

**Mexican Wolf Recovery Program:
Progress Report #8**

Reporting Period: January 1 – December 31, 2005

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



Table of Contents

Foreward

Background

Part A: Recovery Administration

1.	Mexican Wolf Captive Breeding Program	3
	a. Mexican Wolf Species Survival Plan	3
	b. Mexican Wolf Pre-Release Facilities	4
2.	Recovery Planning	5
3.	Blue Range Wolf Reintroduction Project Structure	6
4.	Blue Range Reintroduction Project 5-Year Review	7
5.	Cooperative Agreements and Contracts	8
6.	Research	8
	a. Mexican Wolf Captive Breeding Program	8
	b. Carnivore-Cattle Study	9
	c. Predation Patterns Study	10
7.	Litigation	10
	a. Coalition of Counties Lawsuit	10
	b. Gray Wolf Reclassification Lawsuit	11

Part B: Reintroduction

1.	Introduction	12
2.	Methods	13
3.	Results	15
	a. Population Status	15
	b. Releases and Translocations	16
	c. Home Ranges and Movements	18
	d. Mortality	20
	e. Wolf Predation	21
	f. Wolf Depredation	21
	g. Management Actions	23
	h. Outreach	25
4.	Summary	26
5.	Discussion	27
6.	Literature Cited	34
7.	Pack Summaries	36
8.	Individual Summaries	41
9.	Personnel	43

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 ultimately, 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, including the current reintroduction effort occurring in the BRWRA (see Appendix A, the Mexican Wolf Interagency Field Team 2005 Annual Report provides a detailed account of the BRWRA reintroduction project). The reporting period for this progress report is January 1 – December 31, 2005.

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, 63 Federal Register 1763-1772; 50 CFR Section 17.84(k)) was published in the Federal Register on January 12, 1998, and provides regulations for how the reintroduced population will be managed. 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

Mexican Wolf Recovery Program: Progress Report 8

from the Service, Arizona of 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.



Mexican wolf track. Photo courtesy of Steve Drobott.

PART A: RECOVERY ADMINISTRATION

1. Mexican Wolf Captive Breeding Program

a. Mexican Wolf Species Survival Plan

The Recovery Plan for the Mexican wolf (USFWS 1982) contains the objective of establishing and maintaining a captive breeding program as an essential component of recovery. A captive breeding program was initiated in 1977 through 1980 with the capture of the five last remaining Mexican wolves in the wild in Mexico, and is managed for the Service under the American Zoological and Aquarium Association's (AZAA) Mexican Wolf Species Survival Plan program (SSP). The SSP is a bi-national captive breeding program between the U.S. and Mexico whose primary purpose is to raise genetically surplus wolves for the Service for reintroduction purposes. Specifically, the mission of the SSP is to reestablish the Mexican wolf in the wild through captive breeding, public education, and research. The SSP designation is significant as it indicates to AZAA member facilities the need for the species to be conserved, and triggers internal support to member facilities to help conserve such imperiled species. Without the support of the Mexican wolf SSP program, reintroduction and recovery of Mexican wolves would not be possible, as the captive SSP population is the sole source of Mexican wolves available to reestablish Mexican wolves in the wild. The SSP has been extremely successful and has steadily expanded throughout the years. In 2005, there were approximately 300 Mexican wolves managed in captivity in 47 facilities in the United States and Mexico. Mexican wolves are routinely transferred among zoos and other holding facilities in the SSP program in order to facilitate genetic exchange, thus maintaining the health and genetic diversity of the captive population.



Mexican wolf. Photo courtesy of the California Wolf Center

Mexican Wolf Recovery Program: Progress Report 8

The SSP maintains the goal of housing a minimum of 240 wolves in captivity at all times to ensure the security of the species in captivity, while still being able to produce surplus animals for reintroduction. Mexican wolves from captive SSP facilities that are subsequently identified for potential release to the wild are first sent to one of three pre-release facilities (see below) to be further evaluated for release suitability and to undergo an acclimation process. All wolves selected for release are genetically redundant to the captive population, meaning their genes are already well represented. This minimizes any adverse effects on the genetic integrity of the remaining captive population, in the event wolves released to the wild do not survive.

Each July, the Mexican wolf SSP captive breeding program holds a bi-national meeting to plan wolf breeding and transfers between facilities for the coming year, and to coordinate and plan related activities. The location of these meetings alternate between Mexico and the United States. In 2005, the annual SSP meeting was hosted by the Instituto de Ecología, A.C. in Durango, Mexico.

b. Mexican Wolf Pre-Release Facilities

Mexican wolves are acclimated prior to release to the wild in Service-approved facilities designed to house wolves in a manner that fosters wild characteristics and behaviors. Described below, these facilities include the Sevilleta and Ladder Ranch Wolf Management Facilities, both of which are located in New Mexico near the BRWRA, and Wolf Haven International, located in Tenino, Washington. Wolves at these facilities are managed such that human contact is minimized in order to minimize habituation and to maximize 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 purposes, and continue to be an integral part of Mexican wolf recovery efforts. Public visitation to view wolves at the Sevilleta and Ladder Ranch facilities is not permitted.

Release candidate Mexican wolves held at pre-release facilities are sustained on a zoo-based diet of carnivore logs and a kibble diet formulated for wild canids. Additionally, carcasses of road-killed ungulate species, such as deer and elk, are supplemented when available to provide native prey food sources for Mexican wolves identified for release. They 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 seven enclosures, ranging in size from .25 acre to approximately 1.25 acres, plus an additional quarantine pen. During 2005, the staff of SNWR continued to assist in the maintenance and administration of the SNWR wolf facility and conducted important outreach related to the Mexican wolf recovery program.

Mexican Wolf Recovery Program: Progress Report 8

Ladder Ranch Wolf Management Facility (LRWMF)

The LRWMF is located on the Ladder Ranch near Truth or Consequences, New Mexico and is owned by Mr. Ted Turner. There are a total of five enclosures, ranging in size from .25 acre to 1.0 acre. This facility is managed and operated by an employee of the Turner Endangered Species Fund, and is financially supported by the Service in order to keep it operating and available for much-needed captive Mexican wolf housing and pre-conditioning for wild release.



*Mexican wolf at the Ladder Ranch Wolf Management Facility
Photo courtesy of Roger Holden*

Wolf Haven International (WHI)

WHI is located in Tenino, Washington. There are a total of two pre-release enclosures at the facility for housing Mexican wolves, each just over .50 acre in size. Management and funding of this facility is supported entirely by WHI. WHI also houses other gray wolves of wolves which are on display for viewing and educational purposes.

2. Recovery Planning

In April 2003, the Service reclassified the gray wolf from endangered to threatened in portions of the lower 48 and established 3 Distinct Population Segments (DPS), of which the Mexican wolf fell into the Southwest DPS. Under this ruling, the SWDPS became the listed entity (instead of gray wolves being the listed entity) upon which to base recovery planning. Pursuant to this reclassification, 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 was making good progress towards developing the recovery plan. However, in 2005, the 2003 reclassification was vacated in two separate U.S. District Courts (Defenders of Wildlife v. Norton Civ. 03-1348-JO[2005]; National Wildlife Federation v. Norton, 03-CV-340 [2005]). This essentially nullified and voided the 3 DPSs, and gray wolves once again became the listed entity under the Endangered Species Act. Gray wolf status returned to its prior designation as endangered throughout the coterminous United States (except for Minnesota, where it was threatened) pursuant to the 1978 species-level gray wolf listing rule.

In response to these rulings, the Service put the SWDPS Recovery Team on hold, as 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 U.S. District Court decisions earlier in the year. As of the end of this reporting period, the Service's Southwest Region was unable to make 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 had still not been obtained.

3. Blue Range Wolf Reintroduction Project Structure

The Mexican Wolf Recovery Program was restructured in 2002 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 now managed jointly by the AGFD, NMDGF, USDA-Forest Service, USDA-WS, WMAT, and the Service. Other participating cooperators include Greenlee County 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. Under this structure, an Interagency Field Team (IFT), operating under the guidelines of 23 Standardized Operating Procedures, provides on-the-ground daily management of the free-ranging wolf population. 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 2005. An Adaptive Management Working Group (AMWG) has also been created and is comprised of any member of the interested public; it replaced the former Interagency Management Advisory Group. The purpose of the AMWG is to provide a forum to afford any and all interested parties substantive opportunity to constructively and productively participate in the BRWRA reintroduction project. Specifically, AMWG functions to enhance communication with interested parties and to allow opportunities for participants to identify local issues and citizen concerns and provide input regarding the 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. In 2005, additional AMWG meetings were held by AMOC in order to discuss the Blue Range Reintroduction Project 5-Year Review (see below) with the interested public. The meetings were held as follows:

January 26 – Truth or Consequences, NM	June 28 – Phoenix, AZ
January 27 – Glenwood, NM	June 29 – Hon-Dah, AZ; Alpine, AZ
January 28 – Alpine, AZ	June 30 – Morenci, AZ
January 29 – Phoenix, AZ	October 14 – Morenci, AZ; Glenwood, NM
April 22 – Globe, AZ	
June 15 – Reserve, NM	
June 16 – Silver City, NM	
June 17 – Truth or Consequences, NM	
June 18 – Albuquerque, NM	

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 2005 report is included as PART B of this report. Monthly BRWRA project updates are available at <http://mexicanwolf.fws.gov> 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>.

4. Blue Range Reintroduction Project 5-Year Review

The Mexican wolf Final Rule (Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico, 63 Federal Register 1763-1772; 50 CFR Section 17.84(k)) 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 AMOC and an independent contractor (for the socioeconomic portion) performed the review at the Service's request, and transmitted the final 5-Year Review to the Service for its consideration on December 31, 2005. The review is a formal and in-depth evaluation of the technical, administrative, and socioeconomic aspects of the BRWRA reintroduction project, and provides detailed information on the population status, social and economic impacts of wolf reintroduction on surrounding communities, and program management.

Included in the review is a set of 37 recommendations to the Service for improving project management in the BRWRA. Of primary significance is the recommendation to continue the project with modifications, one of which is to modify the existing 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. Rather, 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, as of the end of this reporting period, the Service was evaluating whether an additional 30-day public review of the 5-Year Review through the Federal Register process is necessary in order to fulfill Administrative Procedures Act and other regulatory compliance. The Service anticipates making a final decision in early 2006 regarding how, and if, to proceed with the recommendations put forth by AMOC in the 5-Year Review. If the Service eventually 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. The 5-Year Review can be downloaded at <http://mexicanwolf.fws.gov>.

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 2005.

Historically, 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. 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 2005. The Service no longer funds USDA-WS due to 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	\$175,000
NMDGF	\$78,000
WMAT	\$135,600
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; Industrial Economics, Inc. towards the socioeconomic impacts study related to the 5-Year Review; and several miscellaneous contracts for veterinary and other services.

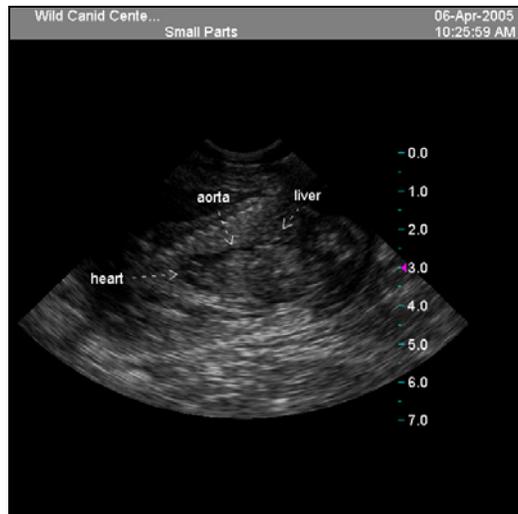
7. Research

a. Mexican Wolf Captive Breeding Program

The Mexican Wolf SSP program conducts a variety of research projects on behalf of the conservation of Mexican wolves in captivity. Several ongoing reproductive, artificial insemination, and semen collection research projects continued in 2005.

In 2005, visiting Norwegian scientist, Dr. Ragnar Thomassen of the University of Oslo Veterinary School, performed three non-surgical transcervical intrauterine inseminations on Mexican wolves at the Wild Canid Survival and Research Center (WCSRC) in Eureka, Missouri. Dr. Cheri Asa and other scientists from the Saint Louis Zoo assisted Dr. Ragnar. The technique, while commonly used for assisted reproduction in humans, had never before been used successfully on endangered wolves. The artificial inseminations were the first successful inseminations performed on Mexican wolves, resulting in all 3 females becoming pregnant. Unfortunately, one of the older females died during whelping; however, the remaining two females successfully whelped 6 (4 surviving) and 3 pups (all surviving). The success of this artificial insemination experiment could have important implications for the future genetic integrity of the captive Mexican wolf population.

Mexican Wolf Recovery Program: Progress Report 8



Sonogram of a Mexican wolf conceived via artificial insemination. Photo courtesy of the Wild Canid Survival and Research Center.

The Research Department at the St. Louis Zoo continued semen collection on Mexican wolves in 2005. In 1991, the Mexican Wolf Recovery Team selected the Research Department 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 2005, semen samples were collected from 6 males at the WCSRC; samples from 5 were frozen. Samples from the sixth male were used for the artificial insemination of two females at WCSRC described above. Additional semen samples were collected and frozen from 2 males at the Albuquerque Biological Park in New Mexico, and for 4 males at the Minnesota Zoo. However, those samples are likely not useful for artificial insemination because the quality was determined to be poor.

Additional ongoing studies on captive Mexican wolves in 2005 include: 1) An Investigation of the Consequences of Inbreeding and Outbreeding on Fitness of Mexican Wolves (Rich Fredrickson, Arizona State University), and 2) Predictors of Reproductive Success in Captive Mexican Wolves (Mary Agnew, St. Louis University).

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 fairer compensation plans for producers.

Mexican Wolf Recovery Program: Progress Report 8

Data has been gathered for 3 years from 1 study site and work will continue on this area for 1 more year. In addition, 2 more study sites (1 in Arizona and 1 in New Mexico) will begin to collect data on the same question to broaden the scope of the study. It is expected that these 2 additional study sites will collect data for 2 years. At the end of the study, data from all 3 sites will be combined, synthesized and presented to the public. This study is being funded by AGFD, USDA-WS, USFWS, and NMDGF.



Photo courtesy of the University of Arizona

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 subsequently searching those areas for prey remains. The GPS collars are programmed to take 1 GPS location every hour during several months of the year. Data is transferred in the field remotely with the use of a special data receiver by the researcher. After the data transfer, the locations are plotted in a computer program that maps the locations, and the locations are then searched on the ground to detect carcasses. Carcasses are investigated to determine predation by wolves and collect data on prey selection. This research is still in its preliminary phase.

8. Litigation

a. Coalition of Counties Lawsuit

In April, 2002, the Coalition of Arizona and New Mexico Counties for Stable Economic Growth, the New Mexico Cattle Growers Association, and the Gila Permittees Association (collectively the “Coalition”) filed a sixty-day Notice of Intent (NOI) to sue the Service for violations of the Endangered Species Act (ESA) and the National Environmental Policy Act (NEPA) relating to the reintroduction of the Mexican wolf into the southwestern United States. One of the primary premises of the NOI was that the Service failed to protect the genetic purity of Mexican wolves in the wild due to the Pipestem Pack alpha female breeding with a domestic dog in 2002 (See 2002 Progress Report #5 for further details). Among other things, claims of excessive depredations were also being challenged.

On May 5, 2003, the Coalition formally filed suit against the Service regarding the above mentioned NOI. In the complaint, the Plaintiffs allege that the Service: (1) failed to comply with Sections 7 and 10 of the ESA by failing to adequately consider the impacts of hybridization; (2) violated NEPA by failing to prepare a supplemental environmental impact statement; and (3) violated the Freedom of Information Act by failing to timely respond to Plaintiffs’ request and by improperly withholding documents. On October 6, 2003, Plaintiffs then filed a motion for

Mexican Wolf Recovery Program: Progress Report 8

preliminary injunction to seek an emergency order halting any more releases or translocations of Mexican wolves into the wild, and further, to require the Service to remove all Mexican wolves from the wild.

The Service submitted a detailed Administrative Record in 2004 and by October, the case had been fully briefed to U.S. District Judge M. Christina Armijo. In February 2005, Judge Armijo dismissed all claims made by the Coalition and ruled in favor of the Service. The Coalition subsequently filed for appeal in March 2005.

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 Intent to sue regarding the Service's reclassification of gray wolves.

In 2005, the Service lost the lawsuits and the 2003 reclassification was vacated (see Recovery Planning section above). 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.



Mexican wolf, M619. Hawks Nest Pack alpha male. FWS photo.

PART B: REINTRODUCTION

Mexican Wolf Blue Range Reintroduction Project
Interagency Field Team Annual Report
Reporting Period: January 1 – December 31, 2005

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)

Introduction

Herein, we report the progress of field efforts during 2005 to reestablish Mexican wolves (*Canis lupus baileyi*) into the Blue Range Wolf Recovery Area (BRWRA), (Fig. 1). In 2000, the White Mountain Apache Tribe (WMAT) agreed to allow wolves to inhabit the Fort Apache Indian Reservation (FAIR), adding approximately 2,440 square miles (mi²) 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, composed of the Apache-Sitgreaves National Forests (ASNF) and the Fort Apache Indian Reservation (FAIR) in east-central Arizona and the Gila National Forest (GNF) in west-central New Mexico. In January 1998, the first Mexican wolves were released into the Alpine District of the ASNF of Arizona. At the end of 1998, the population consisted of two packs and four total Mexican wolves in the wild. The wild population has since grown through natural reproduction, translocations and initial releases to a minimum of 35 to 49 wolves in nine packs inhabiting areas of Arizona and New Mexico in 2005.

Abbreviations used in this document:

Wolf age and sex:

A = alpha
M = adult male (> 2 years old)
F = adult female (> 2 years old)
m = subadult male (1-2 years old)
f = subadult female (1-2 years old)
mp = male pup (< 1 year old)
fp = female pup (< 1 year old)

Methods

The following methods section is primarily taken from previous Mexican wolf annual reports (USFWS Mexican Wolf Annual Reports 1998-2004). For purposes of the Reintroduction Project, a “Breeding Pair” is defined as an adult male and an adult female wolf 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 released directly from captivity, with no previous free-ranging experience, into the Primary Recovery Zone. “Translocations” are defined as a Project activity where free-ranging wolves are captured and moved to a location away from the site of capture. This includes captured free-ranging wolves that have been temporarily placed in captivity.

Release candidate wolves were acclimated prior to release in USFWS approved facilities where contact between wolves and humans was minimized and carcasses of road-killed native prey species (mostly deer and elk) supplemented their routine diet of processed canine food. These facilities included the Ladder Ranch Wolf Management Facility managed by the TESH (Ladder Ranch) and the Sevilleta Wolf Management Facility managed by the USFWS at Sevilleta National Wildlife Refuge (Sevilleta), both of which are 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. Some pairs produced pups in captivity before release, and their pups and occasionally yearlings were included in the release group.

Adult wolves, selected for release, were radio-collared and given complete physical examinations prior to being moved to release locations. Carcasses of native prey or processed canine “meat logs” and fresh water were provided as needed. When necessary, security was maintained by posted USFS closures of areas within approximately 0.5 mi of each pen.

Translocation of wolf packs in 2005 used nylon mesh acclimation pens approximately 0.13 acres in size, with electric fencing interwoven into the structure. Flagging was also attached to the pen walls approximately every two feet, as a deterrent to wolves running into the pen walls.

After release all translocated wolves were provided with supplemental road-killed elk and deer, or commercially produced “meat logs”. The duration of supplemental feeding varied, depending on time of year, availability of vulnerable prey, and whether pups were present. Monitoring was most intensive during the initial weeks after release, to determine when wolves began hunting. Supplemental feeding was gradually discontinued when wolves began killing prey.

All radio-collared wolves were monitored using standard radio telemetry techniques from the ground and once or twice weekly from the air. Visual observations and fresh sign were also noted. 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). We based home range polygons on one year (January-December) of locations evenly distributed

Mexican Wolf Recovery Program: Progress Report 8

across summer and winter seasons for wolves from a given pack (Mladenoff et al. 1995, Wydeven et al. 1995). To maximize sample independence, individual locations were only recognized for radio-marked wolves that were either spatially or temporally separated from other radio-marked pack members; this approach limited potential pseudoreplication of locations. Wolf home range size reaches an asymptote at around 30 locations; so increasing the number of locations beyond this level has little effect (Carbyn 1983, Fuller and Snow 1988). Alternatively, some authors have suggested that in recolonizing wolf populations, a larger number of locations may be required for home range size to reach its asymptote (e.g. >79 locations, Fritts and Mech 1981). Recognizing that some wolf packs in BRWRA are in remote locations and thus are not monitored intensively, we elected to use ≥ 30 locations per year as a threshold of retention in our database. Home range polygons were generated at the 95% level to represent home range use areas by wolves (White and Garrott 1990), using: (1) the minimum convex polygon (MCP) method, and (2) the fixed kernel method (Worton 1989) with least-squares cross-validation (LSCV) as the smoothing option in the animal movement extension in the program ArcView (Hooge et al. 1999; ESRI, Redlands, CA, USA). Home ranges were not calculated for wolves exhibiting territorial behavior with ≤ 30 spatially or temporally separate aerial radio locations, dispersal behavior, or non-territorial behavior during 2005.

The 2005 Occupied Wolf Range was calculated based on the Occupied Range definition in the Final Rule (U.S. Fish and Wildlife Service 1998). Occupied Wolf Range was calculated using the following criteria: (1) a five mile 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 radius around radio locations of resident wolves when fewer than 30 radio locations are available (for radio-monitored wolves only), (3) a five mile radius around radio monitored wolf locations (for wolves exhibiting dispersal or non-territorial behavior), and (4) a three mile radius around the convex polygon developed from more than 30 radio locations of a pack, a pair, or a single wolf exhibiting territorial behavior.

Project personnel investigated wolf-killed ungulates as they were discovered, analyzing the carcasses to determine sex, age, health, and whether or not the carcass was scavenged or was an actual wolf kill. In addition, the Project conducted intensive winter monitoring of four packs over a six-week period between January 28 to March 13, 2005 to determine the health and type of prey consumed and to document minimum kill rates. During intensive winter monitoring, the IFT conducted daily aerial telemetry to locate four wolf packs to pinpoint kills and observe wolf numbers. Ground crews then examined kill sites to verify the species type and determine the health and cause of death when evidence was present.

USDA-WS wolf specialists investigated suspected wolf depredations on livestock as soon as the reports were received, most often within 24 hrs. Unfortunately, not all dead livestock are found, or found in time to document the cause of death. Thus, depredation levels in this report represent the minimum number of livestock killed by wolves.

Hazing on foot, horseback, or all-terrain vehicles was used if wolves localized near areas of human activity or were found feeding on, chasing, or killing livestock (< three depredation incidents). When necessary, rubber bullets, cracker shells, radio-activated guard (RAG) boxes and other pyrotechnics were used to encourage a flight response to humans and discourage

nuisance and depredation behavior. When wolves did not respond to aversive conditioning attempts, they were captured and removed from the wild or translocated into other areas within the Recovery Area. Capturing primarily occurred through the use of leghold traps, however, occasionally conditions required the use of helicopters. In addition, wolves that localized outside the BRWRA were captured and brought back into the BRWRA, per the final rule (USFWS 1998). Increasing the number of radio-collared wolves, identifying and marking unknown wolves, and inspecting the health and condition of wolves in the wild enhanced monitoring. Involvement of wolves in \geq three depredation incidents within a 365 day period resulted in wolves being permanently removed from the wild, including by lethal means when necessary.

Project personnel conducted outreach activities on a regular basis, as a means of disseminating information from the field team to stakeholders, concerned citizens, and government and non-government organizations. This was facilitated through monthly updates, field contacts, handouts, informational display booths and formal presentations.

Information from the FAIR is not included in this report, in accordance with an agreement with the WMAT.

Results

Population status

At the end of 2005, there were 20 radio-collared wolves (13 adults, 5 sub-adults, and 2 pups) and a minimum of 15-29 uncollared wolves, 10-17 of which were uncollared pups. Confirmation of uncollared wolves was achieved via visual observation, howling, and tracks (Table 1, Fig. 3). During January of 2006, the population count for 2005 was further refined through the use of a helicopter to count the number of wolves associated with each collared animal. During this time, the helicopter was also used to capture and collar two wolves (mp1007 and AF486). The 2005 population consisted of nine packs (five in Arizona and four in New Mexico) and one wolf (F487) that remained as a single animal for the majority of the year. Furthermore, the status of three previously known wolves could not be confirmed as of December 31, 2005, because their free-ranging existence (or deaths) could not be documented. These “status unknown” wolves included the collared Saddle yearlings, m860 who was last located on January 7, 2005, and f862 last located on July 19, 2005; and the collared single male 795 last located on August 1, 2005. AM619 listed as “status unknown” in 2004, was confirmed alive after being captured and collared on August 1, 2005. Three additional wolves designated “status unknown” in 2004 retained that status in 2005 including M794, M832, and AF624. In addition, contact with AM796 (San Mateo Pack), AM732 (Saddle Pack), and AF486 (Hawks Nest Pack) were lost during 2005, 2004, and 2005, respectively. However, visual observations confirmed that all were still alive as of December 31, 2005.

In 2005, nine packs (Aspen, Saddle, Hon-Dah, Luna, Rim, Iris, Bluestem, Francisco II, Escudilla) produced wild-conceived, wild-born litters. This marks the fourth year wild born wolves have themselves bred and raised pups in the wild. Six of these pairs were composed of at least one wild-born wolf. Two of these pairs (Hon-Dah and Escudilla) formed naturally in the wild during 2005. The uncollared Escudilla Pack was observed on two occasions during July

Mexican Wolf Recovery Program: Progress Report 8

2005 with three pups. It is suspected this pack resulted from the pairing of two unknown wild born wolves. However, despite intensive search and trapping effort, no additional sighting of these animals occurred in 2005 and at year's end the Escudilla Pack alpha pair's status, as well as the pups, were listed as "status unknown." The Hon-Dah Pack also reproduced in 2005 indicating AM578 had newly paired with a wild, and as yet, unidentified female. The Hon-Dah Pack's previous alpha female AF637 had been killed on December 24, 2003. In addition, the San Mateo Pack was translocated with a litter that whelped in captivity but was conceived in the wild and the Ring Pack whelped in the wild a litter conceived in captivity. The Nantac Pack also formed in 2005 from the pairing of F873, a 2004 released Aspen pup, and M993, an unknown wild born male whose genetics had yet to be determined at year's end. However, the Nantac Pack did not have the opportunity to breed during 2005 as it did not form until after the 2005 breeding season and was removed during November 2005. Single F613 also conceived and whelped pups in the wild during 2005; however, the litter was determined to be hybrid and was removed.

Releases and Translocations

No initial releases of new packs occurred in 2005. However, three soft release translocations occurred in 2005. Two soft releases occurred at the McKenna Park site in the Gila Wilderness, New Mexico and involved the Ring and Aspen Packs (Table 2, Fig. 2). The third involved the San Mateo Pack and occurred at the Home Creek site (Table 2, Fig. 2), on the ASNF in Arizona. In addition, a hard release translocation of two yearling females occurred on the ASNF in Arizona at the Conklin Ridge translocation site (Table 2, Fig. 2).

On April 13, 2005, the Ring Pack, consisting of pregnant AF799 and AM729, were translocated from captivity to the McKenna Park pen site, in New Mexico. The pair self-released from the pen that night and quickly moved north 20 miles to the Eagle Peak area of the Gila National Forest. AM729 and AF799 had been previously removed from the wild in 2004 because of two confirmed depredations.

The second translocation occurred on April 29, 2005 with the hard release of former Aspen Pack yearlings, f872 and f873, near Conklin Ridge in the ASNF. f872 had been captured on December 22, 2004 along the Blue River for nuisance behavior associated with the Aspen Pack alpha pair and f873 had been captured on January 26, 2005 after a confirmed depredation with sibling m871.

The third translocation occurred at Home Creek on the ASNF on June 13, 2005 with the soft-pen release of the San Mateo Pack alpha pair AF903 and AM796 and 10-week-old pups mp927, mp928, and fp929. AM796 and AF903 had been captured in the San Mateo Mountains on March 30, 2005 and April 2, 2005, respectively, for persisting outside of the BRWRA boundary.

Mexican Wolf Recovery Program: Progress Report 7

Table 1. Status of Mexican wolf packs present in 2005 in Arizona and New Mexico, as of 12/31/05.

Pack	Wolf ID	Reproduction ^a	Pups Year End ^b	No. of Collared Wolves	Min Pack Size ^c
Hawks Nest	AF486 ^d , AM619	0	0	1	2
Saddle*	AM732 ^d , AF797, m860 ^d , f862 ^d , f861, m863, m864, mp1007 ^e	2	2	4	7
Bluestem*	AF521, AM507, M990, mp991	3	2-3	4	5-7
Hon Dah*	AM578	N/A ^f	N/A ^f	1	N/A ^f
Ring ^g	AM729 ^h , AF799 ^h	2	0-2	0	0-2
Francisco II ^g	AF511 ^h , AM904 ^j , m919 ^j	5	0	0	0
Luna*	AF562, AM583, m925	4	2	3	4
Iris	AM798 ^h	0-3	0-3	0	1-4
Aspen	AM512, AF667, m871, mp973 ^k , mp974 ^k , fp975 ^k	3	0	3	3
San Mateo*	AF903, AM796 ^c , Mp927 ^k , mp928 ^k , fp929 ^k	3	2	1	4
Rim	AF858 & M992	1	0	2	2
Nantac	F873 ^j & M993 ^j	0	0	0	0
Escudilla	Unknown	3	0	0	0-5
Unnamed	1008 ^c	0	0	0	2
Single wolves	M795 ^d , AF487, 872 ^h , 859 ^j , 613 ^j	0	0	1	1-2
Totals		28-32	10-17	20	35-49

^a Reproduction – maximum number of pups documented in 2005.

^b Pups Year End – pups documented surviving until December 31, 2005.

^c Min. Pack Size – total number of wolves (collared, uncollared, pups) documented at year end.

^d Radio collar malfunction or otherwise lost during 2005. AM732 collar malfunction in 2004, however, he was documented with pack in 2005.

^e mp1007 and M1008 were captured and assigned studbook numbers on 1/18/06. They are included as both had to have been present on 12/31/05.

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

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

^h Died during 2005. AF511 of the Francisco II pack died in captivity following her removal from the wild.

ⁱ Francisco II – modified pack name due to translocation from their original home range.

^j Removed from wild and remained in captivity as of December 31, 2005.

^k Pups translocated in 2005 with adults. Pit tagged but not collared.

*A Pack that meets the definition of a Breeding Pair per the Final Rule.

Mexican Wolf Recovery Program: Progress Report 8

This was the second time this pair had been captured for boundary issues. In 2004, the San Mateo Pack was translocated back into the Gila Wilderness but quickly returned to the San Mateo Mountains. The 2005 Home Creek translocation site was in excess of 100 miles from the San Mateo Mountains and by years end the San Mateo alpha pair and at least two surviving pups had remained within the BRWRA utilizing the Escudilla area of Arizona and New Mexico, approximately 15 miles from their release site and 85 miles from the San Mateo Mountains.

The fourth translocation occurred from the McKenna Park soft-release pen in the Gila Wilderness on June 16, 2005 and involved the Aspen Pack alpha pair AM512, AF667, yearling m871, and pups of the year mp973, mp974, and fp975. Aspen AM512 had been captured on April 14, 2005, and AF667 and three pups had been captured on May 4, 2005 after the alpha pair's involvement in persistent nuisance behavior as well as non-fatal injuries to two calves and a dog along the Blue River in Arizona. Aspen yearling m871 had been captured on January 25, 2005 after a confirmed depredation with sibling f873.

Table 2. Mexican wolves translocated from captivity or the wild in Arizona and New Mexico during January 1 – December 31, 2005.

Pack/Group	Wolf	Release Site	Release Date	Reason for Translocation
Ring	AM729, AF799	McKenna Park, NM	April 12, 2005	Confirmed depredation
Aspen	AM512, AF667, m871, mp927, mp928, fp929	McKenna Park, NM	June 14, 2005	Nuisance & injuries by alphas and depredation by yearling M871
Singles	F872 & F873	Conklin Ridge, AZ	April 29, 2005	Nuisance behavior by F872 and depredation by F873
San Mateo	AM796, AF903	Home Creek, AZ	June 13, 2005	Persistence outside boundaries of BRWRA

Home Ranges and Movements

Home ranges were calculated for 12 packs and one single wolf exhibiting territorial behavior. The 95% fixed kernel method produced an average home range size of 493 km² (191 mi²), with home ranges varying in size from 46 km² to 1077 km² (18 mi² to 416 mi²). The 95% MCP method produced an average home range size of 465 km² (180 mi²), with home ranges varying in size from 87 km² to 841 km² (34mi² to 325mi²).

Seven single wolves and one sub-group of two wolves exhibited dispersal behavior (M795, M859, F872, F873, M992, F861, M864, Saddle Sub-Group-M863 and M864) during 2005. In addition, one mature single wolf (former Cienega alpha female F487) began exhibiting extra-territorial behavior early in 2005. Home ranges were not calculated for two wolf packs (Nantac, San Mateo I) because less than 30 spatially or temporally separate aerial radio locations were available. Mexican wolves occupied 16,242 km² (6,271mi²) of the Mexican Wolf Nonessential Experimental Zone during

Mexican Wolf Recovery Program: Progress Report 8

2005. In comparison, Mexican wolves occupied 15,755 km² (6,083 mi²) of the Mexican Wolf Nonessential Experimental Zone during 2004.

Table 3. Home range sizes of free-ranging Mexican wolves in Arizona and New Mexico January 1 – December 31, 2005.

Pack/Group	Home Range Size 95% Min. Convex Polygon km² (mi²)	Home Range Size 95% Fixed Kernel km² (mi²)	Spatially and Temporally Separate Aerial Locations
Aspen I	93 (36)	59 (23)	63
Aspen II	687 (265)	1017 (393)	33
Bluestem	681 (263)	549 (212)	71
Francisco	223 (86)	331 (128)	34
Hawks Nest	403 (156)	565 (218)	72
Hon-Dah	370 (143)	298 (115)	48
Iris	841 (325)	1077 (416)	48
Luna	292 (113)	121 (47)	58
Rim	794 (306)	903 (349)	85
Ring	87 (33)	46 (18)	46
Saddle	733 (283)	537 (207)	66
San Mateo II	370 (143)	415 (160)	35
F613	710 (274)	962 (371)	52
Nantac	NA	NA	15
San Mateo I	NA	NA	10

Mortality

Since 1998, 46 (Table 4) wolf mortalities have been documented, five of which occurred in 2005 (Table 5). Mortalities documented in 2005 included the death of four-week-old Francisco pup mp920 of unknown cause, the death of AM798, F872, and AF799 from illegal shootings, as well as the lethal control of Ring Pack AM729. This should be considered a minimum estimate of mortalities since pups and uncollared wolves can die and not be documented by project personnel.

Table 4. Wild Mexican wolf mortalities documented in Arizona and New Mexico.

Cause of Mortality	1998	1999	2000	2001	2002	2003	2004	2005	Total
Illegal Shooting	5	0	1	4	2	7	1	3	23
Vehicle	0	1	2	1	0	4	1	0	9
Predator	0	1	0	0	0	0	1	0	2
Disease	0	1	1	1	0	0	0	0	3
Starvation	0	0	0	1	0	0	0	0	1
Lethal Control	0	0	0	0	0	1	1	1	3
Capture	0	0	0	1	0	0	0	0	1
Snake Bite	0	0	0	1	0	0	0	0	1
Unknown	0	0	0	0	1	1	0	1	3
Total	5	3	4	9	3	13	4	5	46

Table 5. Mexican wolf mortalities documented in Arizona and New Mexico during January 1 – December 31, 2005.

Wolf ID	Pack	Age (years)	Date Found	Cause of Death
M798	Iris	3.0	5/09/05	Illegal shooting
AF799	Ring	3.5	11/4/05	Illegal shooting
F872	Single	1.4	8/28/05	Illegal shooting
mp920	Francisco	4 weeks	5/20/05	Undetermined
AM729	Ring	2.2	6/26/05	Lethal control

Wolf Predation

In 2005, the project conducted intensive aerial winter monitoring of Cienega Pack, Iris Pack, Hawks Nest Pack and Rim Pack to determine predator/prey relationships. The Aspen Pack was also monitored daily during this period for management purposes, however, they were not included in the Winter Study. During the six-week period between January 28 to March 13, 2005, 35 flights were conducted with eight flights cancelled due to weather. A total of 13 kills or carcasses were located for an average of one kill/carcass located for every 2.7 flights. Of the 13 kills/carcasses investigated, 84.6 % were elk (n=11) and 15.4% were domestic cattle (n=2). Age and sex determinations of the elk revealed 64% as adult cows (n=7), 9% yearling bulls (n=1), and 27% calves (n=3). The two domestic cattle carcasses observed in the study were both investigated by Wildlife Services and determined to have been cases of scavenging, not depredation.

Of the 13 kills/carcasses investigated, 62% (n=8) were associated with the Iris Pack, of which six were adult cow elk and two were scavenged domestic cows. The Hawks Nest Pack was associated with 15% (n=2) of the kills/carcasses, both of which were elk calves. The Rim Pack was associated with 23% (n=3) of the kills/carcasses, two of which were adult cow elk and one was a yearling bull elk. No kills were associated with Cienega Pack possibly due to the single wolf status of F487 as a result of the breakup of the Cienega Pack and subsequent wide ranging movements of F487 outside of her traditional range.

Wolf Depredation

The 1998 Final Environmental Impact Statement (FEIS) predicted 1-34 confirmed killed cattle per year from a population of 100 Mexican wolves. This represents < 0.05% of all cattle present on the range, which is only a fraction of the impact that other predators have on ranching within the Southwest (USFWS 1996). The Mexican Wolf Blue Range Reintroduction Project Five-Year Review reported that between 1998 and 2003, the mean number of livestock confirmed killed per year by wolves was 3.8, or 13.8 cattle killed per year from a population of 100 Mexican wolves.

During 2005, US Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services completed 82 investigations thought to have had possible

Mexican Wolf Recovery Program: Progress Report 8

Mexican wolf involvement. Of these 82 investigations, 79 involved livestock with 89 individual animals investigated including cattle (n=81), sheep (n=5), goats (n=2), and horses (n=1). Of the 89 head of livestock investigated, 81 were fatalities at the time of investigation and 8 involved injuries. In addition, WS conducted three non-livestock investigations including possible interactions with domestic dogs (n=2) as well as an investigation of a possible interaction involving a rider on horseback (n=1). Average Wildlife Services response time between the reporting on an incident and initiation of an on-site investigation was less than 18 hours.

Of the 89 individual head of livestock investigated, 48.3% (n=43) were determined to have confirmed, probable, or possible wolf involvement resulting in livestock injury or death, 32.6% (n=29) had confirmed or suspected cause of death or injury other than wolf, and 19.1% (n=17) were classified as unknown. Of the 81 depredation/incident investigations involving a livestock fatality, 27.2% (n=22) were confirmed wolf depredations, 8.6% (n=7) were determined to be probable wolf depredations, and 7.4% (n=6) were considered possible depredations (Table 6). Of the 35 fatality investigations determined to have confirmed, probable, or possible wolf involvement, 74.3% (n=26) occurred in New Mexico and 25.7% (n=9) occurred in Arizona. Of eight Wildlife Services investigations of injured livestock, 87.5% (n=7) had confirmed wolf involvement and 12.5% (n=1) were determined to have had possible wolf involvement. Of the investigations of livestock injuries, 62.5% (n=5) occurred in Arizona and 37.5% (n=3) occurred in New Mexico. Of the 29 investigations determined to have a non-wolf cause of livestock injury or death, 11 separate causes were identified or suspected including, coyote (n=4), lightening (n=4), poisoning (n=4), miscellaneous injuries (n=4), calving complications (n=3), car collisions (n=2), lions (n=2), domestic dogs (n=2), noxious weeds (n=2), drowning (n=1), and bears (n=1).

Of the 82 investigations conducted in 2005 by USDA-Wildlife Services, 67.1% (n=53) were initiated by reports from the public, 35.4% (n=28) were initiated by the IFT, and 1.2% (n=1) was initiated by cooperating agency personnel (WMAT Game Ranger).

During 2005, WS investigations involved 23 separate individuals as well as the WMAT and the SCAT. In addition, the impact of depredations on livestock allotments was not distributed evenly, with one permittee involved in 19 investigations and experiencing 42.9% (15 of 35) of all fatal depredations with confirmed, probable, or possible wolf involvement. The number of confirmed fatal depredations documented in 2005 exceeded depredation levels predicted by the FEIS for a wolf population of this size. However, 54.3% (n=19) of the 35 confirmed, probable, and possible depredations were caused by members of two packs; with the Francisco Pack implicated in 34.3% (n=12) of fatal depredations and the Ring Pack likely involved in 20% (n=7). Both of these packs are now defunct due to removal and mortality.

This depredation estimate should only be considered a minimum estimate as some depredations undoubtedly go undocumented. As a result of 2005 wolf related depredations, DOW paid \$19,000 in 2005 and early 2006 to livestock producers for

Mexican Wolf Recovery Program: Progress Report 8

losses due to wolves. In addition, DOW paid \$17,202 in 2005 for proactive depredation reduction projects including three “Rider Projects” and one fencing project.

During 2005, three interactions between Mexican wolves and domestic dogs resulted in injury or death to the dog. On April 4, 2005 the Aspen Alpha pair AM512 and AF667 were involved in a non-fatal injury to a dog along the Blue River in Arizona, on May 26, 2005 yearlings f872 & f873 were involved in a non-fatal injury to a dog along the Blue River, and on August 24, 2005 the Aspen Pack was implicated in the killing of a cattle dog in New Mexico. DOW paid \$3000 to the owner for the loss of the herding dog.

Table 6. Mexican wolf depredations documented in Arizona and New Mexico during January 1 – December 31, 2005.

	Confirmed Depredation	Probable Depredation	Possible Depredation	Total
Fatality	22	7	6	35
Injury	7	0	1	8

In 2005, USDA-WS in conjunction with the other primary cooperators in the Mexican wolf reintroduction continued a research study in Arizona to assess domestic cattle mortality in an area of sympatric carnivores (Mexican wolves, lions, bears and coyotes). 2005 represents the third 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 fair compensation programs.

Management Actions

In 2005, 28 wolves were trapped and/or removed from the wild a total of 30 times. Eight wolves (AM507, M990, M991, M992, AM619, AM578, F613, and mp925) were captured, collared, processed, and released on site for routine monitoring purposes. One wolf (AF562) was captured, held for five days to treat an injury, then collared and released. Four wolves (AF796, AM903, F873, and M993) were trapped for persisting outside the BRWRA. One wolf (F613) was removed after producing a hybrid litter and confirmed association with domestic dogs. Two wolves along with three dependant pups (AF667, AM512, mp973, mp974 and fp975) were removed for nuisance behavior and non-fatal injuries to two calves and a dog. Six additional wolves along with four dependant pups (m859, F873, M871, AF511, AM904, m919, mp921, mp922, fp923, fp924) were captured and removed to captivity after confirmed involvement in depredations. In addition, one wolf (AM729) was lethally removed after confirmed involvement in greater than four depredations. Of the 20 wolves that were captured and placed in captivity in 2005, four were permanently removed (AF511, AM904, m919, and F613), six retained the possibility of future translocation (M859, M993, mp921, mp922, fp923, fp924), nine were translocated and remained in the wild (AM512, AF667, M871, mp973, mp974, fp975, F872, AF903, AM796) and one (F873) was captured, translocated, and then recaptured for persisting outside the boundary, but retains the possibility of future translocation.

Mexican Wolf Recovery Program: Progress Report 8

Table 7. Mexican wolves captured in Arizona and New Mexico from January 1 – December 31, 2005.

	Pack	Wolf ID	Capture Date	Reason for Capture
1	Single	M871	1/25/2005	Confirmed cattle depredation, translocated in 2005.
2	Single	f873	1/26/2005	Confirmed cattle depredation, translocated in 2005.
3	San Mateo	AM796	3/30/2005	Outside of BRWRA, translocated in 2005.
4	San Mateo	AF903	4/2/2005	Outside of BRWRA, translocated in 2005.
5	Aspen	AM512	4/9/2005	Nuisance behavior and non-fatal livestock and domestic dog injury. Translocated in 2005.
6	Aspen	AF667	5/4/2005	Nuisance behavior and non-fatal livestock and domestic dog injury. Translocated in 2005.
7	Aspen	mp973	5/4/2005	Pup dependent on removed alpha pair. Translocated in 2005.
8	Aspen	mp974	5/4/2005	Pup dependent on removed alpha pair. Translocated in 2005.
9	Aspen	fp975	5/4/2005	Pup dependent on removed alpha pair. Translocated in 2005.
10	Francisco	m919	5/12/2005	Multiple confirmed cattle depredations, permanently removed to captivity.
11	Francisco	AM904	6/18/2005	Multiple confirmed cattle depredations, permanently removed to captivity.
12	Single	M859	6/19/2005	Single confirmed cattle depredation that occurred outside of the BRWRA on private land, removed to captivity. Available for future translocation.
13	Single	F613	6/22/2005	Routine monitoring purposes. Captured, replaced radio collar and released on site.
14	Francisco	AF511	6/23/2005	Multiple confirmed cattle depredations, permanently removed to captivity.
15	Francisco	fp924	6/23/2005	Pup dependent on removed alpha pair. Available for future translocation.
16	Francisco	mp921	6/24/2005	Pup dependent on removed alpha pair. Available for future translocation.
17	Francisco	mp922	6/24/2005	Pup dependent on removed alpha pair. Available for future translocation.

Mexican Wolf Recovery Program: Progress Report 8

Pack		Wolf ID	Capture Date	Reason for Capture
18	Francisco	fp923	6/24/2005	Pup dependent on removed alpha pair. Available for future translocations.
19	Hon-Dah	AM578	6/24/2005	Routine monitoring purposes. Captured, replaced radio collar and released on site.
20	Ring	AM729	6/26/2005	Lethal removal for depredations.
21	Hawks Nest	AM619	8/1/2005	Routine monitoring purposes. Captured, replaced failed radio collar and released on site.
22	Luna	mp925	10/4/2005	Routine monitoring purposes. Captured, fitted radio collar and released on site.
23	Luna	AF562	10/17/2005	Captured to remove non-program trap. Released on site following treatment and replacement of a radio-collar.
24	Bluestem	AM507	10/17/2005	Routine monitoring purposes. Captured, replaced radio collar and released on site.
25	Bluestem	m990	10/18/2005	Routine monitoring purposes. Captured, fitted with radio collar and released on site.
26	Bluestem	mp991	10/18/2005	Routine monitoring purposes. Captured, fitted with radio collar and released on site.
27	Rim	M992	10/18/2005	Routine monitoring purposes. Captured, fitted radio collared and released on site.
28	Nantac	M993	11/7/2005	On SCAR. Outside BRWRA boundary, removed to captivity. Available for future translocation.
29	Nantac	f873	11/9/2005	On SCAR. Outside BRWRA boundary, removed to captivity. Available for future translocation.
30	Single	F613	11/14/2005	Hybrid litter and association with domestic dogs. Removed to captivity.

Outreach

During 2005, Project updates were posted locally once a month in Alpine, Nutrioso, Eagar, and Springerville in places such as USFS offices, US post offices, libraries, as well as on the USFWS Mexican wolf web site at <http://mexicanwolf.fws.gov>. Interested parties could also sign up to receive the update electronically by visiting the AGFD website at <http://azgfd.gov/signup>. Monthly project updates were emailed and faxed from the Alpine Field Office to numerous stakeholders and interested citizens.

To better inform cooperators and the public of areas that wolves occupied, in late 2005, the Interagency Field Team (IFT) created a wolf location map. Updated monthly, this map contains the most recent three months of aerial wolf locations and can be found at http://www.azgfd.gov/w_c/es/images/10-05_12-05LocationMap_000.gif.

Mexican Wolf Recovery Program: Progress Report 8

Project personnel contacted campers, hunters, and other members of the public using the Blue Range Wolf Reintroduction Area, providing them with information about the Project. These contacts served to advise hunters of the potential for encountering wolves, provided general recommendations for camping and hunting in wolf-occupied areas, and explained the legal provisions of the non-essential experimental population rule.

Intensive efforts were made at posting USFWS reward posters at all available trailheads, USFS kiosks and local business in the wolf recovery area. Additional “Wolf Country” posters were also placed throughout the ASNF and part of the GNF, to provide information on how to avoid conflicts with wolves.

Project personnel gave 51 presentations and status reports, 61% of which were within the BRWRA, to over 6,534 people in federal and state agencies, conservation groups, rural communities, guide/outfitter organizations, livestock associations, schools, fairs, and various other public and private institutions throughout Arizona and New Mexico. Presentations continue to be available to interested parties by contacting the Interagency Field Team at 1-888-459-9653 to schedule a program.

Summary

At the end of 2005, a minimum of 35 to 49 wolves in nine packs could be confirmed inhabiting areas of Arizona and New Mexico. These included 20 radio-collared wolves (13 adults, five sub-adults, and two pups) and a minimum of 15-29 uncollared wolves, 10-17 of which were uncollared pups. There are likely additional, undocumented free-ranging wolves whose radio-collars have failed or that were never radio-collared. However, the majority of undocumented wolves are most likely present as single animals, as wolf packs usually leave more sign and are easier to locate within the recovery area. Nine packs produced wild-conceived, wild-born litters. Six of these packs have at least one Alpha member that was also born in the wild. Thus, this marks the fourth year that wild-born wolves have themselves bred and raised pups in the wild. Mortality was also low in 2005 (n=5) including the death of two adults, one sub-adult, one dependent pup, as well as one lethal control action. In addition, due to the number of dispersing sub-adult wolves (m871, f861, m863, and m864) documented in November and December 2005, as well as potential for uncollared dispersers, there is the possibility for several packs to form naturally in 2006 and for wild wolves to continue to be recruited into the breeding population.

Native ungulate kill site investigations continued to confirm that the primary native prey for Mexican wolves was elk. However, during 2005 there were also 22 confirmed, seven probable and six possible, fatal cattle depredations. Seven confirmed livestock injuries and one possible livestock injury were also attributed to wolves in 2005. In addition, two dogs were confirmed injured by wolves and one was confirmed killed.

In 2005, 28 wolves were trapped and/or removed from the wild a total of 30 times for purposes that include: routine monitoring (n=8), treatment of injuries (n=1), persisting outside of the BRWRA boundary (n=4), association with domestic dogs (n=1), nuisance

Mexican Wolf Recovery Program: Progress Report 8

behavior and non fatal injuries to cattle (n=5), and cattle depredations including one lethal control action (n=11). Of the 20 wolves that were captured and placed in captivity in 2005, four were permanently removed, six retain the possibility of future translocation, nine were translocated, and one was translocated then recaptured a second time but still retains the possibility of future translocation.

Project personnel gave 51 presentations and status reports, 61% of which were within the BRWRA, to over 6,534 people in federal and state agencies, conservation groups, rural communities, guide/outfitter organizations, livestock associations, schools, fairs, and various other public and private institutions throughout Arizona and New Mexico.

Discussion

In 2005, the confirmed Mexican Wolf population decreased for a second year lagging farther behind predicted levels outlined in the FEIS. While known adult wolf mortality was low during 2005, pup mortality appeared high based on comparisons between early season and end of the year counts. However, the total number of pups that were produced in the wild was higher than any previous year of the reintroduction project.

In response to higher than predicted depredation rates, removal rates were also higher than predicted in the FEIS. Nevertheless, packs continued to form naturally on their own in the wild and for the fourth consecutive year, wild-born wolves reproduced successfully in the wild. Project personnel continued to respond and resolve major conflicts with livestock depredations and nuisance wolves. Such responsive management of depredating wolves should reduce the overall amount of depredations and help to prevent wolves from becoming habituated to livestock. However, aggressive removal actions in response to depredations and boundary issues may, in the short term, exceed growth from natural recruitment and initial releases for a single year. Nevertheless, a combination of initial releases, translocations, and natural pair formation and reproduction in 2006 should result in an increasing Mexican wolf population in 2006.

Fig 1. The Blue Range Wolf Recovery Area and Mexican wolf nonessential experimental zone in Arizona and New Mexico.

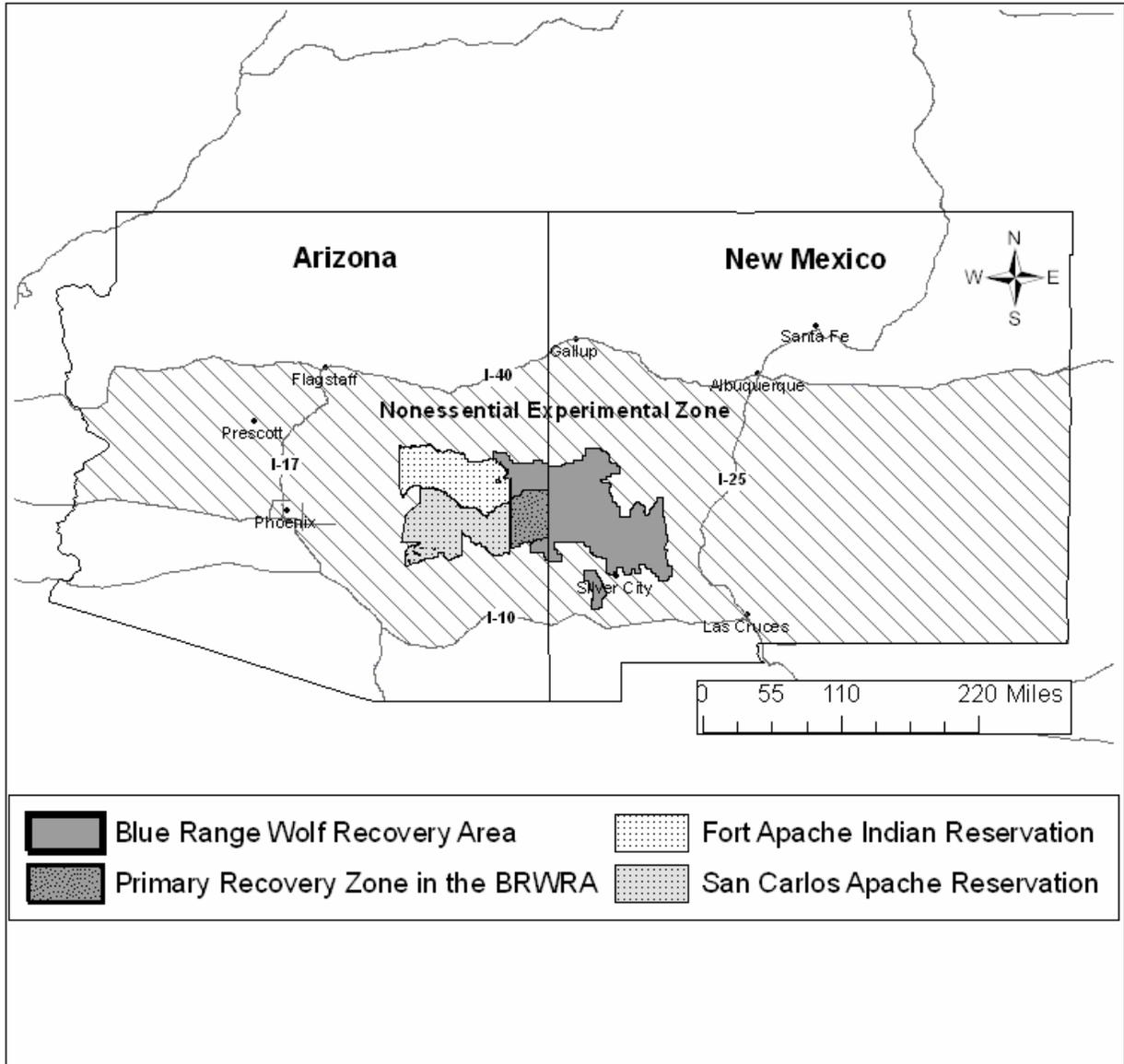
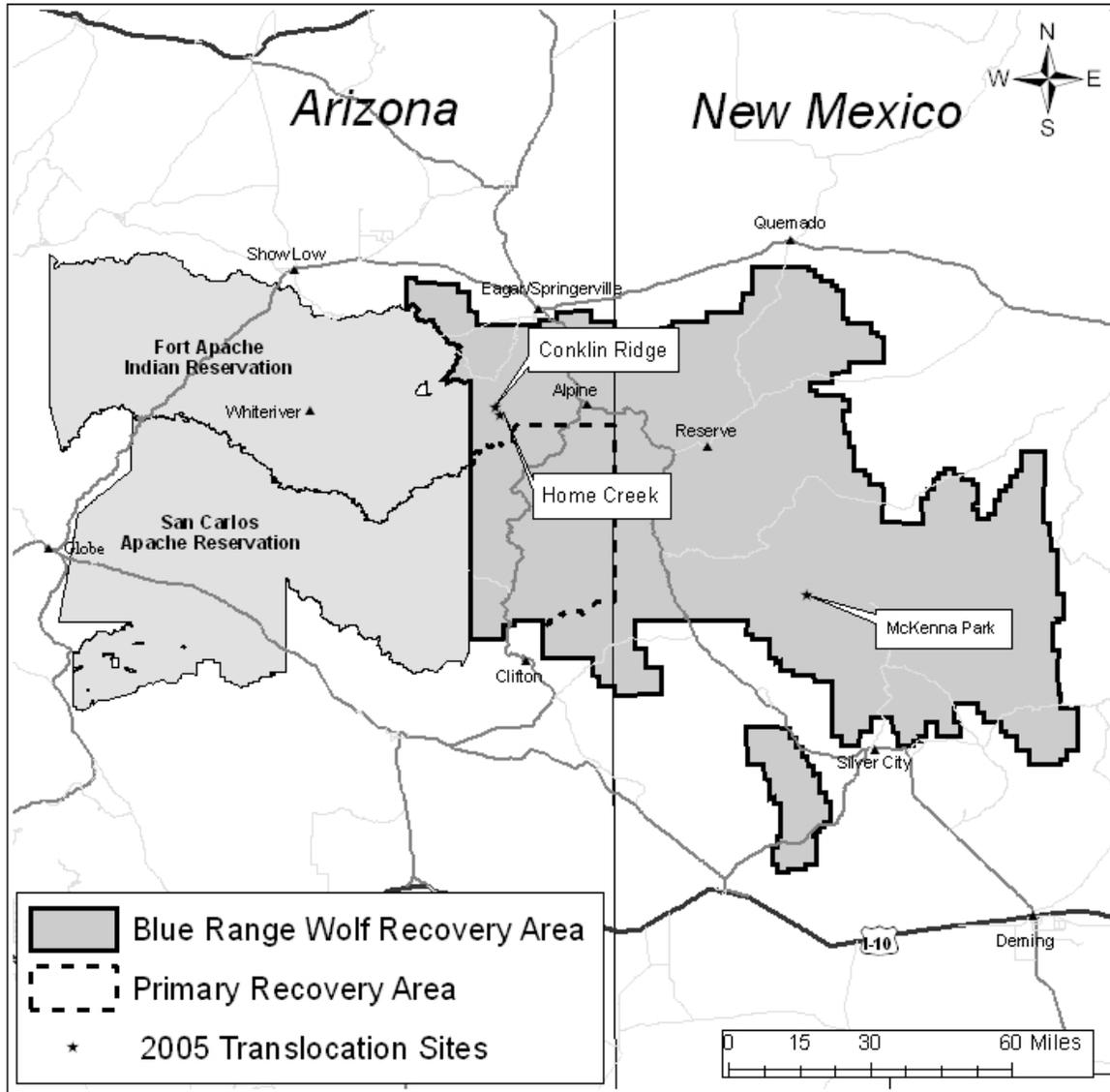


Fig 2. Translocation sites in New Mexico and Arizona within the Blue Range Wolf Recovery Area during 2005.



Mexican Wolf Recovery Program: Progress Report 8

Figure 3. Mexican wolf minimum population estimates from 1998 through 2005 in New Mexico and Arizona.

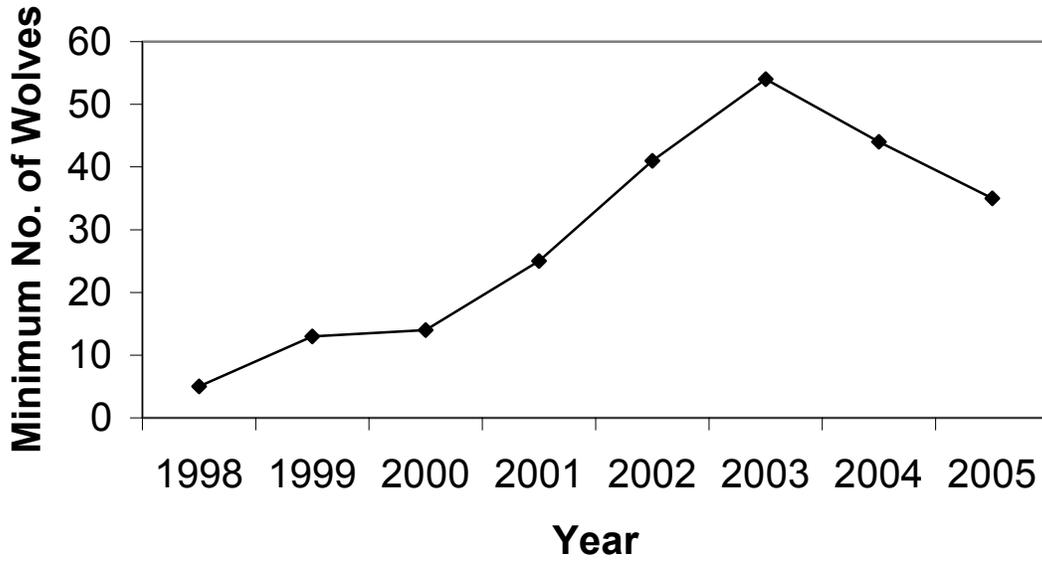
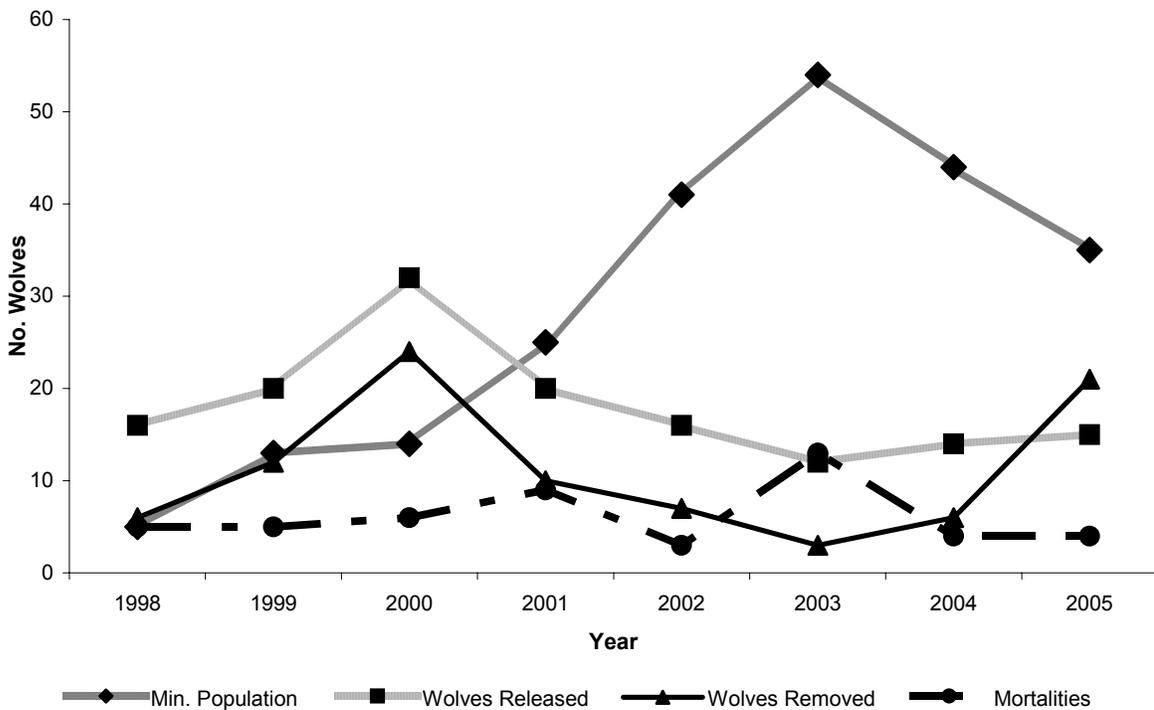
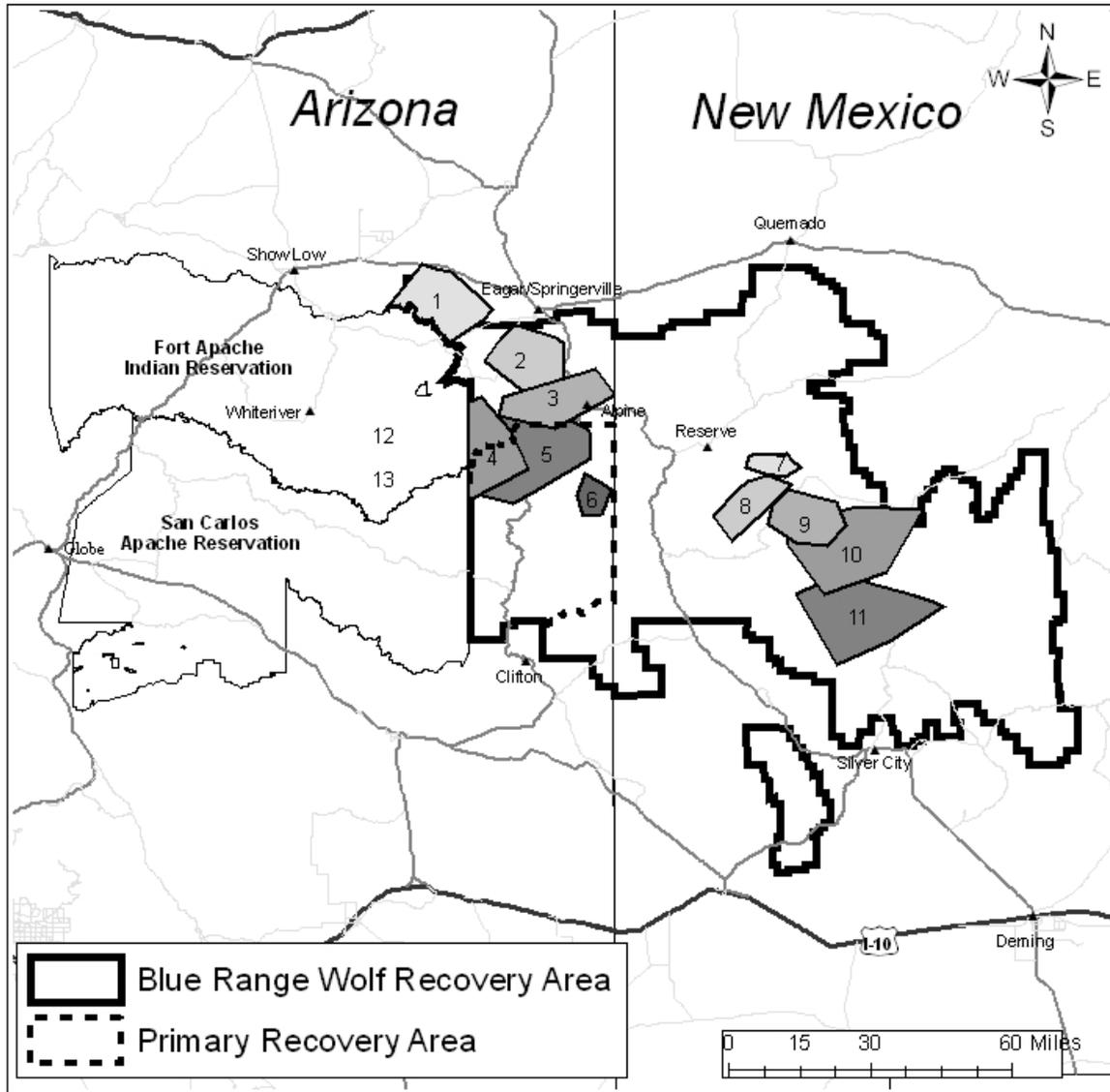


Figure 4. Mexican wolf population estimates and associated population parameters. Wolves released include: pack translocations (wolves re-released from captivity back into the wild) and initial direct releases (wolves with no wild experience).



Mexican Wolf Recovery Program: Progress Report 8

Figure 5. Mexican wolf home ranges for 2005 in Arizona and New Mexico. The gray shaded polygons and corresponding numbers on the map represent wolves having 30 or more spatially or temporally separate aerial radio locations and exhibiting movement characteristics consistent with a home range during 2005. See the table on the following page for information regarding the wolf packs and home ranges.



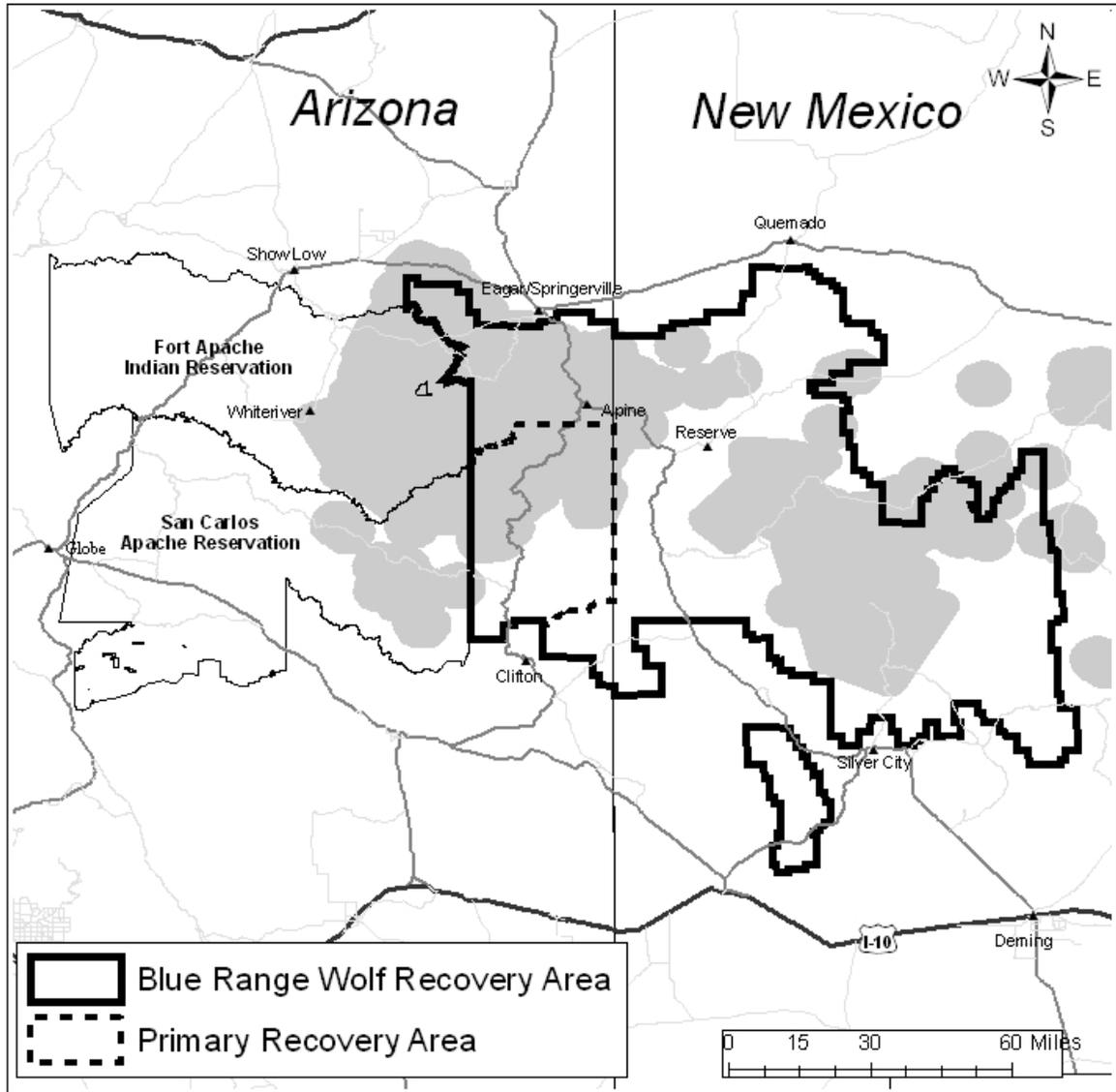
Mexican Wolf Recovery Program: Progress Report 8

Figure 5. Continued.

Map Number	Wolf Pack or Wolf ID	Number of Wolves	Wolf Fate at the end of 2005	Breeding Pair Status	Home Range Size (mi ²)
1	Iris	1-4	AM798-Dead	No	325 ^a
2	Hawks Nest	2	In the Wild	No	156
3	San Mateo II	4	In the Wild	Yes	143
4	Bluestem	5-7	In the Wild	Yes	263 ^a
5	Rim	2	In the Wild	No	306
6	Aspen I	0	Translocated to NM	No	36
7	Ring	0-2	AM729 & AF799-Dead	No	33
8	Francisco	0	In Captivity	No	86
9	Luna	4	In the Wild	Yes	113
10	Saddle	7	In the Wild	Yes	283
11	Aspen II	3	In the Wild	No	265
12	Hon-Dah	NA ^a	In the Wild	Yes	NA ^a
13	F613	0	In Captivity	No	NA ^a

^a Wolf Information (including numbers and home ranges) on the Fort Apache Indian Reservation and the San Carlos Apache Reservation is proprietary and therefore not displayed.

Figure 6. Mexican wolf occupied range in New Mexico and Arizona as defined in the Final Rule (U.S. Fish and Wildlife Service 1998).



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APPENDIX A

2005 Pack Summaries

Aspen Pack (AM512, AF667, m871, mp973, mp974 and fp975)

In January 2005, the Aspen Pack consisted of only the alpha pair AM512 and AF667. The female pup 872 that had been traveling with the alpha pair had been trapped and removed on December 22, 2004. The male pup 871 had not been documented with the alpha pair since slipping its collar on September 13, 2004, and collared pup f873 had been documented separated from the alpha pair since September 2004. On April 4, 2005, trapping was initiated for AF667 and AM512 after confirmation of non-fatal injuries to a domestic dog and two calves. AM512 was successfully captured on April 9, 2005 and transported to Sevilleta Wolf Management Facility. On May 4, AF667 and three dependant pups (mp973, mp974, fp975) were captured and placed with AM512 and Aspen yearling m871 at Sevilleta Wolf Management Facility. On June 15, 2005, AM512, AF667, m871, mp973, mp974 and fp975 were translocated to the McKenna Park Release Site in the Gila Wilderness, New Mexico. On August 24, 2005, AM512, AF667 and m871 were likely involved in the death of a domestic dog near the Gila Cliff Dwellings in New Mexico. The last documentation of any of the translocated pups occurred in August (visual on one pup) with no subsequent indication of their survival. Through the remainder of the year, AM512, AF667 and m871 were documented together establishing a territory primarily within the Gila Wilderness. An end of the year helicopter count documented only the AM512, AF667, and m871 with no evidence of surviving pups. Therefore, despite being translocated with three pups, the Aspen Pack was not considered a "Breeding Pair" in 2005 per the definition in the Final Rule.

m871

m871 (Aspen pup released July 28, 2004) was considered "fate unknown" after slipping its collar on September 13, 2004. It was suspected that m871 may be traveling with sibling f873, however, this was not confirmed until the capture of m871 on January 24, 2005 as a result of two confirmed injuries and one confirmed kill of domestic cattle. Upon capture, m871 was transported to the Sevilleta Wolf Management Facility. On June 14, 2005, m871 was translocated with alpha pair AM512, AF667 and uncollared pups of the year mp973, mp974 and fp975 into the Gila Wilderness, New Mexico. On August 24, 2005 m871 along with the alpha pair AM512 and AF667, was likely involved in the death of a domestic cattle dog near the Gila Cliff Dwellings in New Mexico. Through the remainder of the year, m871 remained with the alpha pair (AM512 and AF667) within the Gila Wilderness. However, during the last few weeks of December 2005, m871 was for the first time since translocation, located away from the alpha pair, possibly foreshadowing dispersal.

f872

f872 (Aspen pup released July 28, 2004) began 2005 in captivity after being captured on December 22, 2004 for involvement in nuisance behavior with the Aspen alpha pair AM512 and AF667 along the Blue River in Arizona. On April 29, 2005, f872 was

translocated via hard release with sibling f873 near Conklin Ridge in the ASNF. On May 20, 2005, f872 along with f873 were involved in a confirmed depredation incident of a newborn calf on Robinson Mesa, Arizona. f872 and f873 quickly left the area of the depredation, but were later involved a non-fatal injury to a domestic dog along the Blue River in Arizona. f872 & 873 remained together through mid June 2005 after which they traveled separately. On July 2, 2005, f872 was involved in a confirmed depredation of a domestic sheep near Fish Creek, Arizona. On August 28, 2005, f872 was found dead in proximity to two dead sheep, one of which was a confirmed depredation. The illegal shooting death of f872 remains under investigation.

Nantac Pack (f873 and M992)

During September 2004, f873 (Aspen pup released July 28, 2004) had separated from the Aspen alpha pair, and while not confirmed, was suspected of traveling with uncollared sibling m871. On January 17, 2005, f873 was involved in the confirmed injury of two heifers as well as the depredation of a newborn calf near Mud Springs, Arizona. On January 24, 2005, m871 was captured, confirming his presence and on January 26, 2005, f873 was captured. Both were transported to the Sevilleta Wolf Management Facility. On April 29, 2005 f872 was translocated via hard release with sibling f873 near Conklin Ridge in the ASNF. On May 20, 2005, f872 along with f873 were involved in a confirmed depredation incident of a newborn calf on Robinson Mesa, Arizona. f872 and f873 quickly left the area of the depredation, however, they were involved in a non-fatal injury to a domestic dog along the Blue River in Arizona. f872 and f873 remained together through mid June 2005 after which they traveled separately. In late June, f873 had moved southwest onto the SCAR and during August was observed on two occasions traveling with an unknown uncollared wolf. On October 20, 2005, at the request of SCAR, trapping efforts were initiated for f873 and the associated unknown animal. On November 7, 2005, the uncollared wolf, a male assigned studbook number 993, was trapped and removed to the Ladder Ranch Wolf Management Facility. On November 9, 2005, f873 was trapped and placed in captivity with M993. This pair, now known as the Nantac Pack, remained in captivity at years end.

Bluestem Pack (AM507, AF521, mp991 and m990)

The Bluestem Pack consisted of six individuals (AM507, AF521 and four uncollared) during January 2005. During August and September, sightings of the pack verified seven to nine individuals (AM507, AF521, two to four uncollared sub adults, and at least three pups of the year). Trapping for uncollared members of the Bluestem Pack was initiated in October and was successful in capturing AM507 and three uncollared individuals, subsequently assigned studbook numbers mp991, m990 and M992. After capture, m990 and mp991, remained with the Bluestem alpha pair AM507 and AF521, however, M992 was soon located with Rim AF858 after which they were located together throughout the remainder of 2005. As of December 2005, Bluestem consisted of five to seven individuals (four collared, one to three uncollared). Throughout the year the Bluestem Pack remained in their traditional home range along the Black River near the boundary of the FAIR and ASNF. No confirmed mortalities, depredations, translocations, or removals involving the Bluestem Pack occurred in 2005. The Bluestem Pack was determined to be a "Breeding Pair" per the definition in the Final Rule.

Hawks Nest Pack (AM619 and AF486)

From January through May 2005, the Hawks Nest Pack consisted of collared AF486 and an unknown wolf, thought likely to be AM619. AM619 was considered fate unknown after telemetry contact was lost in October 2004. In late May, telemetry contact was also lost with AF486, likely due to exceeding the functional life of the radio collar. The IFT continued to document wolf sign in the packs traditional home range and began a trapping effort to place a collar in the pack on July 26, 2005. On August 1, 2005, AM619 was captured, confirming his continued presence as the Hawks Nest alpha male. AM619 was fitted with a new radio collar and later observed on four occasions traveling with an unknown animal (likely AM486). Throughout the year the Hawks Nest Pack remained in their traditional home range in the northern portion of the ASNF. As of December 2005, the Hawks Nest Pack consisted of two individuals with the continued presence of AF486 confirmed in January 2006. No confirmed mortalities, depredations, translocations, or removals involving the Hawks Nest Pack occurred in 2005. No indications of reproduction were observed during the 2005 denning season and no observations of more than two wolves were ever documented. Therefore, the Hawks Nest Pack was not considered a “Breeding Pair” per the definition in the Final Rule.

San Mateo Pack (AM796, AF903, p926 (died in captivity), mp927, mp928 and fp929)

During January 2005, the San Mateo Pack was confirmed to consist of AF903 and AM796, whose GPS collar had prematurely dropped off in December 2004. During 2004, the San Mateo alpha pair had been removed from the San Mateo Mountains and translocated into the Gila Wilderness for persisting outside the BRWRA. However, by the end of 2004, the pair had again returned to the San Mateo Mountains. On March 30, 2005, AM796 was trapped a second time for persisting outside the BRWRA boundary and transferred to the Sevilleta Wolf Management Facility. On April 2, 2005, AF903 was also captured and placed with AM796. On April 6, 2005, AF903 whelped four pups in captivity, three of which survived. On June 16, 2005, AM796, AF903 and three 10-week-old pups (mp927, mp928, fp929) were translocated over 100 miles west of the San Mateo Mountains near Home Creek, Arizona in the ASNF. During August contact was lost with AM796’s GPS collar. After exhibiting limited movement from June through October, the San Mateo Pack began movements to the east during November settling east of Escudilla Mountain by years end. As of December 2005, the San Mateo Pack was confirmed to consist of four animals including AF903, two uncollared pups of the year, and a visually confirmed AM796. Therefore, the San Mateo Pack was confirmed as a “Breeding Pair” per the definition in the Final Rule. No confirmed mortalities, or depredations involving the San Mateo Pack occurred in 2005.

Iris Pack (AM798)

During January 2005, the Iris Pack consisted of AM798 and an uncollared, unknown wolf assumed to be the Iris Pack alpha female. On May 9, 2005, AM798 was found dead along Highway 60 east of Vernon, Arizona. Necropsy determined the cause of death to be gunshot. As AM798 was the only collared animal associated with the Iris Pack, contact with the remaining member(s) was subsequently lost. On June 18, 2005, non-project

personnel reported observing an adult with three pups in the traditional home range of the Iris Pack. While no confirmation could be obtained, it was possible this observation may have been the remaining Iris Pack member and three pups of the year. Despite extensive tracking and trapping efforts during August and September, no uncollared animals were caught and no confirmation of pups could be found. At year's end, tracks of as many of two wolves were documented in the historic Iris territory. With the loss of AM798, the Iris Pack could not be considered a "Breeding Pair" per the definition in the Final Rule, regardless of whether the alpha female and any pups survived to years end. No confirmed depredations involving the Iris Pack occurred in 2005. The illegal shooting death of AM798 remains under investigation.

Cienega Pack (AF487)

At the end of 2004, the Cienega Pack was thought to consist of collared AF487 and at least four unknown uncollared wolves. However, by early February 2005, AF487 could be confirmed with only one unknown uncollared wolf. By late February 2005, AF487's behavior changed drastically with extensive movement outside of her traditional home range. From late February through the end of the reporting period, F487 was primarily observed as a single wolf. In June 2005, F487 was located for a two-week period with single M795, a 2002 offspring of F487. F487 continued to travel widely across the ASNF throughout the remainder of 2005. Despite extensive tracking efforts, the IFT was unable to confirm the continued existence of the Cienega Pack. No confirmed mortalities or depredations involving the Cienega Pack occurred in 2005.

Hon-Dah Pack (AM578)

Throughout 2005, the Hon-Dah Pack remained entirely on the FAIR. This pack was considered a breeding pair based on behavior and on the number of wolves observed early in the year relative to numbers observed during the January helicopter operation. During 2005, the Hon-Dah Pack was involved in one confirmed cattle depredation. Specific wolf information (including numbers, specific incidents, or home ranges) on WMAT lands is proprietary and therefore not discussed in detail within this report. No confirmed mortalities, translocations, or removals involving the Hon-Dah Pack occurred in 2005.

Rim Pack (AF858, and M992)

At the end of 2004, the size of the Rim Pack was estimated to be four individuals including the collared AF858. However, between January and March 2005, only three individuals were documented and after March 2005 only two individuals, including AF858, could be confirmed. During April and May, telemetry locations indicated that AF858 denned and at least one pup of the year was confirmed during August. In November, AF858 was located with the newly collared M992, who was caught and collared on October 18, 2005 during a trapping effort for the Bluestem Pack. It is unknown whether M992 was the uncollared wolf observed with AF858 throughout 2005, however, they were located together without exception through November and December. Despite extensive efforts to document additional pups or the survival of the pup documented in August, no subsequent evidence of pups was located. By years end, extensive ground tracking, aerial observations, as well as the end of year helicopter count

could only confirm AF858 and M992. Therefore, per the definition in the Final Rule, the Rim Pack could not be considered a “Breeding Pair” in 2005. No confirmed mortalities, depredations, removals, or translocations involving the Rim Pack occurred in 2005.

Ring Pack (AM729, AF799)

AM729 and AF799 began 2005 in captivity after removal during the spring of 2004 for two confirmed depredations. On April 13, 2005, AM729 and pregnant AF799 (expected to whelp soon after release) were released at McKenna Park in the Gila Wilderness, New Mexico. AF799 and AM729 immediately left the wilderness and headed northwest to the Eagle Peak area where they dened and produced a minimum of two pups. On June 8, 2005, investigations of cattle mortalities in Collins Park, New Mexico resulted in two confirmed depredations attributed to AM729. On June 20, 2005, two additional cattle depredations were attributed to both AM729 and AF799 resulting in a permanent removal order for AM729. On June 26, 2005, AM729 was lethally removed. During July and August trapping was conducted to remove AF799 and dependant pups, however, attempts were unsuccessful. Because no depredations had occurred since the removal of AM729, removal efforts targeting AF799 and dependent pups were suspended in August. AF799 and up to two pups (undocumented) remained in the vicinity of Eagle Peak into early November without any additional confirmed depredations. On November 4, 2005, AF799 was found dead in Collins Park, New Mexico. A dead adult bald eagle was also found in close proximity to AF799. Necropsy determined the cause of death of both AF799 and the eagle to be gunshot. Because both members of the alpha pair are now dead, the Ring Pack is considered defunct.

Francisco II Pack (AM904, AF511, m919, mp921, mp922, fp923, and fp924)

As of January 2005, the Francisco II Pack was known to consist of the collared AF511 and mp919 and suspected to still include the uncollared AM904. On April 29, 2005, AM904, AF511 and m919 were involved in a confirmed depredation incident near Burro Canyon, New Mexico. On May 3, 2005, the Francisco Pack was implicated in a second confirmed depredation incident near Deep Creek, New Mexico. On May 10, 2005, three additional confirmed depredations near Turkey Park, New Mexico were attributed to the Francisco Pack. On May 11, 2005, a permanent removal order was issued for the entire Francisco Pack. On May 12, 2005, m919 was successfully captured and transported to the Sevilleta Wolf Management Facility. On May 13, 2005, AF511 whelped five pups, one of which died shortly after birth. On June 18, 2005, AM904 was trapped and after veterinary care to treat a trap injury, transported to the Sevilleta Wolf Management Facility. On June 23, 2005, AF511 was trapped and one pup of the year (fp924) was located and captured. On June 24, 2005, three additional pups (mp921, mp922 and fp923) were located and captured after which AF511 and all four pups were transported to the Sevilleta Wolf Management Facility. Due to the permanent removal of the alpha pair AM904 and AF511 the Francisco II Pack is considered defunct.

Saddle Pack (AM732 (uncollared), AF797, m860, f861, f862, m863, m864, and mp1007)

As of January 2005, the Saddle Pack consisted of the alpha pair AM732 and AF797, as well as radio-collared yearlings M860, F861, F862, M863 and M864. AM732 had been

fitted with a GPS collar; however, it prematurely dropped off in December 2004. On January 7, 2005, the last known contact with yearling M860 was documented. During April and May, telemetry locations on AF797 indicated denning. On July 19, 2005, the last known contact with F862 was documented. Confirmation of breeding success was documented in July with the observation of two pups of the year. On August 16, 2005, the Saddle Pack was involved in their only confirmed depredation incident in 2005. During October both M864 and F861 began making movements away from the alpha pair, typical of dispersal age animals. In December, M863 also began making movements indicative of dispersal eventually ending the year traveling with sibling M864. Throughout the year the Saddle Pack (excluding dispersal movements of yearlings) remained in their traditional home range in the GNF with occasional forays south into the Gila Wilderness. As of December 2005, the main Saddle Pack consisted of only the alpha pair AF797 and AM732. Throughout the fall, no confirmation of surviving pups could be documented with the alpha pair. However, the year-end helicopter population count and capture operation located two suspected Saddle pups of the year with yearling siblings M863 and M864. One of the pups was captured, collared and given the studbook number mp1007. Therefore, per the definition in the Final Rule, the Saddle Pack was considered a "Breeding Pair" in 2005.

Luna Pack (AM583, AF562, mp925)

As of January 2005, the Luna Pack consisted of AM583 and AF562. In April and May, telemetry indicated denning behavior by this pair and in July four pups were observed with the pack. On September 6, 2005, the Luna Pack was involved in its only confirmed depredation incident of 2005. On October 13, 2005, trapping was initiated for uncollared individuals. On October 14, 2005, a pup of the year (mp925) was caught and radio collared. On October 15, 2005, AF562 was observed with a non-Project leg hold trap on a front foot. On October 17, 2005, AF562 was successfully captured via helicopter and transported for medical attention. AF562 was treated and released on October 29, 2005 in vicinity of the Luna Pack. Throughout the year the Luna Pack remained in their traditional home range in the GNF. As of December 2005, the Luna Pack consisted of four individuals including AM583, AF562, mp925 and an uncollared pup. Per the definition in the Final Rule, the Luna Pack was considered a "Breeding Pair" in 2005.

Individual Wolf Summaries

M859

M859 began 2005 as a single status wolf after being confirmed traveling alone throughout 2004. From January through June 2005, M859 traveled widely across New Mexico ranging from the Arizona Border to the eastern edge of the Gila National Forest. On June 18, 2005, M859 was involved in a depredation incident outside the BRWRA. Trapping was initiated that day and M859 was captured on June 19, 2005. M859 remained in captivity for the remainder of 2005 at the Sevilleta Wolf Management Facility in New Mexico.

F613

In January 2005, single wolf F613 was translocated to the FAIR in an attempt to re-establish an alpha female in the Hon-Dah Pack. The Hon-Dah Pack's previous alpha female had been killed in 2003. However, despite being released in close proximity, no indications of contact were documented between F613 and the Hon-Dah Pack. In February 2005, F613 was located within the town of Whiteriver, Arizona. F613 remained in the vicinity of Whiteriver for approximately two weeks during which time capture attempts were unsuccessful. However, during March, F613 traveled 25 miles to the southeast settling into a remote area of the FAIR. Continued localization of F613 during the denning season resulted in IFT investigation and discovery of a den and six pups. The litter was determined to have markings consistent with hybrid (dog and wolf) origins and was removed. The litter was subsequently humanely euthanized. In November 2005, F613 was documented associating with domestic cattle dogs on the FAIR. The documentation of non-aggressive interactions with dogs in combination with the production of the hybrid litter resulted in trapping efforts to remove F613. On November 14, 2005, F613 was captured and placed in captivity.

M795

M795 began 2005 as a single wolf after being confirmed as traveling alone throughout 2004. From January through late June 2005, M795 continued to be documented as single. However, in late June, M795 was located for a 2-week period with the former Cienega Pack alpha female F486. M795 was a 2002 offspring of F486 and the Cienega Pack. In August, contact with M795 was lost likely due to exceeding the life the radio collar. M795 was categorized as "status unknown" at the end of 2005.

APPENDIX B

Personnel

The following personnel were involved in the project during this reporting period. Individuals listed below collected data or provided other information for this report.

U.S. Fish and Wildlife Service

John Morgart, Mexican Wolf Recovery Coordinator
Colleen Buchanan, 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
Brian Lakes, Special Agent

Arizona Game and Fish Department

Dan Groebner, Region I Nongame Specialist and AGFD Wolf Project Leader
Shawn Farry, Field Team Leader
Janess Vartanian, Wolf Biologist (started March 2005)
Shawna Nelson, Mexican Wolf Outreach Specialist
Colby Gardner, Wolf Technician (started April 2005)
Laura Kelly, Wolf Technician (started April 2005)

New Mexico Department of Game and Fish

Nick Smith, Wolf Biologist

USDA-APHIS Wildlife Services

J. Brad Miller, Wolf Management Specialist
Richard Grabbe, Wolf Management Specialist
Brian Kluever, Depredation Study

Turner Endangered Species Fund

Melissa Woolf, Mexican Wolf Biologist

White Mountain Apache Tribe

Krista Beazley, Tribal Mexican Wolf Biologist
Deon Hinton, Wolf Technician

Volunteers

Jeff Dolphin, Shannon Grubbs, Jen Fullerton, Laura Kelly, and Jared Merkle