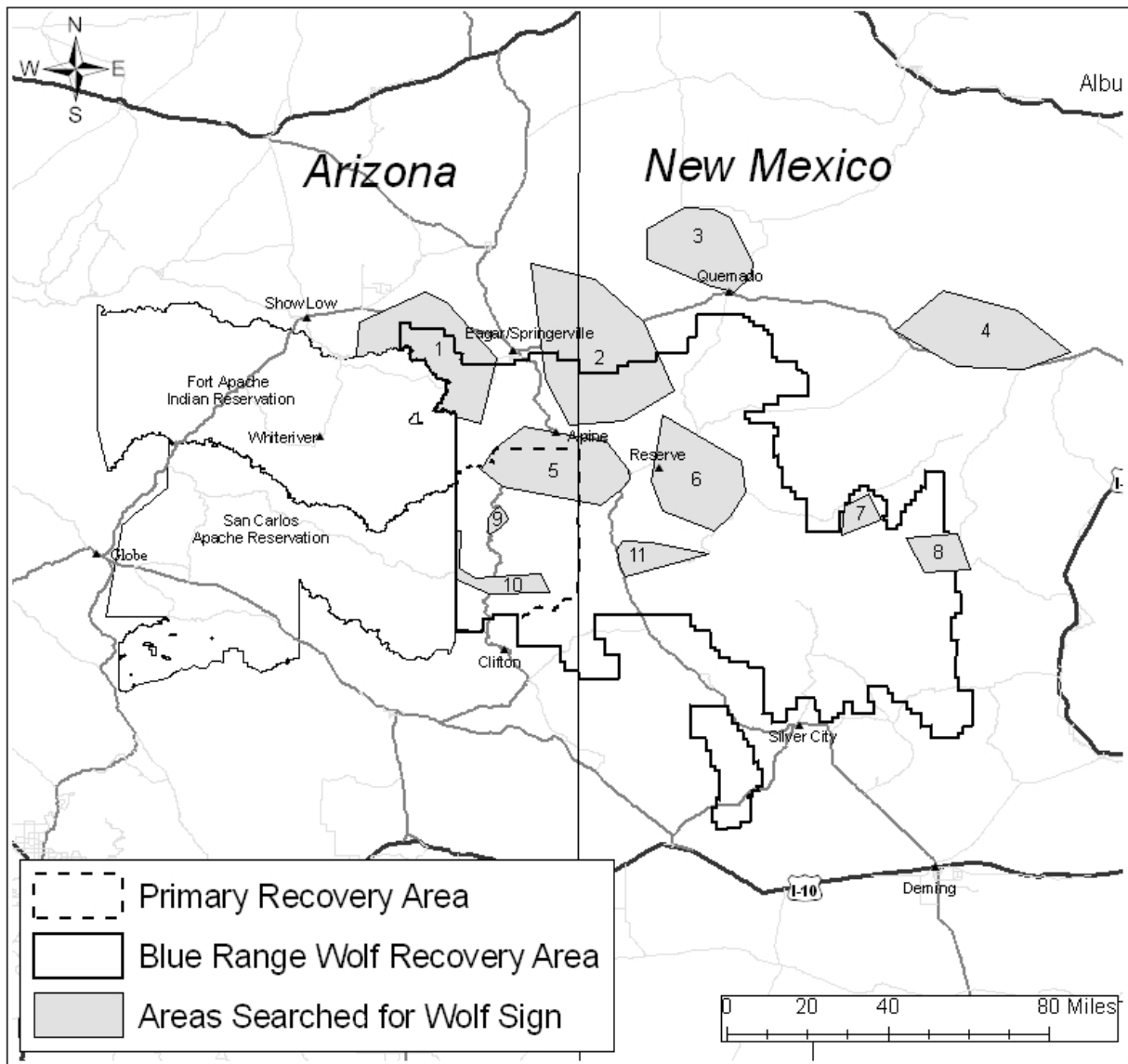


Figure 5. Areas searched and corresponding miles driven/hiked for uncollared wolf sign in Arizona and New Mexico. See the table on the following page for information regarding the wolf packs and home ranges.

Figure 5. Continued.

Map Numbers	Search Area	Miles Searched in Arizona	Miles Searched in New Mexico
1	Greens Peak Area	1,453	0
2	Escudilla-Red Hill Area	123	613
3	Fence Lake Area	0	123
4	Datil/Magdalen Mountains	0	221
5	Beaver Creek-Maness Area	1,015	216
6	Cruzville-Rainy Mesa Area	0	815
7	Indian Peaks Area	0	75
8	Chloride Canyon-Monument Park	0	160
9	Engineer Springs Area	170	0
10	Eagle Creek-Juan Miller Area	85	0
11	Mineral Creek Area	0	30
	Total	2,846	2,253
	Grand Total for AZ and NM	5,099	

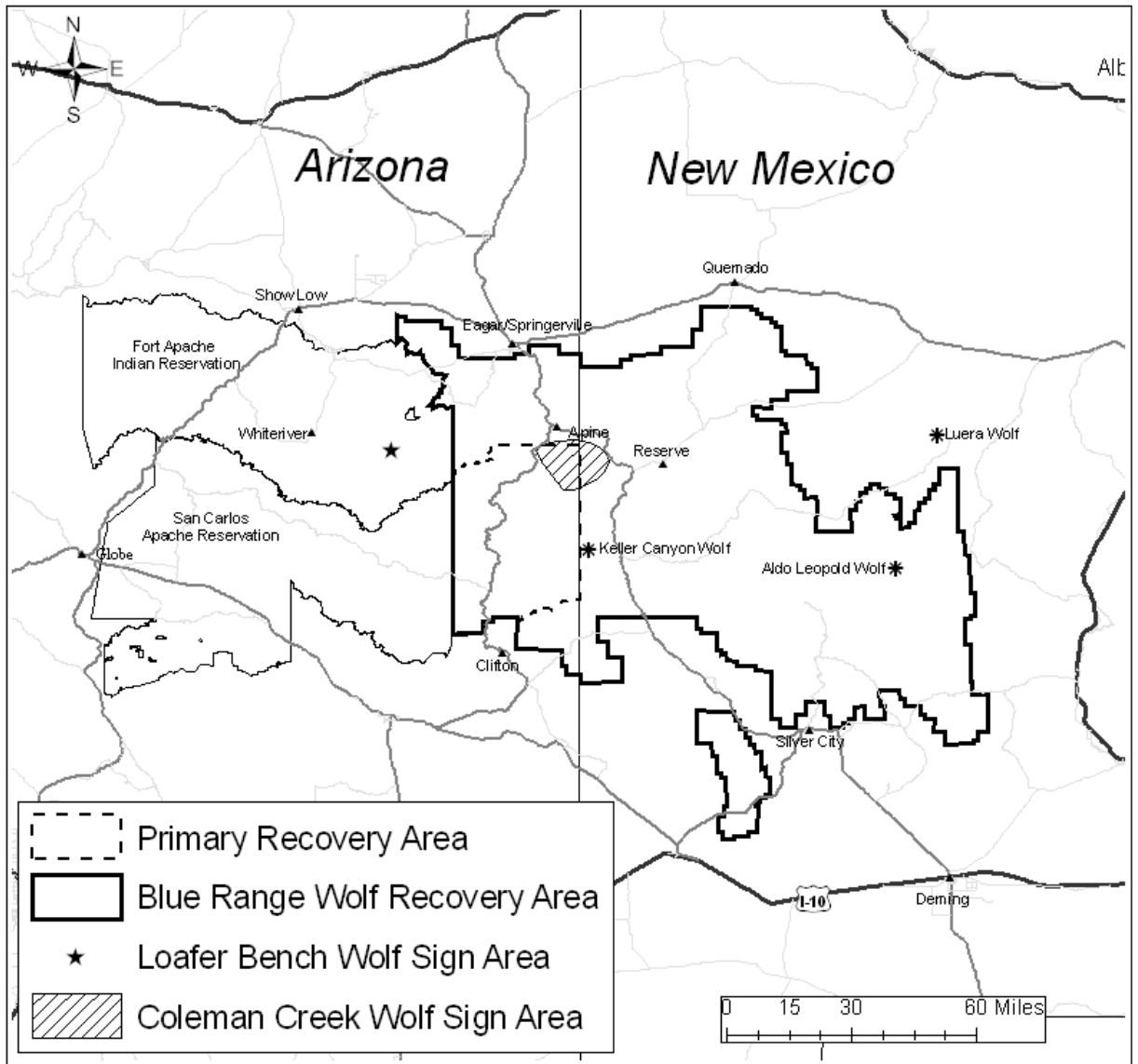


Figure 6. Uncollared wolves documented and counted in the 2006 wolf population in Arizona and New Mexico.

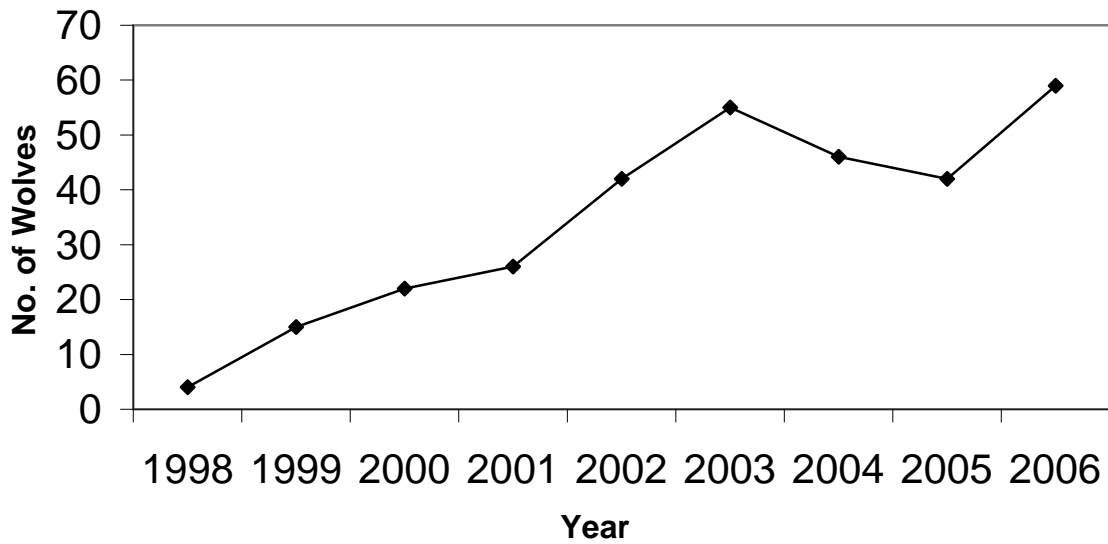


Figure 7. Mexican wolf minimum population estimates from 1998 through 2006 in Arizona and New Mexico.

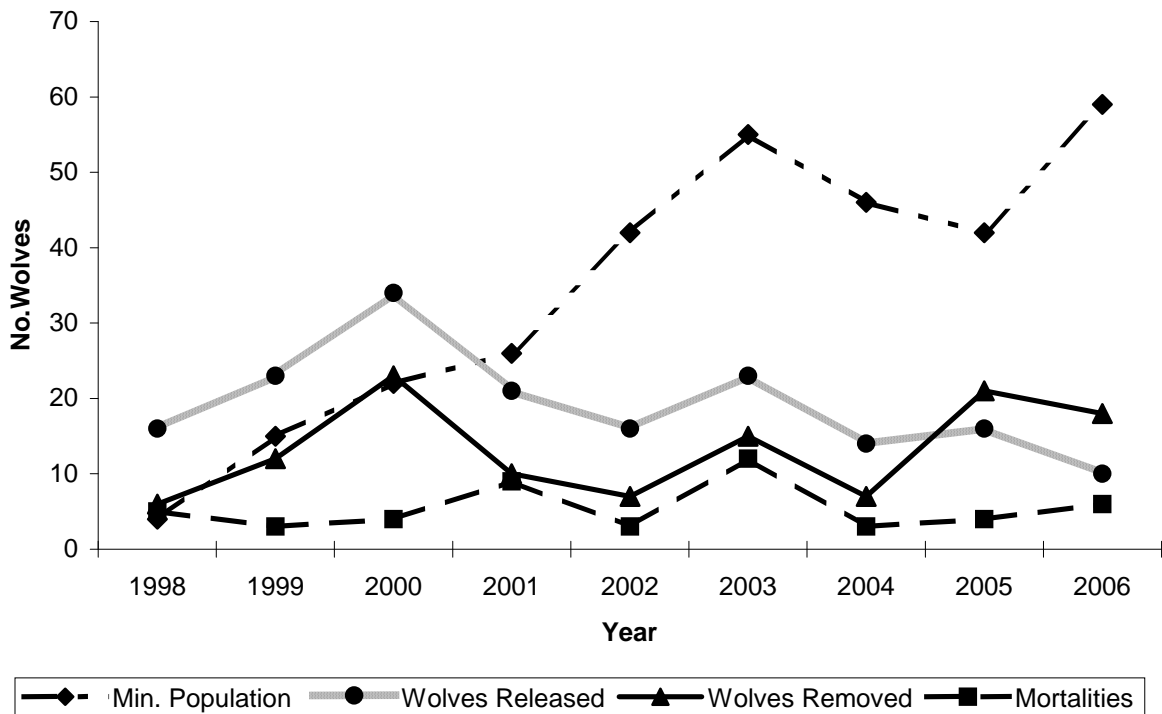


Figure 8. Mexican wolf population estimates and associated population parameters. Wolves released include: translocations (wolves re-released from captivity back into the wild) and initial releases (wolves with no wild experience). Lethal control of wolves is counted within the wolves removed figures because they are associated with management actions.

Table 1. Status of Mexican wolf packs present in 2006 in Arizona and New Mexico, December 31, 2006.

Pack	Wolf ID	Reproduction ^a	Pups at Year End ^b	No. Collared	No. Uncollared	Min Pack Size ^c
Aspen*	AM512, AF667, mp1038 Mp1039, fp1040, fp1046 ^e	4	4	4	2	6
Bluestem*	AM507 ^h , AF521, AM806, mp1041, fp1042	4	4	4	3	7
Hawks Nest	AF486 ^d , AM619	0	0	1	2	3
Hon-Dah ^g	AM578 ^h , m1018 ^h , m1019 ^h , fp1020 ^h , fp1021 ^h , mp1022 ^h mp1023 ^h , mp1024 ^h , mp1025 ^h , AF1027 ^h	N/A ^f	N/A ^f	N/A ^f	N/A ^f	N/A ^f
Luna*	AM562, AM583, fp1047 ^e	6	3	1	4	5
Meridian ^g	AM806 ⁱ , AF838 ^h , fp1028 ⁱ , mp1029 ^h	2	0	0	0	0
Middle Fork	AF861 ^h , AM871 ^h	0	0	2	0	2
Nantac ^g	AF873 ^h , AM993 ^h	0	0	0	0	0
Paradise*	AM795 ^e , mp1044, m1045 ^e	3	3	1	5	6
Rim*	AF858, AM991, mp1043	3	2	3	1	4
Saddle*	AM732, AF797, m1007, fp1016 ^e	6	2	3	2	5
San Mateo*	AM796 ^d , AF903, m927 ^h	2-3	2	1	3	4
Unnamed group	M990	0	0	1	N/A ^f	N/A ^f
Single wolves	F487 ^h , M859 ^h , M863, M864 ^h f923, f924 ⁱ , m925, m973 ⁱ M992, m1008 ^h , fp1028	0	1	5	0	5
Uncollared AZ	N/A	0	0	0	4	4
Uncollared NM	N/A	0	0	0	3	3
Uncollared WMAT	N/A	0	0	0	N/A ^f	N/A ^f
Totals		31-32	21	26	28	59

^aReproduction-maximum number of pups documented in 2006.

^bPups at Year end-pups documented surviving until December 31, 2006.

^cMin Pack Size-total number of wolves (collared, uncollared, pups) documented at year end.

^dRadio collar is still on but non-functioning (Collar on 486 malfunctioned in 2006, collar on AM796 malfunctioned in 2005).

^eM795, m1045, fp1016, fp1046, fp1047 were captured and assigned studbook numbers in January 2007. They are included as they were present on 12/31/06.

^fWolf numbers on WMAT lands are proprietary and therefore not displayed.

^gPack considered defunct due to lost collars, dispersal, removal or death.

^hDied or permanently removed during 2006

ⁱRemain in the wild, no longer associated with defunct pack.

^jRemoved 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 or released from captivity or the wild in Arizona and New Mexico during January 1 – December 31, 2006.

Wolf Pack	Wolf #	Release Site	Release Date
Granite	M859	West Fork of Gila, NM	6/6/06
Granite	f923	West Fork of Gila, NM	6/6/06
Granite	f924	West Fork of Gila, NM	6/6/06
Meridian	AF838, AM806, fp1028, mp1029	Middle Mountain, AZ	6/6/06
Nantac	AF873, AM993	North Seco, NM	7/28/06
Single	M863	Home Creek, AZ	12/12/06

Table 3. Home range sizes of free-ranging Mexican wolf packs in Arizona and New Mexico January 1 – December 31, 2006.

Pack/Group	Home Range Size 95% Min. Convex Polygon Mi² (Km²)	Number of Independent Aerial Locations	Duration of Time Radio Locations were Available during 2006
Aspen	265 (686)	66	12 months
Bluestem	532 (1378)	73	12 months
Hawks Nest	108 (280)	88	12 months
Hon-Dah	152 (394)	24	6 months
Luna	102 (264)	90	12 months
Middle Fork	197 (510)	52	12 months
Meridian	NA ^a (NA ^a)	20	3 months
Nantac	NA ^a (NA ^a)	13	1.5 months
Paradise	NA ^a (NA ^a)	7	2 months
Rim	230 (596)	69	12 months
Saddle	353 (914)	98	12 months
San Mateo	154 (399)	86	12 months
Average^b	233 mi² (603 km²)	72	11 months

^a Home ranges were not calculated because ≥ 20 independent aerial locations were not acquired over a period of ≥ 6 months during 2006.

^b 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-present.

Mortality Cause	1998	1999	2000	2001	2002	2003	2004	2005	2006	Totals
Illegal shooting	4	0	1	4	3	7	1	3	0	23
Vehicle collision	0	1	2	1	0	4	1	0	1	10
Natural ^a	0	2	1	2	0	0	1	0	1	7
Other ^b	1	0	0	1	0	0	0	0	1	3
Unknown ^c	0	0	0	1	0	1	0	1	3	6
Annual Total	5	3	4	9	3	12	3	4	6	49

^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, 2006.

Wolf ID	Pack	Age (years)	Date Found	Cause of Death
F487	Single	10	January 5, 2006	Vehicle collision
m927	San Mateo	1.5	November 10, 2006	Natural (predator)
AM507	Bluestem	9.0	June 4, 2006	Unknown
mp1029	Meridian	0.25	July 16, 2006	Unknown
AF838	Meridian	3.5	September 24, 2006	Necropsy pending
AF1027	Hon-Dah	2.0 +	May 22, 2006	Other (capture)

Table 6. Mexican wolf depredations of livestock documented in Arizona and New Mexico during January 1 – December 31, 2006.

	Confirmed	Probable	Possible	Total
Fatal	28	12	5	45
Injury	4	0	3	7

Table 7. Investigations of Mexican wolf-caused confirmed, probable, and possible depredation and injuries to cattle, horses and dogs during 2006 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	859	07/11/06	NO	Cattle	NM	Killed	Confirmed	859	YES	1	Attempted trapping
2	859	08/08/06	NO	Cattle	NM	Killed	Confirmed	859	YES	2	Attempted trapping
3	924	08/25/06	YES	Cattle	NM	Killed	Confirmed	924	YES	1	Hazing/monitoring
4	859 & 924	11/13/06	NO	Cattle	NM	Killed	Confirmed	859 & 924	YES	3 for 859, 2 for 924	Trapped 924, permanent removal (Lethal-859)
5	864	04/13/06	NO	Cattle	NM	Killed	Confirmed	864	YES	2 ^a	Attempted trapping
6	864	05/24/06	NO	Cattle	NM	Killed	Confirmed	864	YES	3 ^a	Permanent removal (Lethal)
7	1008 & Unk	01/17/06	NO	Cattle	NM	Killed	Confirmed	1008 & unknown	YES	1	Hazing/monitoring
8	1008	02/25/06	YES	Cattle	NM	Killed	Possible	1008	NO	1	Hazing/monitoring
9	1008	02/25/06	YES	Cattle	NM	Killed	Possible	Saddle	NO	1	Hazing/monitoring
10	863, 1007, unk	03/21/06	NO	Cattle	NM	Killed	Confirmed	863, 1007 & unk	YES	2 for 863 ^a ; 1 for 1007	Trapped 863
11	863, 1007 unknown	3/21/2006	NO	Cattle	NM	Injured	Confirmed	863, 1007 unk	NO	2 for 863 ^a ; 1 for 1007	Trapped 863
12	1007 and Possibly unknown	4/24/2006	NO	Cattle	NM	Injured	Confirmed	1007 and unk	NO	1 for 1007	None, Injury was greater than 10 days old
13	Aspen	11/10/2006	NO	Dog	NM	Injured	Confirmed	512	NO	0	Receiver, and cracker shells given to owner
14	Hon-Dah	03/16/06	YES	Cattle	AZ	Killed	Confirmed	Hon-Dah	YES	2 ^a	Trapping initiated for collaring purposes
15	Hon-Dah	03/28/06	YES	Cattle	AZ	Killed	Confirmed	Hon-Dah	YES	3 ^a	Trapping continued
16	Hon-Dah	03/31/06	YES	Cattle	AZ	Killed	Confirmed	Hon-Dah	YES	4 ^a	Trapping continued
17	Hon-Dah	04/19/06	YES	Cattle	AZ	Killed	Confirmed	Hon-Dah	YES	5 ^a	Permanent removal order for entire Hon-Dah pack
18	Hon-Dah	04/19/06	YES	Cattle	AZ	Killed	Confirmed	Hon-Dah	NO	5 ^{a,b}	Permanent removal order for entire Hon-Dah pack
19	Hon-Dah	04/27/06	YES	Cattle	AZ	Killed	Confirmed	Hon-Dah	YES	6 ^a	Permanent removal order for entire Hon-Dah pack
20	Hon-Dah	04/27/06	YES	Cattle	AZ	Killed	Confirmed	Hon-Dah	NO	6 ^{a,b}	Permanent removal order for entire Hon-Dah pack
21	Hon-Dah	04/27/06	YES	Cattle	AZ	Killed	Probable	Hon-Dah	NO	6 ^a	Permanent removal order for entire Hon-Dah pack
22	Hon-Dah	04/27/06	YES	Cattle	AZ	Killed	Probable	Hon-Dah	NO	6 ^a	Permanent removal order for entire Hon-Dah pack
23	Hon-Dah	04/27/06	YES	Cattle	AZ	Killed	Probable	Hon-Dah	NO	6 ^a	Permanent removal order for entire Hon-Dah pack
24	Hon-Dah	04/27/06	YES	Cattle	AZ	Killed	Probable	Hon-Dah	NO	6 ^a	Permanent removal order for entire Hon-Dah pack

	Wolves in Area	Investigation Date	Located By IFT	Species	State	Killed/ Injured	Call	Wolves Responsible	Depredation Incident?	No. of Incidents	Management Action
25	Hon-Dah	04/27/06	YES	Cattle	AZ	Killed	Probable	Hon-Dah	NO	6 ^a	Permanent removal order for entire Hon-Dah pack
26	Hon-Dah	04/28/06	YES	Cattle	AZ	Killed	Probable	Hon-Dah	NO	6 ^a	Permanent removal order for entire Hon-Dah pack
27	Hon-Dah	04/30/06	YES	Cattle	AZ	Killed	Probable	Hon-Dah	NO	6 ^a	Permanent removal order for entire Hon-Dah pack
28	Luna	3/26/2006	NO	Horse	NM	Injured	Confirmed	Luna	NO	1 ^a	Hazing/monitoring
29	925 and uncollared yearling	07/28/06	NO	Cattle	NM	Killed	Confirmed	925 and uncollared yearling	YES	1 ^c for 925 and Uncollared Luna Yearling	Hazing/monitoring
30	Nantac	05/22/06	NO	Cattle	NM	Killed	Probable	Nantac	NO	0	Hazing/monitoring
31	Nantac	06/05/06	NO	Cattle	NM	Killed	Confirmed	Nantac	YES	1	Hazing/monitoring
32	Nantac	06/08/06	YES	Cattle	NM	Killed	Confirmed	Nantac	NO	1 ^b	Hazing/monitoring
33	Nantac	06/08/06	YES	Cattle	NM	Killed	Probable	Nantac	NO	1	Hazing/monitoring
34	Nantac	06/09/06	NO	Cattle	NM	Killed	Possible	Nantac	NO	1	Hazing/monitoring
35	Nantac	06/10/06	NO	Cattle	NM	Killed	Confirmed	Nantac	YES	2	Trapping for removal
36	Nantac	06/13/06	YES	Cattle	NM	Killed	Probable	Nantac	NO	2	Trapping for removal
37	Nantac	06/15/06	NO	Cattle	NM	Killed	Confirmed	Nantac	YES	3	Permanent removal (Lethal)
38	Nantac	06/18/06	NO	Cattle	NM	Killed	Confirmed	Nantac	YES	4	Permanent removal (Lethal)
39	Saddle alpha pair	04/22/06	NO	Cattle	NM	Killed	Confirmed	797, 732	YES	2 ^a	Hazing/monitoring
40	Saddle	11/17/06	NO	Cattle	NM	Killed	Possible	797, 732, 1007, Uncollared Pups	NO	1 ^d	Hazing/monitoring
41	Saddle	11/24/06	NO	Cattle	NM	Killed	Confirmed	797, 732, 1007, Pups	YES	2 for 797,732, 1007: 1 for Pups	Hazing/monitoring
42	San Mateo	03/15/06	YES	Cattle	NM	Killed	Confirmed	903, 796	YES	1	Monitoring
43	San Mateo	09/23/06	YES	Cattle	AZ	Killed	Confirmed	903,796,927	YES	2	Attempted trapping
44	San Mateo	9/26/2006	NO	Horse	AZ	Injured	Confirmed	San Mateo	NO	2	Attempted trapping
45	Unknown	1/25/2006	NO	Horse	NM	Injured	Possible	NA	NO	0	Searched area for trapping opportunities
46	Unknown	02/13/06	NO	Dog	NM	Killed	Confirmed	NA	NO	0	Attempted trapping
47	Unknown	03/15/06	YES	Horse	NM	Killed	Confirmed	NA	YES	1	Searched area for trapping opportunities
48	Unknown	4/28/2006	NO	Horse	NM	Injured	Possible	NA	NO	0	Searched area for trapping opportunities
49	Unknown	06/15/06	NO	Cattle	AZ	Killed	Confirmed	NA	YES	1	Attempted trapping
50	Unknown	07/17/06	YES	Cattle	AZ	Killed	Probable	NA	NO	0	Searched area for trapping opportunities

	Wolves in Area	Investigation Date	Located By IFT	Species	State	Killed/ Injured	Call	Wolves Responsible	Depredation Incident?	No. of Incidents	Management Action
51	Unknown	07/17/06	NO	Cattle	NM	Killed	Possible	NA	NO	0	Searched area for trapping opportunities
52	Unknown	7/31/2006	NO	Dog	NM	Injured	Confirmed	NA	NO	0	Searched area for trapping opportunities
53	Unknown	7/31/2006	NO	Dog	NM	Killed	Confirmed	NA	NO	0	Searched area for trapping opportunities
54	Unknown	08/17/06	NO	Cattle	NM	Killed	Confirmed	NA	YES	1	Searched area for trapping opportunities
55	Unknown	08/17/06	NO	Cattle	NM	Injured	Possible	NA	NO	1	Searched area for trapping opportunities
56	Unknown	09/30/06	NO	Cattle	NM	Killed	Probable	NA	NO	1	Searched area for trapping opportunities
57	Meridian	7/22/06	NO	Dog	AZ	Injured	Confirmed	AM806, AF838	NO	0	Hazing/monitoring, turbo fladry, RAG boxes
58	Meridian	9/19/06	NO	Dog	AZ	Injured	Confirmed	AM806, AF838	NO	0	Hazing/monitoring

^a One of the depredation incidents that are counted towards the wolves occurred during 2005 and is not reported on this table.

^b These confirmed cattle mortalities did not count as a depredation incident because they were determined to have taken place within 24 hours of a preceding confirmed depredation incident.

^c m925 and the yearling uncollared wolf of the Luna pack were determined not to have been involved in the depredation incident that took place in 2005 because they were pups at the time and too young to actively participate in the depredation incident of 9/7/2005. Thus, m925 and the uncollared yearling have one depredation incident from 7/28/06, and AM583 and AF562 have one depredation incident at this time from 9/7/2005.

^d The depredation incident on the Saddle AM732 and AF797 of 8/16/05 was greater than 365 days from the date of this incident. Thus, the pair dropped from two depredation incidents on 4/22/06 to only one depredation incident on 8/16/06.

Table 8. Mexican wolves captured in Arizona and New Mexico from January 1 – December 31, 2006.

Pack	Wolf ID	Capture Date	Reason for Capture
Hawks Nest	AF486	1/18/2006	Helicopter Capture, re-collared and released
Saddle	m1007	1/18/2006	Helicopter Capture, collared and released
Single	m1008	1/18/2006	One confirmed cattle depredation incident, collared and released
Single	m1008	3/26/2006	Captured outside BRWRA by private trapper, removed to captivity. Available for future translocation.
Single	M863	3/28/2006	Two confirmed cattle depredations and persistence outside BRWRA. Removed to captivity. Translocated in 2006.
Hon-Dah	m1018	4/20/2006	Multiple confirmed cattle depredation incidents, permanently removed to captivity. Died in captivity.
Hon-Dah	m1019	4/28/2006	Multiple confirmed cattle depredation incidents, permanently removed to captivity.
San Mateo	m927	5/6/2006	Routine monitoring purposes. Captured, fitted with radio collar and released on site.
Hon-Dah	fp1020	5/19/2006	Pup dependent on removed alpha pair, removed to captivity. Died in captivity.
Hon-Dah	fp1021	5/19/2006	Pup dependent on removed alpha pair, removed to captivity. Died in captivity.
Hon-Dah	mp1022	5/19/2006	Pup dependent on removed alpha pair, removed to captivity. Died in captivity.
Hon-Dah	mp1023	5/19/2006	Pup dependent on removed alpha pair, removed to captivity. Died in captivity.
Hon-Dah	mp1024	5/19/2006	Pup dependent on removed alpha pair, removed to captivity. Died in captivity.
Hon-Dah	mp1025	5/19/2006	Pup dependent on removed alpha pair, removed to captivity. Died in captivity.
Hon-Dah	AF1027	5/21/2006	Multiple confirmed cattle depredations, permanent removal. Died during transport to captivity.
Hon-Dah	AM578	5/24/2006	Lethally removed for depredations.
Single	M864	5/28/2006	Lethally removed for three depredation incidents.
Nantac	AM993	6/18/2006	Lethally removed for multiple depredation incidents.
Nantac	AF873	7/6/2006	Lethally removed for multiple depredation incidents.
Luna	m925	7/16/2006	Routine monitoring purposes. Captured, replaced radio collar and released on site.
Saddle	m1007	7/21/2006	Routine monitoring purposes. Captured, replaced radio collar and released on site.
Saddle	AM732	7/21/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.

Pack	Wolf ID	Capture Date	Reason for Capture
Single	m973	8/4/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Aspen	mp1038	9/10/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Aspen	mp1039	9/10/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Aspen	fp1040	9/14/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Single	m973	10/11/2006	Removed to captivity for nuisance behavior, remains available for future translocation.
Bluestem	mp1041	10/13/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Bluestem	fp1042	10/13/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Rim	mp1043	10/22/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Single	fp1028	10/25/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Single	M806	10/25/2006	Routine monitoring purposes. Captured, replaced radio collar and released on site.
Paradise	mp1044	10/26/2006	Routine monitoring purposes. Captured, fitted with a radio collar and released on site.
Single	f924	11/17/2006	Two confirmed cattle depredation incidents, removed to captivity, remains available for future translocation.
Single	M859	11/22/2006	Lethally removed for three confirmed cattle depredation incidents.

Table 9. IFT management actions resulting from recurring Mexican wolf nuisance activities in Arizona and New Mexico during 2006.

Date	Wolf Pack or #	General Location	Type of Activity	IFT Response	Management Result
2/11/2006	Uncollared	Red Hill, NM	Horse interaction (non-injurious)	Investigated, searched for additional wolf sign to trap (none found)	No wolves in area, no trapping, nuisance behavior ended
2/12/2006	Uncollared	Red Hill, NM	Dog interaction (fatal)	Investigated, searched for additional wolf sign to trap (none found)	No wolves in area, no trapping, nuisance behavior ended
3/26/2002	Luna	N-Bar, NM	Horse interaction (non-injurious)	Intensive monitoring	Nuisance behavior ended
7/18-29/2006	F923	Mogollon/ Glenwood, NM	Close proximity to Mogollon, NM / Hwy 191	Intensive monitoring and hazing	Nuisance behavior ended
7/22-9/19/06	Meridian	Middle Mountain, AZ	Two dog interactions (both injurious) and proximity to residence and vehicles	Intensive monitoring, hazing, use of fladry and RAG boxes	Nuisance behavior ended
7/31/2006	Uncollared	Rainy Mesa, NM	Two dog interactions (one injurious, one fatal)	Investigated, searched for wolf sign, initiated trapping	Nuisance behavior ended, nothing caught
8/22/2006	F923	Rainy Mesa, NM	Limited fear of vehicle	Intensive monitoring and hazing	Nuisance behavior ended
9/6-10/11/2006	m973	Greer, AZ	Dog interactions (non-injurious), and proximity to residences	Intensive monitoring, hazing, and trapping	Temporarily removed to captivity
9/19/2006	f923	Devils Park, NM	Wolf near hunting camp	Intensive monitoring and hazing	Nuisance behavior ended
10/22/2006	Luna (reported as three wolves)	Corner Mountain, NM	Close proximity to human in the GNF	Intensive monitoring and hazing.	Nuisance behavior ended
11/03/2006	M806	Luna, NM	Dog interaction (non-injurious) and proximity to residence	Intensive monitoring and hazing	Nuisance behavior ended
11/9/2006	Aspen	Diamond Creek, NM	Dog interaction (injurious) and proximity to residence	IFT offered RAG boxes and fladry, but residents did not want to use them at that time.	Nuisance behavior ended
11/26/2006	Aspen	Diamond Creek, NM	Dog interaction (non-injurious)	None due to lapse in reporting	N/A
11/29/2006	M806	Middle Mountain, AZ	Wolf took elk head from hunt camp	Investigated; searched for lost head but did not locate	Campers left area after hunt ended
11/28/2006	Uncollared (reported as two pups)	Centerfire Creek AZ	Close proximity to human in the ANF	Investigated, searched for wolf sign to trap (none found)	Nuisance behavior ended
10/11/2006-10/17/2006	M806	Luna, NM	Close Proximity to the town of Luna, NM	Intensive monitoring and hazing	Nuisance behavior ended

7. Pack and Single Wolf Summaries

Aspen Pack (AM512, AF667, mp1038, mp1039, fp1040 and fp1046)

In January 2006, the Aspen pack consisted of AM512, AF667 and m871. m871 was exhibiting dispersal behavior, but remained within in the Aspen pack alpha pair's core use area. In February, m871 was located with f861, a dispersing animal from the Saddle pack. During this time, the Aspen alpha pair used the eastern portion of the Gila Wilderness. During April and May, telemetry locations on AF667 indicated denning. Confirmation of breeding success occurred on September 8, when the IFT observed four pups with AF667. The IFT captured and collared three pups (mp1038, mp1039, fp1040) between September 10 and September 14. On November 10, AM512 was likely involved in an interaction with a hound that was attacked and injured at a residence. During the January 2007 helicopter operation, a female pup was captured, radio collared, and assigned studbook number fp1046. As of December 2006, the Aspen pack was confirmed as having six known individuals AM512, AF667, mp1038, mp1039, fp1040 and fp1046. Therefore, per the definition in the Final Rule, the Aspen pack was considered a "Breeding Pair" in 2006. No confirmed mortalities, depredations, removals or translocations involving the Aspen pack occurred in 2006.

Bluestem Pack (AF521, AM507 [dead], M990, M991, mp1041, fp1042, AM806 [joined the pack in mid December])

In January, the Bluestem pack consisted of five to seven individuals, AF521, AM507, M990, M991 and one to three uncollared individuals. On March 28, the IFT observed six animals, including AF521, AM507, M990, and M991. On June 4, AM507 was found dead on the FAIR. Necropsy was unable to determine cause of death. From October 5 to October 13, the IFT conducted a trapping effort to replace AF521's collar and to place collars on other pack members. On October 13, two pups of the year were caught and fitted with radio collars. The two pups were assigned studbook numbers mp1041 and fp1042. By October, both M990 and M991 began making long distance dispersal movements outside of the packs territory. M990 was last located with other members of the pack on September 18. M991 was last located with members of the Bluestem pack on December 11. M991 was located with the Rim pack on December 27 after traveling as far as east as the Saliz Mountains in New Mexico. In late October the Bluestem pack began making long distance movements outside of their traditional territory into New Mexico where they were likely involved in an interaction with the San Mateo pack on November 10 (see San Mateo pack summary below). By early December the Bluestem pack AF521, fp1042 and three uncollared wolves were located on an elk carcass in close proximity to M806, formerly of the Meridian pack. Through the remainder of December, M806 was regularly located near or with the Bluestem pack. As of December 2006, M806 is considered the alpha male of the Bluestem pack. M990 dispersed and has been observed with an uncollared wolf, and M991 dispersed and joined the Rim pack. As of December 2006, the Bluestem pack was confirmed to consist of seven animals including AF521, AM806, mp1041, fp1042 and three uncollared wolves, visually confirmed during the 2007 helicopter operation. 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 2006

Hawks Nest Pack (AM619, AF486)

In January 2006, the Hawks Nest pack consisted of AM619 and AF486. On January 18, 2006, during the helicopter operation AF486 was captured and fitted with a GPS collar. Because

AF486's radio-collar was nearing the end of battery life expectancy, the IFT conducted trapping efforts from August 22-September 2 in an effort to replace the radio-collar. In mid September, AF486's collar failed and contact was lost. Throughout the year the Hawks Nest pack remained in their traditional home range in the northern portion of the ASNF. As of December 2006, the Hawks Nest pack consisted of three individuals, AM619 and two other individuals, one of which was likely AF486. No confirmed mortalities, depredations, translocations, or removals involving the Hawks Nest pack occurred in 2006. No indications of reproduction were observed during the 2006 denning season and no observations of more than two wolves were documented until the January 2007 helicopter operation, when three wolves were seen with the Hawks Nest pack. The third wolf with the pack was likely a disperser and not produced by the alpha pair. Therefore, the Hawks Nest pack was not considered a "Breeding Pair" per the definition in the Final Rule. No confirmed mortalities, depredations, removals or translocations involving the Hawks Nest pack occurred in 2006.

Hon-Dah Pack (AM578, AF1027, m1018, m1019, fp1020, fp1021, mp1022, mp1023, mp1024, mp1025)

January through May 24, 2006, the Hon-Dah pack remained entirely on the FAIR. On April 19, 2006 a permanent removal order was issued for the entire Hon-Dah pack after six confirmed livestock depredation incidents (Table 7). Under a directive from the Tribal Council, trapping was to be the preferred method of removal with lethal take as an option only if other means were exhausted. On April 20, m1018 was captured and removed to captivity. On April 28, m1019 was captured and removed to captivity. On May 19, extensive efforts were made to locate the pups and all captured pups were taken to captivity. AF1027 was trapped on May 21. Unfortunately, AF1027 died in transport to captivity because of capture complications. Lethal control of AM578 was conducted on May 24, after increased movements away from the denning area made capture unlikely. Specific wolf information (including numbers, specific incidents, or home ranges) on WMAT lands is proprietary and therefore not discussed in detail within this report. m1018 and all six pups died in captivity. The Hon-Dah pack was considered defunct after May 24, 2006.

Luna Pack (AM583, AF562, m925, fp1047)

As of January 2006, the Luna pack consisted of AM583, AF562, m925 and an uncollared individual likely a sibling of m925 born in 2005. IFT personnel observed four wolves in the pack, one of which was an uncollared wolf during March. The GPS collar on AF562 began to malfunction due to battery failure in March. On March 26, a permittee observed the Luna pack harassing horses on private land. USDA-WS personnel examined the horse and found that the horse did not have wolf bites, but the horse was limping from the interaction. On March 29, the IFT remotely released and recovered the GPS collar from AF562. In April and May, telemetry indicated denning behavior by this pair. The pack remained together and within its traditional home range area in the central portion of the GNF. On July 16, the IFT trapped m925 and replaced its radio collar with a GPS collar, then released it on site. IFT personnel observed five pups and an uncollared yearling with the Luna pack in July. On July 28, IFT personnel confirmed that m925 and an uncollared yearling were involved in a depredation incident; evidence indicated that the Luna alpha pair was not involved. The Luna pack used their traditional home range in the central portion of the GNF throughout 2006. In December, m925 dispersed and by the end of 2006 was considered a single animal. During the January 2007 helicopter operation, a Luna pack pup was captured, radio-collared and assigned studbook number fp1047. At the end of December 2006, the Luna pack consisted of five individuals

including AM583, AF562, fp1047, and two uncollared pups. Confirmation of other surviving pups was not documented. Per the definition in the Final Rule, the Luna pack was considered a “Breeding Pair” in 2006.

Meridian Pack (AF838, AM806, fp1028, mp1029)

An initial release of the Meridian pack consisting of AF838, AM806, fp1028 and mp1029 was conducted on July 6, 2006 from the Sevilleta Wolf Management Facility to Middle Mountain, Arizona in the Primary Recovery Zone. By mid July, mp1029 was dead. On July 22, the Meridian pack was involved in an incident involving non-fatal injuries to a dog, on private property. During late July through late September, resulting from the July 22 incident and other nuisance behavior, the IFT was involved in intensive hazing efforts in cooperation with residents, to discourage the packs use of private property in the area. During this time the Meridian pack began extending their territory west and northeast of the release site. On September 19, the Meridian pack was involved in a second incident involving non-fatal injuries to a dog on National Forest lands. On September 24, AF838 was found dead in the northeast portion of their territory. By mid October AM806 and fp1028 were traveling separate from one another, based on visual confirmations of M806 alone and visuals of a single uncollared animal in the Meridian pack territory, later confirmed as fp1028. During this time, AM806 was making large movements outside the Meridian pack territory into New Mexico. With the loss of AF838 and mp1029, dispersal movements of fp1028 and the apparent bonding of AM806 with Bluestem AF521, the Meridian pack is considered defunct. The illegal shooting death of AF838 remains under investigation.

Middle Fork (AM871, AF861)

In January 2006, m871 and f861 showed dispersal movements away from the Aspen and Saddle packs, respectively. The IFT located these wolves together throughout February and March, along the periphery of the Aspen pack’s core use area in the Gila Wilderness. The IFT subsequently named them the Middle Fork pack. During April and May, location data indicated denning behavior in the Middle Fork pack. Despite repeated attempts, including an extended wilderness trip to collar any uncollared individuals, the IFT was unable to confirm breeding success. During the January 2007 helicopter operation only two wolves (AM871, AF861,) were visually confirmed. At the end of 2006, the Middle Fork pack consisted of AM871 and AF861. Per the definition in the Final Rule (USFWS 1998), the Middle Fork pack was not considered a “Breeding Pair” in 2006. No confirmed mortalities, depredations, removals or translocations involving the Middle Fork pack occurred in 2006.

Nantac Pack (AM993, AF873)

On April 25, the IFT translocated the Nantac pack, comprised of AF873 and AM993, to the eastern side of the BRWRA in New Mexico. The alpha pair had exhibited breeding behavior prior to translocation; however, the test results were negative for pregnancy. The wolves were placed in a temporary mesh pen and self released on April 28. The pack remained in the general vicinity of its translocation site for approximately two weeks, and then moved several miles north before returning south into the Aldo Leopold Wilderness. On May 24, a permittee observed the pair near a domestic calf carcass; this was investigated by USDA-WS personnel and determined to be a probable wolf kill. On June 5, Nantac was involved in a confirmed depredation of an adult cow. Nantac was involved in another depredation of an adult cow on

June 8, as well as a probable calf depredation on June 9. Since the events investigated on June 5, 8 and 9 were determined to have occurred within a 24-hour period, they were considered one depredation incident. On June 10, Nantac was involved in a second depredation incident within 365 days. Nantac was located near a dead cow on June 14, this cow was investigated and determined to be a possible wolf depredation. On June 15, Nantac was involved in a third confirmed depredation incident and on June 17, the USFWS issued a permanent removal order for the pack. On June 18, the IFT confirmed the Nantac pack's fourth depredation incident within 365 days. USDA-WS personnel lethally removed Nantac AM993 that afternoon. After the removal of AM993, AF873 returned south 20 miles to the release site and then moved north outside the boundary of the BRWRA. AF873 was lethally removed on June 6, completing the permanent removal order for the pack. Due to the permanent removal of the alpha pair the pack is considered defunct.

Paradise Pack (AM795, mp1044, m1045)

On October 26, mp1044 was caught on the WMAR and fitted with a radio-collar. On October 31, during an aerial telemetry flight mp1044 was observed with four other wolves. The group was named the Paradise pack. During the January 2007 helicopter operation, six animals, including mp1044, were observed with the Paradise pack and an additional two wolves were captured and fitted with radio-collars. m1045 was an unknown animal prior to its capture. M795 was a 2002 offspring of F487 and the Cienega pack. In August 2005, contact with M795 was lost after its radio-collar exceeded its battery life. Through 2006 the Paradise pack was located on the FAIR and the northwest portion of the ASNF, areas consistent with the defunct Iris pack territory. As of December 2006, the Paradise pack was confirmed to consist of six animals including AM795, mp1044, m1045, one uncollared adult (likely the alpha female), and two uncollared pups of the year, visually confirmed during the 2007 helicopter operation. Therefore, the Paradise pack was confirmed as a "Breeding Pair" in 2006 as per the definition in the Final Rule (USFWS 1998). No confirmed mortalities, depredations, removals or translocations involving the Paradise pack occurred in 2006.

Rim Pack (AF858, AM992, mp1043, M991 [joined the Rim Pack in late December])

In January 2006, the Rim pack consisted of the two alpha animals, AF858 and AM992. On May 5, a photograph in conjunction with telemetry, confirmed the presence of AF858, AM992 and an uncollared animal crossing the road. Confirmation of breeding success was documented in August with the observation of three pups of the year. On October 22, a pup of the year, assigned studbook number mp1043, was caught and fitted with a radio-collar. November 13, was the last time all three collared animals were located together, mp1043 was regularly located separate from the alpha pair. By mid December AF858 and AM992 were located separate from one another, but within the Rim pack territory. On December 27, AF858 was located with M991 a single dispersing male formerly of the Bluestem pack. Throughout the year the Rim pack remained in their traditional home range. During the January 2007, helicopter operation, the Rim pack was confirmed to consist of four animals including AF858, M991, mp1043 and an uncollared pup of the year. The Rim pack was confirmed as a "Breeding Pair" per the definition in the Final Rule (USFWS 1998). No confirmed depredations, mortalities, removals or translocations involving the Rim pack occurred in 2006.

Saddle Pack (AM732, AF797, m1007, fp1016)

As of January 2006, the Saddle pack consisted of the alpha pair AM732 and AF797, and later m1007. On the January 18, 2006 helicopter operation flight, IFT personnel observed M863 and M864 with two uncollared pups. One of these was m1007, who was captured and radio-collared. Throughout January radio-collared yearlings M863, M864, and F861 began making movements away from the alpha pair. From January through mid April, m1007 was located with dispersing Saddle pack yearlings M863, M864 and an uncollared wolf. On March 20, Saddle pack members m1007 and M863 were involved in their first and second depredations respectively, after the IFT discovered an injured calf that subsequently died a few days later. The Saddle pack alpha pair continued to use their traditional home range area in the central portion of the GNF. In April and May, telemetry indicated denning behavior by this pair. On April 22, Saddle pack AF797 and AM732 were involved in their second depredation incident in a 365-day period (the first occurred August 16, 2005). The IFT documented m1007 for the first time with the Saddle pack adults on April 27. The IFT located m1007 with Saddle pack AF797 and AM732 throughout the remainder of the year. A genetic test confirmed that m1007 is an offspring of the Luna pack, despite being a current member of the Saddle pack. Confirmation of breeding success occurred on July 24, when the IFT observed five pups with the Saddle pack. On August 28, during an aerial telemetry flight, IFT personnel observed six pups, increasing the maximum known number of pups from five to six. After a 365-day period, the depredation incident from August 16, 2005 expired, and the Saddle pack remained at one depredation incident until November. On November 24, the IFT confirmed that the Saddle pack (AF797, AM732 and m1007, fp1016, and the other pups) was involved in a calf depredation incident in New Mexico. This was the second depredation in a 365-day period for AF797, AM732, and m1007; and the first for pups of the year, including fp1016. During the January 2007 helicopter operation, a pup was captured, radio-collared and assigned studbook number fp1016. As of December 2006, the Saddle pack consisted of AF797, AM732, m1007, fp1016 and an uncollared pup. Per the definition in the Final Rule, the Saddle pack was considered a "Breeding Pair" in 2006.

San Mateo Pack (AF903, AM796, m927)

During January 2006, the San Mateo pack consisted of four animals including AF903, two uncollared pups of the year and AM796 from a visual confirmation during the 2006 helicopter operation. On March 15, AM796 and AF903 were involved in their first confirmed depredation incident in 365 days. On May 6, m927, a pup of 2005, was captured and fitted with a radio-collar. Confirmation of breeding success was documented in July and August with the observation of two to three pups of the year. The alpha pair was confirmed to have been involved in a second depredation incident in 365 days on September 23. This was the first depredation incident for m927. On November 10, m927 was found dead. Necropsy determined the cause of death to be asphyxiation on vomit after attack by other wolves, likely the Bluestem pack based on telemetry locations. During 2006 the San Mateo pack established a territory ranging from the east side of Escudilla Mountain, Arizona west to Black Peak, New Mexico. As of December 2006, the San Mateo pack was confirmed to consist of four animals including AF903, AM796, and two uncollared pups of the year. Therefore, the San Mateo pack was confirmed as a "Breeding Pair" per the definition in the Final Rule. No removals or translocations involving the San Mateo pack occurred in 2006.

8. Individual Wolf Summaries

F487

At the end of 2005, F487 was traveling as a single wolf widely across the ASNF. January 5, 2006, during telemetry monitoring F487 was found dead along Highway 32 in NM. Necropsy determined cause of death to be the result of a vehicle collision.

M859

M859 was translocated within the Gila Wilderness on June 6, 2006 using a hard release method with former Francisco pack members f923 and f924. Initially following release, M859 was located near f924, however, during the last week of June M859 moved over 30 miles (48 km) to the northeast. M859 continued making wide-ranging movements and was occasionally located outside the BRWRA boundary. On July 11, 2006, USDA-WS personnel confirmed M859's first calf depredation incident in 365 days. IFT personnel initiated trapping efforts, but ceased when M859 was located over 30 miles (48 km) east of the depredation site and movements were within the BRWRA boundary. Throughout August, M859 was located in the northeast portion of the GNF with occasional movements outside the BRWRA boundary. On August 8, M859 was involved in a second depredation incident within 365 days. From late September through November, M859 and f924 were located traveling together on numerous occasions and appeared to be developing a pair bond. On November 13, M859 and f924 were located together on a cow carcass, resulting in a third confirmed depredation incident within 365 days for M859, and a second for f924. A permanent removal order was issued and on November 22, M859 was lethally removed from the wild population.

M806

Meridian pack AM806 became a single animal in mid October after the death of AF838 in late September. It began making large movements outside of the Meridian pack territory in late September. On October 25, M806 was caught and fitted with a new radio-collar. From mid October through early December, M806 continued to make long distance movements between New Mexico and the former Meridian pack territory. By mid December, M806 was regularly located near or with the Bluestem pack. As of December 2006, M806 is considered the alpha male of the Bluestem pack.

M863

In January 2006, M863 began to display dispersal behavior with movements away from the Saddle pack. M863 and M864, formerly of the Saddle pack, were observed with two uncollared pups on January 18, 2006. One male pup was captured, collared, and assigned studbook number mp1007. The four wolves were 10 miles from the Saddle pack at the time. With one exception, the IFT located mp1007, M863 and M864 together throughout February. On February 10, project personnel observed mp1007, M863 and M864 with an uncollared wolf. mp1007 and M863 were located together throughout March with one exception. On March 8, mp1007 was observed with an unknown, uncollared wolf. This uncollared wolf is likely the individual first observed with M863, M864 and mp1007 during January. On March 20, the IFT discovered an injured calf, which subsequently died several days later. This was confirmed as M863's second depredation incident in 365 days and the first depredation incident for mp1007 and the uncollared wolf. Hazing was initiated to discourage the wolves from using the immediate area and USDA-WS

personnel initiated trapping. On March 28, M863 was captured just inside the BRWRA boundary on private land and was transported to the Sevilleta Wolf Management Facility. On December 15, 2006, M863 was translocated into the primary recovery zone in Arizona through a hard release. By late December, M863 began making long distance movements between Arizona and New Mexico.

M864

M864 formerly of the Saddle pack displayed dispersal behavior with movements of up to 30 miles north and northeast of the Saddle pack territory throughout January. On January 18, the IFT observed M863 and M864 with two uncollared wolves. With one exception, collared sub-adults M864, M863 and m1007 were located together throughout February. On February 10, the IFT observed M864, M863, and m1007 with an uncollared wolf. Throughout March, the IFT located M864 alone. It continued to exhibit dispersal behavior, and was located several times just outside the northeast boundary of the BRWRA. During April, the IFT located M864 twice outside of the BRWRA boundary on the Plains of San Agustin. On April 13, M864, outside the BRWRA boundary, was confirmed to be involved in its second depredation incident within 365 days. M864's first depredation incident occurred on August 16, 2005. On April 20 and 24, M864 was located in the San Mateo Mountains. By April 30, M864 had returned to the BRWRA. Throughout most of May, M864 was located near the BRWRA boundary. On May 24, M864 was involved in a third depredation incident and a permanent removal order was issued by the USFWS the following day. M864 was lethally removed on May 28, 2006.

f923

The former Francisco pack member, f923 was translocated with sibling f924 and M859 into the Gila Wilderness on June 6, 2006 using a hard release method. f923 remained alone within the Gila Wilderness until August, when it began moving at which time throughout the GNF. On October 2, f923 was located with the Middle Fork pack in the central portion of the Gila Wilderness. On October 18, the IFT received a report that f923 had been captured in a non-project foothold trap. The IFT responded to the report, but f923 was no longer in the trap. This incident resulted in an injury to f923's left front foot. From October to December, f923 remained in the northwestern portion of the GNF. On December 2, f923 was located in Arizona near members of the Bluestem and Meridian packs. As of December 2006, f923 was traveling as a single animal and making wide ranging movements across the BRWRA.

f924

The former Francisco pack member, f924, was translocated within the Gila Wilderness on June 6, 2006 using a hard release method with sibling f923 and M859. After the release, f924 was located nearest to M859. During the last week of June M859 moved over 30 miles (48 km) to the northeast while f924 remained near the release site in the Gila Wilderness. During the month of August, f924 made movements outside the Gila Wilderness and was located in the northwestern portion of the BRWRA. On August 24, USDA-WS personnel investigated a dead cow found near the location of f924 and confirmed it as a wolf kill; this was f924 first depredation incident. By mid September, f924 then moved over 30 miles (48 km) to the southeast and was located just outside the southern boundary of the GNF in the Pinos Altos Range. f924 then traveled to the northern edge of the BRWRA. From late September through November, M859 and f924 were

located traveling together on numerous occasions. On November 13, M859 and f924 were located near a cow carcass, resulting in a third confirmed depredation incident for M859, and a second incident for f924. On November 17, f924 was captured and transported to the Sevilleta Wolf Management Facility in New Mexico. f924 remained in captivity through the end of 2006 and is eligible for translocation.

Single m973

The Aspen pack member, m973, was translocated with the alpha pair, M871, mp974 and fp975 into the Gila Wilderness in June 2005. At the end of 2005, no pups were documented to have survived. On August 4, 2006, m973 was captured and radiocollared outside Greer, Arizona. During the remainder of August into September m973 displayed movement patterns ranging from south of Eagar, Arizona to the FAIR. In mid September, m973's movements centralized around Greer, Arizona. By late September, the IFT began intensive hazing efforts to discourage its use of the area. These efforts were not successful and on October 6 trapping was initiated to temporarily remove m973 from the wild. On October 11, m973 was trapped and transported to captivity. m973 remained in captivity for the remainder of 2006 at the Sevilleta Wolf Management Facility and is eligible for translocation.

Single M990

M990 was last located with other members of the Bluestem pack on September 18 and dispersed as far north as Whiting Knoll, Arizona on the ASNF. Since late October, M990 has been using the southwest portion of the Bluestem packs territory on the FAIR. M990 was observed with an uncollared wolf during the January 2007 helicopter operation.

M992

M992, originally the alpha male of the Rim pack, became a single animal in late December after being located separate from AF858 since December 12 and AF858 being located with M991 in late December. M992 remained in the Rim pack territory through 2006.

m1008

On January 18, IFT personnel set traps in response to a confirmed depredation by an uncollared wolf or wolves in NM. USDA-WS personnel captured an uncollared male wolf, fitted a radio-collar and assigned it studbook number m1008. An additional uncollared, unknown wolf was observed with m1008 on January 20. m1008 remained in the general vicinity of its capture, just northwest of the Luna pack territory in the north central portion of the GNF. Despite being observed with an unknown, uncollared wolf in January 2006, the IFT documented m1008 traveling widely and alone throughout February and March. On March 26, a coyote trapper captured m1008 in a foothold trap on private land just outside the BRWRA boundary. m1008 was removed from the trap and transported to the Sevilleta Wolf Management Facility. m1008 remained in captivity through December 2006 and is eligible for translocation.

fp1028

fp1028, originally of the Meridian pack, became a single animal in mid October after the death of AF838 in September and the movements of AM806 out of the Meridian pack territory. On several occasions during October, the IFT observed a single uncollared animal in the old Meridian pack territory. This animal was believed to be fp1028. On October 20, trapping was

initiated in an attempt to collar the uncollared wolf. On October 25, fp1028 was caught and fitted with a radio-collar. Through the remainder of 2006, fp1028 traveled alone using the former Meridian pack territory and making long distance movements north of Alpine, Arizona.

9. Summary of Sighting Reports Received from the Public

January 1-December 31, 2006

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
#AZ Reports	9	4	6	2	11	9	9	10	9	4	3	13	91
Known Wolf Reports	2	0	2	0	2	2	6	6	5	0	0	3	28
Unknown/Uncollared Reports	2	0	1	1	3	3	0	1	2	1	2	5	21
Non-wolf Reports	4	4	3	1	6	4	3	3	2	3	1	5	39
Not Enough Information	1	0	0	0	0	0	0	0	0	0	0	0	1
#NM Reports	1	1	1	2	0	5	6	3	2	2	5	2	30
Known Wolf Reports	0	0	0	0	0	0	5	0	0	2	1	0	8
Unknown/Uncollared Reports	0	0	1	2	0	1	0	0	1	0	0	1	6
Non-wolf Reports	1	1	0	0	0	4	1	3	1	0	3	1	15
Not Enough Information	0	0	0	0	0	0	0	0	0	0	1	0	1
Outside AZ or NM	0	0	0	0	0	0	1	0	0	1	0	0	2
Total Sightings for Month	10	7	7	4	11	14	16	13	11	7	8	15	123
# of field site visits	4	2	1	0	0	1	1	1	3	0	0	2	15

10. Personnel

The following personnel were involved in the project during this reporting period.

U.S. Fish and Wildlife Service

John Morgart, Mexican Wolf Recovery Coordinator
Colleen Buchanan (left May 12), Assistant Mexican Wolf Recovery Coordinator
Santiago Gonzales (started September 5), Assistant Mexican Wolf Recovery Coordinator
John Oakleaf, Mexican Wolf Field Projects Coordinator
Dan Stark, Wolf Biologist
Maggie Dwire, Mexican Wolf Biologist
Jim Ashburner, Special Agent
Jason Riley, Special Agent

Arizona Game and Fish Department

Dan Groebner, AGFD Wolf Project Leader and Acting Field Team Leader
Shawn Farry, Field Team Leader (left November)
Janess Vartanian, Wolf Biologist
Shawna Nelson, Mexican Wolf Outreach Specialist
Colby Gardner, Wolf Technician
Laura Kelly, Wolf Technician

New Mexico Department of Game and Fish

Saleen Richter, Field Team Leader (Started January 9)
Nick Smith, Wolf Biologist (retired September)
Marc Criffield, Intern

USDA-APHIS Wildlife Services

J. Brad Miller, Wolf Management Specialist
Richard Grabbe, Wolf Management Specialist
Brian Kluever, Depredation Study
Mike Panasci, Depredation Study
Jeff Dolphin, Depredation Study Technician
Jennifer Timmer, Depredation Study Technician

White Mountain Apache Tribe

Krista Beazley, Field Team Leader
Deon Hinton, Wolf Technician
Ivan Kasey, Wolf Technician
Travis Clarkson, Wolf Technician

Volunteers

Jeff Dolphin, Veronica Yovovich, Marc Criffield, Nicole Heywood, Jen Mannas, Brynn Nelson, Mike Watrobka, Jerod Merkle, Amanda Chambers, and Jackie Fallon.