Mexican Wolf Blue Range Reintroduction Project
Initial Release and Translocation Plan for 2016

This document outlines the plan for initial release(s) and translocation(s) of Mexican wolves into the Mexican Wolf Experimental Population Area (MWEPA) in Arizona and New Mexico in 2016. The initial releases and translocations in this document are consistent with:

(1) *the 2014 Final Environmental Impact Statement (EIS) for the Proposed Revision to the Regulations for the Nonessential Experimental Population of the Mexican Wolf (Canis lupus baileyi),*

(2) *the 2015 Record of Decision for the Proposed Revision to the Regulations for the Nonessential Experimental Population of the Mexican Wolf (Canis lupus baileyi),*

(3) *the 2015 Final 10j Rule - Revisions to the Regulations for the Nonessential Experimental Population of the Mexican Wolf*

The above documents analyzed the potential environmental and socioeconomic impacts of a Mexican wolf population in the Mexican Wolf Experimental Population Area (MWEPA), including conducting initial releases and translocations. From 1998-2015, we conducted 26 initial release events (96 wolves) and 68 translocation events (120 wolves).

The genetic diversity of the Mexican wolves in the MWEPA has the potential to be biologically problematic and therefore is of high management concern. Genetic analysis indicates that 19 of 21 (90%) potential 2016 breeding pairs will have one of the breeding pair as a descendent of the Bluestem pack, and 11 of 21 (52%) potential breeding pairs will have both individuals of the breeding pair as descendants of the Bluestem pack (Figure 1). Further, compelling field observations in instances where genetic data are not available (e.g. IFT information on animals that are likely offspring of the Bluestem pack based where the animal was collared), suggest the frequency of relatedness to be higher yet. Additionally, 37 out of 42 (88%) individuals with known genetics in the population are related to the Bluestem pack, indicating that future additional related pair matching is high. This is a genetic concern because it has the potential for long-term impacts on the population because breeding between close relatives increases the likelihood that negative genetic characteristics become dominant (i.e., present in most individuals) in the population.

The actions within the MWEPA are: (1) to initial release a pack (male and female with pups) within New Mexico, (2) to cross-foster pups into a maximum of five packs (a maximum of six pups are authorized in the Arizona portion of the MWEPA), (3) to translocate a single wolf (M1336) in Arizona or New Mexico, and (4) to translocate wolves that may be moved for management purposes during 2016 (primarily wolves that disperse outside of the MWEPA). An initial release, translocation, or cross-foster is considered successful when those animals ultimately survive to breed and reproduce in the wild following release/translocation.

Initial Releases. Initial release wolves from the captive breeding program will be selected based on their genetic value to the wild Mexican wolf population within the MWEPA, as well as other desirable characteristics (e.g., fear of humans in captivity). Initial releases and translocations are

more successful when pups are present and when they occur in areas with adequate native prey. For instance, data show that initial releases of breeding animals with pups in areas of adequate native prey have resulted in the alpha animals being successful 66% (n = 9) of the time. If successful, initial releases of breeding animals with pups increase the genetic variability of the population. Further, these pairs tend to continue to the genetic diversity of the population with successional annual reproduction. Therefore the IFT is proposing one initial release of a pair with pups in New Mexico.

Cross-fostering. Cross-fostering, which is the placement of genetically valuable captive pups (<14 days old) into wild dens, is an additional method to increase genetic variability. Cross-fostering is more logistically complicated than initial releases because it requires synchronicity between captive and wild population breeding pairs during a short time window. Cross-fostering is a relatively new method for the Mexican Wolf Project, and therefore its overall efficacy as a future genetic management tool is unknown. However, the IFT has high expectations based on the experience of the red wolf program. The IFT has only been able to attempt cross-fostering on three occasions. In 2014, the two cross-fostered pups were incorporated into the pack, but we have yet to document breeding by these individuals (note: at least one collared animal remains alive in the population). In 2015, both cross-fostering efforts were not completed due to logistical difficulties. In one effort, the IFT failed to find the wild den. In the second effort, the pups died or were never born in captivity. The IFT is proposing to cross-foster pups into a maximum of five packs (a maximum of six pups are authorized in the Arizona portion of the MWEPA). Cross-fostering will occur within packs that den on Federal land within Zone 1 or Zone 2 of the MWEPA, in accordance with the guidance of Phase 1 (see 2015 Final 10j Rule).

Initial releases and cross-fostering are the preferred methods available to improve the genetic diversity of the wild population. The 2016 plan is aggressive by attempting as many cross-fostering efforts as logistically possible, while continuing to evaluate the efficacy of the method. Since cross-fostering does not directly expand the distribution of wolves on the landscape, it should be less controversial. Conversely, the IFT has more experience with initial releases. However, initial releases are more controversial because they occur in areas not currently occupied by wolves. Initial released animals also have a higher probability of nuisance behavior during the initial four months following release, relative to wild wolves. The 2016 plan addresses these issues by initially releasing wolves: (1) to areas that have had wolf presence since 2000, but are not currently occupied, (2) with pups to reduce movement and increase focused management, and (3) into the Gila Wilderness or the Aldo Leopold Wilderness with low human presence to minimize nuisance impacts to humans.

Background

Initial Release and Translocation Restrictions and Land Use:

Strategies differ throughout the MWEPA that reflect various state, federal and tribal agency direction and land-use patterns (e.g. higher and more complex land-use areas vs. wilderness). To the extent possible those realities are addressed in these initial release and translocation strategies while still promoting the health of the population by addressing critical genetic issues. The Arizona Game and Fish Commission has directed the Arizona Game and Fish Department (Department) to permit only cross-fostering captive pups into wild wolf dens and translocations of wild-born and raised wolves in Arizona. The combination of strategies within the MWEPA that are outlined in this plan represent a critical and significant effort to increase genetic variability. Genetic variability can continue to be improved upon through additional initial release and cross-fostering efforts in future years. However, it is important to note that improving the genetic diversity of the wild population will become more difficult as the population increases.

Initial Release and Translocation Strategies:

Translocations involve moving a wolf from one location in the wild to another location within the MWEPA. The animals involved in translocations may have spent a period of time in captivity prior to translocation. Entering 2016, the USFWS has one preferred translocation candidate (M1336) available in captivity. M1336 was captured during the 2015 helicopter count to prevent him from breeding with his sibling. M1336 does not have a depredation or nuisance history. Other wolves may be captured and be made available for translocation. We will evaluate these wolves on a continual basis to determine if, where, and how a translocation should proceed based on SOP 6.1 (Wolf Translocations) and a full evaluation by the IFT.

Initial releases involve the release of wolves from captivity without wild experience. The goal of initial releases has shifted with the evolving needs of the Mexican wolf population. From its inception through the period when the population was small, initial releases were necessary to assist in population growth. More recently, initial release actions are focused on improving the genetic composition of the wild population (see Figure 1). Releasing Mexican wolves from the captive breeding program continues to be critical to reduce kinship (relatedness) and increase genetic variability of the wild population. The USFWS has two pairs available in captivity for initial release to the wild (AF1323 X AM1228 and AF1362 X AM1196). At this time, the preference is to utilize AF1323 X AM1228 for the initial release pair. However, the decision on which pair will be released will be based on an ongoing evaluation of behavior and pup production in captivity. The IFT proposes releasing a pair with pups in New Mexico. Current distribution of Mexican wolves suggests that there will be adequate sites within the Gila Wilderness (McKenna Park, Lilley Park, West Fork of the Gila, or Miller Springs), or at the North Seco site in the Aldo Leopold Wilderness (Figure 2).

Finally, cross-fostering (placement of genetically valuable pups (<14 days old) from captivity into wild dens) will occur as synchronized production of both wild and captive pups allows. Cross-fostering does not appreciably change the distribution of wolves on the landscape, but depends on

complex coordination of logistics between captive facilities and the wild population (see SOP 31.0) to succeed. Thus, the IFT is proposing to conduct cross-fostering as logistical constraints allow. Cross-fostering will occur in April or May and will only occur within packs that den on Federal land.

Initial Releases and Translocations

The Executive Committee approved the following actions.

Action 1– Cross-fostering of Wolf Pups Produced in Captivity into Wild Mexican Wolf Pack Dens in the MWEPA.

The IFT will cross-foster pups into a maximum of five packs (a maximum of six pups are authorized in the Arizona portion of the MWEPA) to increase the genetic diversity of the wild Mexican wolf population. Cross-fostering will only occur on Federal land in Zones 1 and 2.

Captive pups placed into wild Mexican wolf dens will be of a different genetic profile than existing wolf packs in the MWEPA and, if successfully established, can increase genetic diversity to the existing wild wolf population. Figures 2 and 3 give a general distribution of existing packs where cross-fostering may occur. Eight packs appear to be viable candidates for cross-fostering efforts during the 2016 season. These packs include: five packs in Arizona, two packs in New Mexico, and one pack that could den in either state. The IFT will attempt to cross-foster pups into a maximum of five of these packs in 2016.

Associated Management Actions

The IFT will develop a specific cross-fostering plan for the 2016 breeding season. This management option requires the following circumstances and considerations:

- Wild Mexican wolf packs display denning behavior in 2016 in Zone 1 and Zone 2 of the MWEPA.
- Donor pack(s) in captivity are identified and produce viable pups.
- Whelping dates of wild packs relative to donor packs must be within 10 days.
- Litter size of the wild packs need to be small enough to accept donor pups.

Favorable Attributes of Action 1:

1. Cross-fostering allows for the integration of genetically different Mexican wolves to be introduced without having to release naïve packs/adults.
2. Cross-fostering allows captive born wolf pups to be raised wild and reduces the potential for nuisance wolf interactions that are often associated with the release of naïve captive adult wolves.

Negative Attributes of Action 1:

1. Cross-fostering frequently requires significant disturbance of the targeted wild pack(s) dens, and may result in packs moving pups to another den. However, red wolf recovery program data indicate that, of the number of cross-fostered pups with known outcomes (17 of 31, or 55%), pup survival into the next year is 92% regardless of den movement.
2. Cross-fostering requires a series of specific events to occur simultaneously (e.g. packs den in Zones 1 and 2 in the MWEPA, both the donor and recipient packs have pups within seven days of each other, the transfer occurs within the first 14 days of birth, the recipient litter size is small enough to accept donor pups, wild pack den sites are located within 10 days of whelping, etc.). Thus, we can not specify individual recipient or donor packs, until the time that key information is available.

<u>Action 2 - Initial Release of a captive pair and pups into the Gila Wilderness or Aldo Leopold Wilderness (preferably AF1323 X AM1228 and associated pups).</u>

This action involves the initial release of a single pair of wolves (AF1323 X AM1228 or AF1362 X AM1196) and associated pups from captivity into a release site in the Gila or Aldo Leopold Wilderness. At this time, AF1323 X AM1228 is preferred; however, the decision will be continuously evaluated based on behavior and production of pups in captivity. The pair and pups would be released June - July at McKenna Park, Lilley Park, North Fork of the Gila, or Miller Springs in the Gila Wilderness depending on current wolf distribution. If these sites are occupied by wolves at the time of release, the North Seco site in the Aldo Leopold Wilderness would be utilized. A temporary mesh pen would temporarily restrain the wolves prior to release. To the degree possible (dependent on pup age) the release should correspond with elk calving (~June 1) to facilitate natural hunting behavior.

Favorable Attributes of Action 2:

1. The release areas are not grazed, although grazing does occur within ten miles of the release sites. The IFT will develop mitigation measures with affected permittees dependent on where the pack settles. The IFT will have access to a helicopter if removal actions are required outside of the wilderness.
2. The release of a naïve pair of wolves and pups will be unrelated to the current MWEPA population. If successful, the pair would provide potential long-term genetic benefits to the population.
3. Actions in the wilderness limit the potential for interactions with humans.
4. The presence of young pups will localize the pair in the wilderness for a period of time (from the time of release until approximately September).

Negative Attributes of Action 2:

1. While the potential for livestock depredation is low in the release area (Figure 2), the released wolves could overlap with livestock in the future (after September), if they leave the release area. These wolves will be actively monitored and managed whether outside or inside the wilderness. Although the potential for nuisance scenarios is reduced in the wilderness, campers and hunters have had encounters with newly released wolves.

2. If the pups from the release die, there is a high likelihood that these wolves will travel widely across the MWEPA.

Action 3 - Translocate M1336 as a single animal.

The IFT would hard release M1336 onto Federal land inside the MWEPA in Arizona or New Mexico. Translocations conducted via hard release can occur anywhere within Zone 1 or Zone 2 of the MWEPA and are not dependent on approved translocation sites. Translocation of M1336 into an area where sign of uncollared individuals has occurred will be preferred. However, timing and location may change based on an evaluation of breeding vacancies within the wild population. The IFT will follow SOP 5.1 (Translocations) for communication with permittees and local officials prior to the translocation of M1336.

Favorable Attributes of Action 3:

1. M1336 will be translocated into the population as an additional potential breeding animal.
2. M1336 could pair with a previously unmarked wolf.

Negative Attributes of Action 3:

1. The single, hard-released animal will likely travel widely.
2. The distribution of Mexican wolves is unlikely to increase as a result of this action.

Action 4 - Translocation of Wolves That May Be Moved for Management Purposes During 2016 (primarily for wolves dispersing outside of the MWEPA).

Mexican wolves that travel outside of the MWEPA or require translocation for management action will be considered for translocation onto Federal land inside the MWEPA in Arizona or New Mexico in accordance with the 2015 10(j) Rule. Most translocations under these scenarios will be single animals and thus can occur anywhere within Zone 1 or Zone 2 as a hard release. Recommendations may be made to utilize an established release site, recognizing the new sites are currently undergoing NEPA analysis by the U.S. Forest Service (USFS). The IFT will recommend the best available site based on relative site ranking, the USFS decision, and current wolf distribution. The IFT will follow SOP 5.1 (Translocations) for communication with permittees and local officials prior to these translocations if the occur.

Favorable and Negative Attributes of Action 4:

1. Attributes of these translocations will be similar to Action 3. We will consider the specific cause of removal and severity of behavior causing removal prior to recommending a translocation. In addition, we will consider the distribution of wolves, breeding vacancies, and genetics associated with the potential translocation candidate(s).

Figure 1. Potential Breeding Pairs for 2016. Breeding pairs having one confirmed animal that is a descendent of the Bluestem Pack are illustrated by a light blue circle. Pairs where both the male and female are a descendent of the Bluestem Pack are indicated by a dark blue circle. Circles with hatched blue lines represent a pack where one member of the pair is likely a descendent of the Bluestem Pack based on location and past breeding success, but where genetic results are unknown. Clear circles represent pairs where the genetic analyses are not complete and location does not suggest a Bluestem Pack descendant.

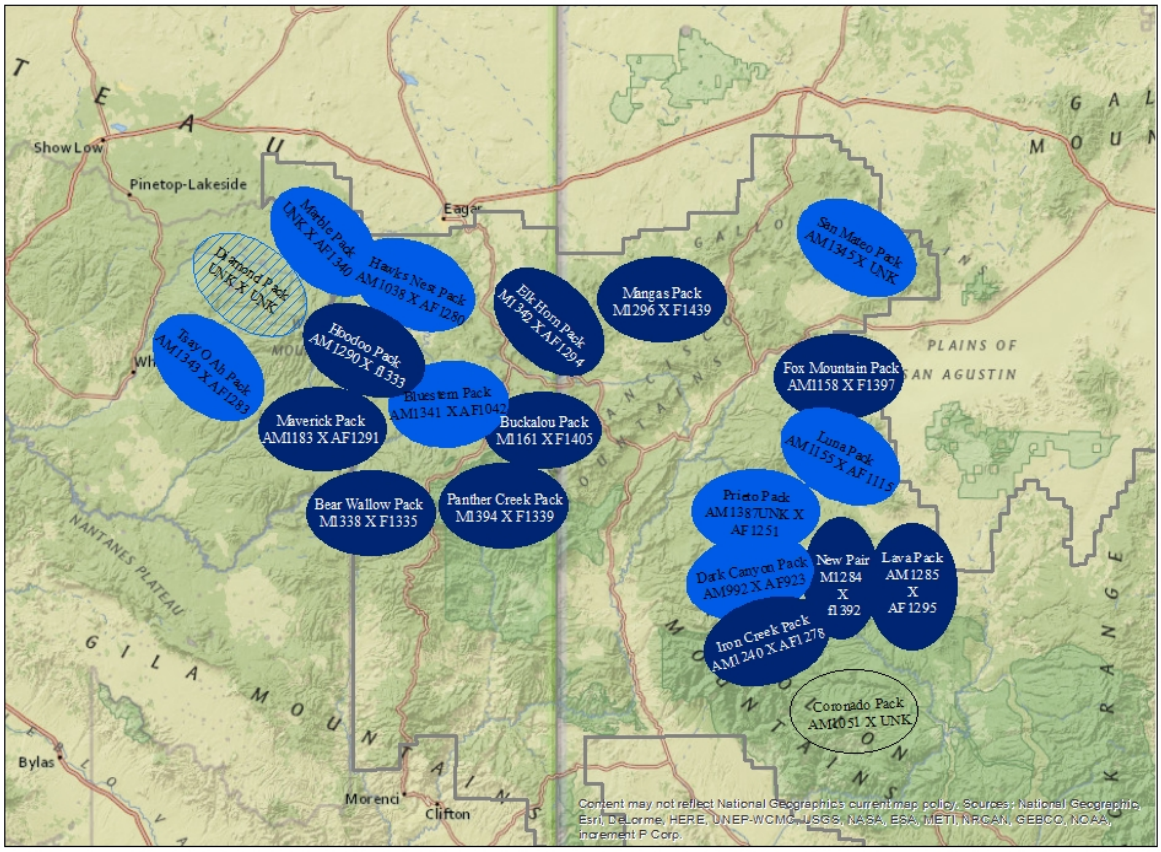

Figure 2. Initial release and translocation sites in New Mexico that were previously authorized for use in comparison to wolf home range areas in 2014.

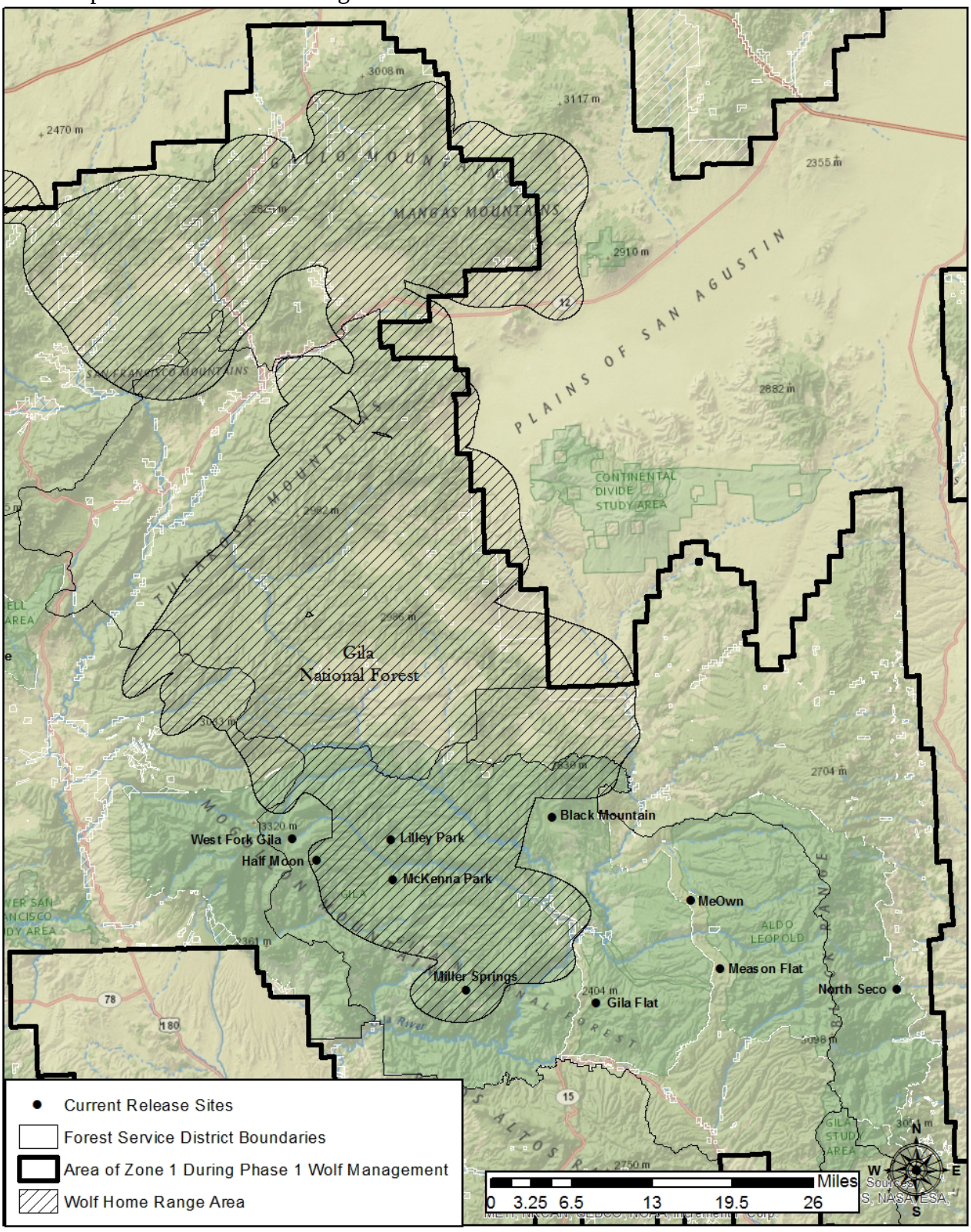

Figure 3. Initial release and translocation sites in Arizona that were previously authorized for use in comparison to wolf home range areas from 2014. Note that releases conducted south of Engineer Springs were abandoned in 1999 due to low prey density and lack of successful releases. The prey density remains low in these areas.