APPENDIX G: CONFERENCE/BIOLOGICAL OPINION FOR THE PROPOSED REVISION TO THE REGULATIONS FOR THE NONESSENTIAL EXPERIMENTAL POPULATION OF THE MEXICAN WOLF, THE ISSUANCE OF A NEW RESEARCH AND RECOVERY PERMIT FOR THE MEXICAN WOLF RECOVERY PROGRAM AND THE GRAY WOLF, AND FUNDING PROVIDED TO THE MEXICAN WOLF RECOVERY PROGRAM FOR THE PURPOSE OF IMPLEMENTING THE PROGRAM

FINAL CONFERENCE/BIOLOGICAL OPINION – November 17, 2014

CONSULTATION HISTORY

February 24, 1995:	Intra-Service consultation on the *Reintroduction of the Mexican Wolf within its Historic Range in the Southwestern United States*
November 7, 2011:	Intra-Service Biological and Concurrence Opinion on the Renewal of TE-091551-6, Research and Recovery Permit for the Mexican Wolf Recovery Program.
June 9, 2014:	Request for formal Intra-Service consultation on Proposed Revision to the Regulations for the Nonessential Experimental Population of the Mexican Wolf, the Issuance of a New Research and Recovery Permit for the Mexican Wolf Recovery Program and the Gray Wolf, and Funding provided to the Mexican Wolf Recovery Program for the Purpose of Implementing the Program

DESCRIPTION OF THE PROPOSED ACTION

The proposed actions addressed by this conference/biological opinion are the proposed revision to the regulations for the nonessential experimental population of the Mexican wolf (proposed revised rule); issuance of a section 10(a)(1)(A) research and recovery permit that authorizes activities for the management of the Mexican wolf within Arizona, New Mexico, and to a far lesser extent California, Colorado, Nevada, Texas, and Utah; issuance of a section 10(a)(1)(A) research and recovery permit that authorizes activties for the management of gray wolves in Arizona and New Mexico; and funding provided to the Mexican Wolf Recovery Program for the purpose of implementing the program.

The Service is proposing to revise the existing regulations (63 FR 1752, January 12, 1998) (1998 Final Rule), for the experimental population of the Mexican wolf (79 FR 43373, July 25, 2014) and to list the Mexican wolf as an endangered subspecies (78 FR 35664, June 13, 2013). The Service also published a draft environmental impact statement (DEIS) to analyze the impacts of the proposed revisions to the regulations for the nonessential experimental population of the Mexican wolf (79 FR 43373, July 25, 2014). In conjunction with the proposals, if finalized, the Service will issue or revise the Mexican Wolf Recovery Program's section 10(a)(1)(A) research and recovery permit (TE-091551-8) that authorizes take of the Mexican wolf during management activities consistent with a Service-approved management plan or special management measure adopted by the Service pursuant to the provisions of the proposed revised rule, as well as conduct activities related directly to the conservation, protection, and recovery of Mexican wolves and gray wolves within Arizona and New Mexico. In addition, areas

of California, Colorado, Nevada, Texas, and Utah that are immediately adjacent to Arizona and New Mexico may on extremely rare instances have a Mexican wolf disperse to the area and thus require the Service to conduct activities in those areas as well. The Service has proposed to delist gray wolves in the lower 48 states with the exception of Mexican wolves (78 FR 35664, June 13, 2013). Within the context of this conference/biological opinion, we treat the Mexican wolf as endangered, except where designated as an experimental population. We also treat the gray wolf as a separate listed entity because proposed delisting does not impact the analyses until such time as the delisting becomes final. The action area between Mexican wolves and gray wolves differs because we only intend to manage gray wolves that are within the Southwestern Region (i.e. Arizona and New Mexico), while we intend to manage Mexican wolves wherever they occur. The Service's Wildlife and Sport Fish Restoration (WSFR) Program may provide funding for implementation of the Mexican Wolf Recovery Program under traditional and non-traditional section 6 grants to participating states, state wildlife grants, landowner incentive program grants, Tribal grants, traditional Federal assistance, or any other funding mechanisms. Other Service programs (e.g., Partners for Fish and Wildlife) may also provide funding that will contribute to the conservation of the Mexican wolf. Additionally, the Service's Mexican Wolf Recovery Program may provide funding to participating partners for the conservation of the Mexican wolf through Cooperative and Grant Agreements, as well as contracts.

The Mexican Wolf Recovery Program is, and has been guided by several statutes, regulations, policies, and authorities. The primary statute directing the Mexican Wolf Recovery Program is the Endangered Species Act of 1973 (ESA) the purpose of which is to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and to provide a program for the conservation of such endangered species. The Mexican Wolf Recovery Program is currently based on the following documents: (1) the 1982 Mexican Wolf Recovery Plan; (2) 1996 Final Environmental Impact Statement (EIS) titled; *Reintroduction of the Mexican Gray Wolf within its Historic Range in the Southwestern United States* (1996 EIS); (3) January 12, 1998, Final Rule titled, *Endangered and Threatened Wildlife and Plants; Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico* (Final Rule), which promulgated 50 CFR §17.84; (4) 1998 Mexican Wolf Interagency Management Plan; and (5) Federal Fish and Wildlife Permit number TE-091551-8. The Mexican Wolf Recovery Program is proposing to revise the 1998 Final Rule and has produced an EIS that analyzes the impact of the proposed revisions. However, the impacts to Mexican wolves and other endangered and threatened species will be based on the management activities, as we do not predict impacts to endangered or threatened species based on the presence of Mexican wolves. A general description of the discretionary management activities are stated in the five goals of the Mexican Wolf Recovery Program below for Mexican wolves within the Mexican Wolf Experimental Population Area (MWEPA), which are designated as a nonessential, experimental population, and Mexican wolves outside the Mexican Wolf Experimental Population Area that are fully protected as Endangered under the ESA.

Captures and Collaring – The Mexican Wolf Recovery Program generally maintains at least two collared Mexican wolves per pack. Mexican wolves of appropriate size are collared prior to initial release from captivity, but wild born Mexican wolves often have to be captured and collared for monitoring purposes. The Mexican Wolf Recovery Program uses several techniques to capture wolves, including leg-hold traps, darting from the ground or during aerial operations, and net-gunning during helicopter operations. All of these capture techniques could potentially cause minor to severe injury or death to the wolf being captured. The Mexican Wolf Recovery Program follows trapping and handling protocols, which require personnel to check traps at least once every 24 hours and to set traps in areas to minimize exposure to heat, cold/wet conditions, human disturbance, and other hazards that may be encountered in the wild. Once a wolf (or nontarget species) is removed from the trap, veterinary care is administered to minimize

injuries and ensure the health of the animal (e.g., wound treatment, hypothermia, hyperthermia, and dehydration). All wolf captures are supervised by experienced Mexican Wolf Recovery Program personnel to ensure techniques are followed to minimize injuries and/or deaths. As a result of these efforts, serious injury or death as a result of capture by the project has been an extremely rare occurrence (five animals out of several hundreds of captures).

Non-lethal Techniques – The Mexican Wolf Recovery Program minimizes depredations and human nuisance occurrences by Mexican wolves, including the use of scare devices, taste aversion, and harassment by agency personnel within the MWEPA (e.g., use of rubber bullets, bean bag rounds, cracker shells, and paint-ball guns). Disturbing den or rendezvous sites is also utilized if they occur near an undesirable location (i.e., too close to human inhabitants). The desired outcome of den or rendezvous site disturbance is that wolves will move these sites to a more remote location. The goal of these harassment techniques is to prevent the need to capture and translocate Mexican wolves, or permanently remove and/or lethally control Mexican wolves (lethal control is limited to Mexican wolves within the experimental nonessential area in Arizona and New Mexico 50 CFR 17.84(k)).

Initial Release and Translocation Pen Procedures – The Mexican Wolf Recovery Program is working to increase the Mexican wolf population via translocation, initial releases, and natural recruitment. The Interagency Field Team and other agency personnel handle and temporarily confine Mexican wolves in initial release and translocation pens (hereafter pens). Mexican wolves are transported by helicopter, vehicle (including snowmobile and all-terrain vehicle (ATV)), and/or by mule to the pens. After an acceptable acclimation period, the Mexican wolves are released from the pens, which are constructed of either temporary nylon mesh or chain link panels. The pens are constructed in remote locations on U.S. Forest Service lands at approved initial release and translocation sites. A *Husbandry Manual* developed through the Mexican Wolf Species Survival Plan (see USFWS 1998a: Appendix 4) and the Service document titled *Pre-Release Facility Husbandry and Operations Protocol* are followed to minimize adverse effects to Mexican wolves while in captivity.

Biological Data Collection – The Mexican Wolf Recovery Program collects appropriate biological data using aerial and ground telemetry monitoring; visually observing Mexican wolves near den or rendezvous sites to count the number of pups; obtaining samples such as hair, scat, and blood; and howling surveys.

Mexican Wolves in Captivity – The Mexican Wolf Recovery Program continues to maintain and/or increase the number of Mexican wolves in captivity. These activities include, but are not limited to, breeding, handling, administering health care, and obtaining samples such as blood, tissue, semen, ova, and hair. The Mexican Wolf Recovery Program ensures that Mexican wolves remain healthy and that the highest quality of care exists while minimizing human contact with the captive Mexican wolves. Veterinarians may be present at captures within the captive facility and proper protocols, including those in the *Husbandry Manual*, are followed to minimize adverse effects to Mexican wolves in captivity.

The Mexican Wolf Recovery Program operates two pre-release facilities, the Ladder Ranch Wolf Management Facility and the Sevilleta Wolf Management Facility. Both facilities house Mexican wolves prior to release and after temporary or permanent removal from the wild. The *Husbandry Manual* and Service document *Pre-Release Facility Husbandry and Operations Protocol* are followed to minimize adverse effects to Mexican wolves in captivity.

Lethal Control – Lethal control of Mexican wolves is only proposed to be authorized within the Mexican Wolf Experimental Population Area in Arizona and New Mexico (50 CFR 17.84(k)). Lethal control is a management option for personnel authorized by the Service for management of wolves when reasonable attempts to capture wolves alive fail and when the Service determines that immediate removal of a

particular wolf or wolves from the wild is necessary. Additional instances of authorized lethal control or take are detailed in the Proposed Revised Rule (50 CFR 17.84(k)).

Purposeful take associated with implementation of the Mexican Wolf Recovery Program – Since the purpose of the Mexican Wolf Recovery Program is to maintain a captive population and reestablish a wild population within the 10j boundaries, management of the species necessarily results in take. Purposeful take is expected to result from the activities described above, under the Service-approved management plan, or special management measures adopted by the Service pursuant to the provisions of the Proposed Revised Rule (50 CFR 17.84 (k)); as well as conducting activities related directly to the conservation, protection, and recovery of the experimental population of Mexican wolves within Arizona and New Mexico. Harassment from management activities may also extend to wolves outside the MWEPA when Mexican wolves disperse from the MWEPA boundaries and are captured and returned to the Mexican Wolf Experimental Population Area.

Any person may take (including injure or kill) a Mexican wolf in self-defense or defense of the lives of others, provided that the take is reported within 24 hours to the Service's Mexican Wolf Recovery Coordinator or a designated representative of the Service. If the Service or an authorized agency determines that a wolf presents a threat to human life or safety, the Service or the authorized agency may kill it, capture and euthanize it, or place it in captivity (50 CFR 17.84(k)). In addition, a member of the Mexican Wolf Recovery Program may remove Mexican or gray wolves that constitute a demonstrable but non-immediate threat to human safety, provided that the taking is done in a humane manner; the taking may involve killing or injuring only if it has not been reasonably possible to eliminate such threat by live-capturing and releasing the specimen unharmed, in a remote area (50 CFR 17.21(c)(3)(iv)). Given that the authority to take a wolf in the defense of human life is addressed in the ESA and regulations, it will not be discussed further in this opinion.

Mexican Wolf Experimental Population Area

Section 4(f)(1) of the ESA states that the Secretary of the Interior shall develop and implement recovery plans for the conservation and survival of endangered species. The 1982 Mexican Wolf Recovery Plan (USFWS 1982a), adopted under the authority of the ESA, has two prime objectives: (1) maintaining a captive population, and (2) re-establishing at least 100 wild Mexican wolves in a 5,000 square mile area within the sub-species' historical range. The Recovery Plan did not however specify recovery criteria. The Service appointed a new Recovery Team to develop a revision to the 1982 Mexican Wolf Recovery Plan that will include recovery criteria. A revised Recovery Plan is expected to be completed following the issuance of a revised final rule and 10(a)(1)(A) permit.

The Service's 1996 EIS (USFWS 1996a) analyzed the presence of Mexican wolves throughout the entire Blue Range Wolf Recovery Area, including the primary and secondary recovery zones, with all anticipated associated impacts. On January 12, 1998, the Service published a Final Rule that authorized Mexican wolf reintroduction and recovery efforts in the Apache National Forest in Arizona, and the Gila National Forest in New Mexico (63 FR 1752). The Final Rule designated Mexican wolf populations reestablished in the Experimental Population Area as one experimental nonessential population, which provides for administrative and management flexibility under the ESA by relaxing prohibitions on take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct (16 U.S.C. 1532(19)), and allows for active management of Mexican wolves. The Final Rule amended Federal Regulations at 50 CFR §17.84 by adding the special rule providing Mexican wolves reestablished in the Blue Range Wolf Recovery Area and in the White Sands Wolf Recovery Area, if used, with the status of nonessential, experimental. To date, wolves are not being released or occupying the White Sands Wolf Recovery Area.

Mexican wolves were reintroduced to the wild in 1998 in Arizona and New Mexico as a nonessential experimental population pursuant to section 10(j) of the ESA. Since 2003, an interagency partnership of Federal, State, County, and Tribal entities has been managing the reintroduction program with the Service acting as the lead agency. The program has been governed by a Memorandum of Understanding (MOU), signed in 2003, between Arizona Game and Fish Department, New Mexico Department of Game and Fish, White Mountain Apache Tribe, U.S. Department of Agriculture-Animal and Plant Health Inspection Service Wildlife Services, U.S. Department of Agriculture Forest Service, and the Service. The New Mexico Department of Game and Fish withdrew from the partnership on June 30, 2011. The remaining lead agencies have primary regulatory jurisdiction and management authority of the Mexican wolf in Arizona and New Mexico. Graham, Greenlee, Gila, and Navajo counties, and the Eastern Arizona Counties Organization in Arizona are designated as cooperators to the reintroduction project with an interest in Mexican wolf management. The MOU, which expired in 2008, was revised and signed by the cooperators in and subsequent to 2010. The Service remains committed to involving partners in managing Mexican wolves to best support the biological processes of the population, while minimizing potential economic impacts of Mexican wolves. Management activities currently conform to the Service's 1998 Mexican Wolf Interagency Management Plan (USFWS 1998b).

The Service proposes to revise the regulations established in our 1998 Final Rule for the experimental population of the Mexican wolf. We also propose to extend the authority of the Mexican Wolf Recovery Program's Section 10(a)(1)(A) research and recovery permit to areas that are outside of the Mexican Wolf Experimental Population Area. In the EIS, we analyze the environmental consequences of a range of alternatives, including the Proposed Action and No Action alternative. The action would be implemented through a final nonessential experimental rule, a revised Section 10(a)(1)(A) research and recovery permit and the provision of federal funding. This BO analyzes the proposed action (e.g. proposed rule), the revised Section 10(a)(1)(A) research and recovery permit, and the provisions for federal funding and their impacts on Mexican wolves and other endangered and threatened species.

Consistent with section 10(a)(1)(A) of the ESA, the Secretary may permit, under such terms and conditions as he/she shall prescribe…acts necessary for the establishment and maintenance of experimental populations pursuant to subsection (j). We are proposing to revise and reissue the Mexican Wolf Recovery Program section 10(a)(1)(A) permit so that it applies to both the MWEPA and areas outside the MWEPA. Under the proposed rule we would expand the area in which initial releases of Mexican wolves from captivity could occur and extend the southern boundary of the MWEPA in Arizona and New Mexico to the United States-Mexico international border. Within the expanded MWEPA, we would designate three Mexican wolf management zones (Figure G-1) and we would conduct management actions within these zones intended to further the conservation of the Mexican wolf while being responsive to the needs of the local community in cases of depredation or nuisance behavior by Mexican wolves. Collectively these changes would represent: (1) geographic boundary changes that: (a) remove the designation of the White Sands Wolf Recovery Area (WSWRA), (b) remove from the MWEPA the small portion of Texas, (c) move the southern boundary of the MWEPA in Arizona and New Mexico from Interstate-10 to the United States-Mexico international border, and (d) designate three wolf management zones within the expanded MWEPA; (2) management changes that: (a) allow initial release, translocations, dispersal, and occupancy of Mexican wolves based on the three wolf management zones, and (3) revise the regulations for the take of Mexican wolves on Federal and non-Federal land within the entire MWEPA (Zones 1, 2 and 3).

Mexican Wolves Outside of Experimental Population Area

The area where Mexican wolves may be reintroduced by the Mexican government may extend to within 30 miles of the U.S. border at the Arizona/New Mexico state line. Dispersal and natural recolonization

into areas within the revised MWEPA (south of Interstate Highway 10 (I-10)) are likely if the Mexican government succeeds in establishing a population of Mexican wolves in northern Mexico. Mexican wolves could also disperse from the revised MWEPA into areas to the north of Interstate Highway 40 (I-40) (in Arizona, New Mexico, Colorado, or Utah); west into Nevada or California; or east into Texas where they would be considered endangered. Mexican wolves will likely occupy mountainous/forested habitats in these areas should they become established. All Mexican wolves within the action area, but outside of the MWEPA, are fully protected as endangered under the ESA. The action area is the states of Arizona and New Mexico, the western portion of Texas, the southern portions of Colorado and Utah, the southeastern portion of California, and the southern portion of Nevada. Should a Mexican wolf establish a territory outside of the MWEPA, the Service or an authorized agent will attempt to promptly capture the wolf and translocate it within the MWEPA, put it into the captive population, or transfer it to Mexico, as authorized by a revised Mexican Wolf Recovery Program section 10(a)(1)(A) permit.

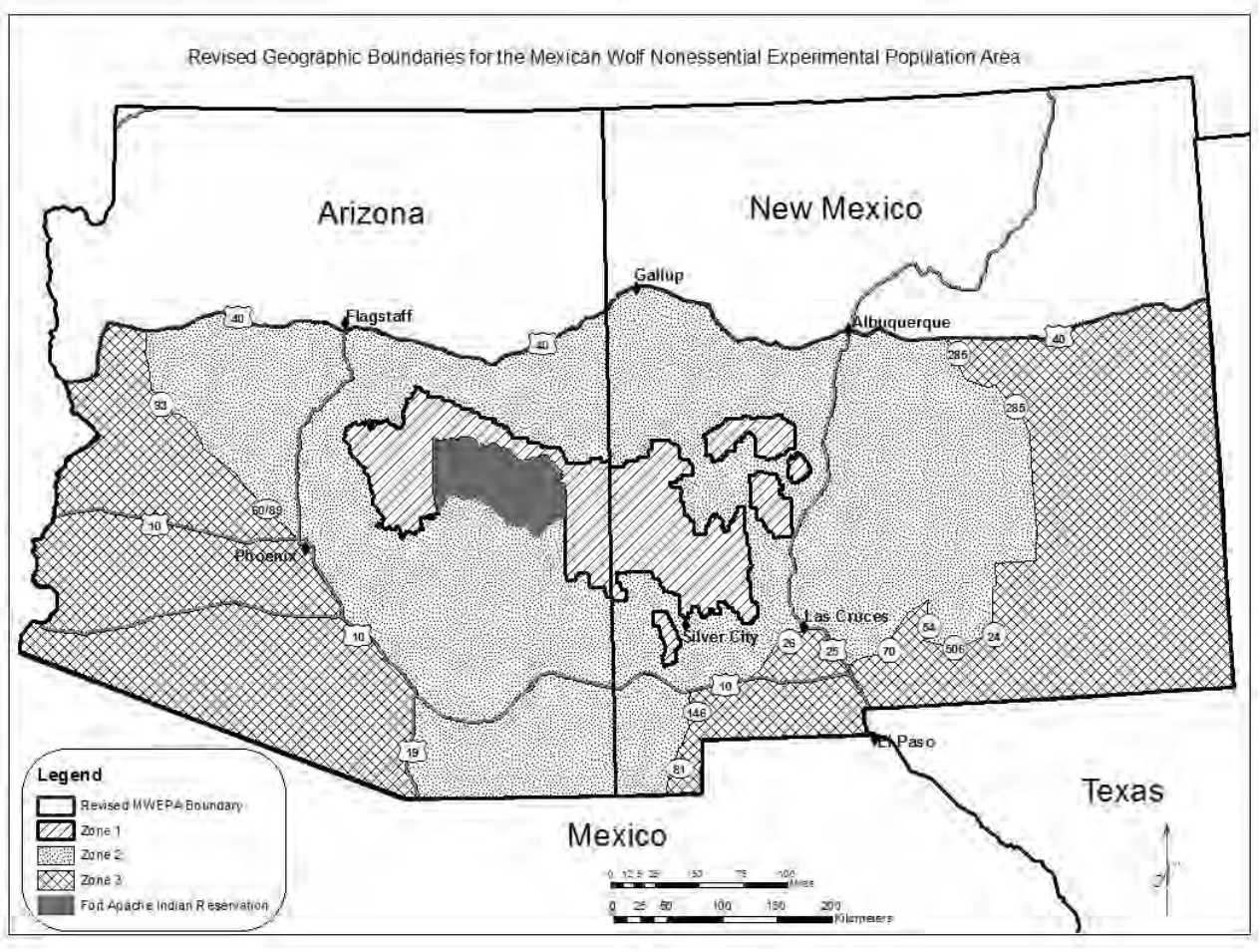

Figure G-1. Revised Mexican Wolf Experimental Population Area.

Specific Wolf Management Activities

Specific activities conducted under the Mexican Wolf Recovery Program within the MWEPA are described in the Proposed Rule. All management activities summarized below pursuant to the goals of

the program are implemented for Mexican wolves designated as experimental, nonessential and, excluding lethal control, may be conducted for Mexican wolves outside the MWEPA (i.e., designated 10(j) area) in Arizona and New Mexico, and in California, Colorado, Nevada, Texas, and Utah in the unlikely event that a Mexican wolf disperses into these states.

Capture and maintain at least two collared Mexican wolves per pack:

a. These activities include, but are not limited to: trapping (leg-hold traps), darting (from ground or during aerial operations), net-gunning during helicopter operations, handling, possessing, administering health care, marking utilizing radio-collars or other appropriate monitoring systems, obtaining samples (blood, tissue, semen, ova, and hair), transporting, salvaging, and releasing Mexican wolves.

b. Adult Mexican wolves released from captivity or trapped in the wild within the U.S. are radio-collared (models 400 and 500, Telonics, Inc., Mesa, Arizona). Mexican wolves are then radio-tracked periodically from the ground (i.e., triangulation) and a minimum of once a week from the air, weather permitting (White and Garrot 1990). Location data (i.e., date, UTM location, Mexican wolf identification number, sex, age, number of wolves, behavior, and weather) are entered into the reintroduction project's database, along with reports for specific incidents (e.g., depredations (on domestic animals), Mexican wolf/human conflicts, aversive conditioning, captures, mortalities, translocations, initial releases, predation (on wildlife)).

Minimize depredation and human nuisance occurrence by Mexican wolves:

a. These activities include, but are not limited to: all activities listed in Goal 1.a., above, and non- lethal techniques (e.g., capture; radio collar and release on site; scare devices; guard animals; fladry; taste aversion; harassment by agency personnel using rubber bullets, bean bag rounds, cracker shells, paintball guns, and other human disturbance; den or rendezvous site disturbance; manipulation of movements via food caches; movement of livestock away from core use areas; and any other technique available) to resolve the conflict (see Coppinger et al. 1988, Cluff and Murray 1995, Fritts et al. 2003, Shivik et al. 2003, Bangs et al. 2005, Shivik 2006 for description of techniques and application results).

b. If the problem persists or becomes chronic, then the Mexican wolves may be translocated, permanently removed, and/or lethally controlled (lethal control is limited to Mexican wolves within the MWEPA (10(j)) in Arizona and New Mexico) in accordance with approved management plans, protocols, and the authorization of the Service's Mexican Wolf Recovery Coordinator.

Increase the wild Mexican wolf population and improve the genetic composition via translocation, initial releases, and natural recruitment:

a. These activities include, but are not limited to: all activities listed in Goal 1.a., above, and building temporary mesh and chain link paneled pens at sites that are (1) previously approved by the U.S. Forest Service (USFS), (2) include appropriate level of NEPA analysis and scoping in accordance with USFS policy guidance on building pens, and (3) include consultation on possible effects to other endangered and threatened species based on site specific characteristics and modifications at the individual release area. The pens include some minor disturbance to the ground, which for chain link pens can require archeological clearance from the USFS. Mexican wolves are transported by vehicle, mule, or helicopter to release areas. Food caches are maintained until the Mexican wolves discontinue utilizing the food caches or start killing native prey, and personnel often camp near the release areas to consistently monitor the Mexican wolves. In addition, Mexican wolves are sometimes initially released or translocated via hard release methodology. During hard releases, animals are released from crates directly into the wild. Hard released animals rarely stay in the release area and do not require camping of personnel or building of pens. As such, these actions do not require NEPA analysis or consultation outside of that which is

contained within this document. Another method of improving the genetic composition of the Mexican wolf population in the MWEPA is through cross-fostering. Cross-fostering is a management tool that we began using in 2014. Cross-fostering occurs when offspring are removed from their biological parents and placed with surrogate parents. Therefore, we could potentially improve the genetic composition of the experimental population by placing genetically appropriate Mexican wolf pups from captivity with adult Mexican wolves in the MWEPA. However, as this is a new technique for our program, we are uncertain of how successful these cross-fostering actions will be in terms of the cross-fostered animals surviving, breeding, and producing pups, and therefore becoming effective migrants.

Collect appropriate biological data:

a. These activities include, but are not limited to: aerial and ground telemetry monitoring, viewing Mexican wolves near potentially sensitive areas to obtain visual counts on the number of pups and adults in a pack, determining whether Mexican wolves were responsible for depredations and/or native ungulate kills that are discovered, howling surveys for documentation of unknown packs and counts of known packs, collecting samples (blood, tissue, semen, ova, and hair), and collaborating with researchers for data collection and analysis of approved projects.

Continue to maintain and/or increase the number of Mexican wolves in captivity:

a. These activities include, but are not limited to: breeding, handling, possessing, administering health care, obtaining samples (blood, tissue, semen, ova, and hair), transport, salvage, collaborating with researchers for data collection and analysis of approved projects. With prior authorization from the Service's Mexican Wolf Recovery Coordinator, permittees are authorized to transport wild-captured or captive-reared Mexican wolves to various approved sites for research, reintroductions, rehabilitation, breeding, administering health care or treatment of sick or injured animals (including euthanasia in extreme circumstances).

In summary, the Service's Mexican Wolf Recovery Program has pursued a two-pronged strategy consisting of the maintenance of a captive breeding population of Mexican wolves and reintroduction to the wild. The establishment of a Mexican wolf captive breeding program prevented the impending extinction of the Mexican wolf. The 1998 Final Rule set the regulations to successfully establish a population of Mexican wolves in the wild. The purpose of our proposed revisions to the regulations for the experimental population of the Mexican wolf and the Mexican Wolf Recovery Program's section 10(a)(1)(A) research and recovery permit is to further the conservation of the Mexican wolf by improving the effectiveness of the Reintroduction Project in managing the experimental population.

Conservation Measures – The following conservation measures consist of activities and measures established by the Service's Mexican Wolf Recovery Coordinator to minimize take of listed, proposed, and candidate species and will be implemented by all Mexican Wolf Recovery Program participants in the course of carrying out the covered activities described above.

Wolf management activities will not occur in wetlands or marshes, but the Service's Mexican Wolf Recovery Coordinator will direct Recovery Program participants to avoid streams and river banks, lake sides, wetlands, and marshes during the specific Mexican wolf management activities described above. This avoidance is taken to prevent disturbance or destruction of sensitive areas and to prevent the inadvertent movement of pathogens, parasites, and invasive non-native species in aquatic systems; as well as for the safety and well-being of Mexican wolves. The Service's Mexican Wolf Recovery Coordinator will prohibit the use of off-highway-vehicles (OHV) in streams and river banks, lake sides, wetlands, and marshes, except on road crossings open for public and administrative purposes.

Mexican Wolf Recovery Program participants conducting work in the area covered by this Conference/Biological Opinion will be educated in the identification of listed, proposed, and candidate plant species and their habitats in order to avoid inadvertent trampling or removal during surveys or the other specific wolf management activities described above. In addition, when activities described above may occur in an area inhabited by listed, proposed, and candidate plant species, the Service's Mexican Wolf Recovery Coordinator will restrict the use of OHVs in such areas.

Mexican Wolf Recovery Program activities will not be conducted in areas that pose a risk to the health and safety of wolves or permittees, such as mines or caves (typical roost sites for bats). Activities conducted in low desert environments would be rare. Without water or prey species, wolves may pass through low desert environments, but are unlikely to stay long enough to need management actions by Permittees.

Mexican Wolf Recovery Program participants conducting work in the area covered by this Conference/Biological Opinion will be trained annually, through the annual immobilization training, in the capture and handling protocol for large predators, to ensure that any jaguar (*Panthera onca*), Canada lynx (*Lynx Canadensis*), ocelot (*Leopardus pardalis*), or gray wolf (*Canis lupus)* captured in a leg-hold trap will be safely sedated, examined, and released. If appropriate, blood will be drawn, and a radio collar may be affixed to the animal.

Mexican Wolf Recovery Program participants will not camp near Mexican spotted owl nests or roosts during the breeding season and follow Recreational Disturbance Guidelines as outlined on page 294 of the Mexican spotted owl recovery plan, first revision. Flying low over a Mexican spotted owl nest or roost in an aircraft will be avoided during the MSO breeding season.

Mexican Wolf Recovery Program participants conducting work in the area covered by this Conference/Biological Opinion will be educated regarding designated Critical Habitat, primary constituent elements, and how to avoid any potential impacts for listed species within the action area.

Mexican wolves are unlikely to disperse to California, Colorado, Nevada, Texas, and Utah based on habitat connectivity, desert environments, and/or juxtaposition with the MWEPA. These states are included in the action area based on the remote possibility that personnel may need to capture Mexican wolves that have dispersed from the MWEPA into these areas. Before Mexican Wolf Recovery program participants initiate the capture of Mexican wolves in these states, the participants will contact the U.S. Fish and Wildlife Ecological Services office in the state where operations are planned to determine any potential concerns with species not evaluated in this Biological Opinion.

STATUS OF THE SPECIES AND CRITICAL HABITAT (rangewide and/or recovery unit)

Mexican Wolf

The Mexican wolf was listed as an endangered subspecies in 1976 due to near extinction resulting from predator extermination programs in the late 1800s and early to mid-1900s. In 1978, the Service subsumed this and several other gray wolf subspecies listings into a species- level listing for the gray wolf in order to protect the species throughout its range in the coterminous United States and Mexico (USFWS 1978). The 1978 reclassification was undertaken to "most conveniently" handle a listing that needed to be revised because of changes in our understanding of gray wolf taxonomy, and in recognition of the fact that individual wolves sometimes cross subspecific boundaries. In addition, we sought to clarify that the gray wolf was only listed south of the Canadian border. However, the 1978 rule also stipulated that "biological subspecies would continue to be maintained and dealt with as separate entities" (USFWS 1978), and offered "the firmest assurance that [the Service] will continue to recognize valid biological subspecies for purposes of its research and conservation programs" (USFWS 1978). Accordingly, we

implemented three gray wolf recovery programs in the following regions of the country: the Western Great Lakes (Minnesota, Michigan, and Wisconsin, administered by the Service's Great Lakes, Big Rivers Region), the Northern Rocky Mountains (Idaho, Montana, and Wyoming, administered by the Service's Mountain–Prairie Region and Pacific Region), and the Southwest (see Mexican wolves status above: Arizona, New Mexico, Texas, Oklahoma, Mexico, administered by the Service's Southwest Region). Recovery plans were developed in each of these areas (the northern Rocky Mountains in 1980, revised in 1987; the Great Lakes in 1978, revised in 1992; and the Southwest in 1982, the revision of which is now underway) to establish and prioritize recovery criteria and actions appropriate to the unique local circumstances of the gray wolf. A separate recovery effort for gray wolves formerly listed as *C. l. monstrabilis* was not undertaken because this subspecies was subsumed with *C. l. baileyi* and thus addressed as part of the recovery plan for the Southwest. No critical habitat has been designated for the Mexican wolf.

Mexican wolves tend to be patchy black, brown to cinnamon, and cream in color. The Mexican wolf is somewhat smaller than other gray wolves with adults weighing 23-41 kilograms (50-90 pounds) and height at the shoulder approximately 0.6-0.8 meters (2-2.5 feet). Mexican wolves have been found to be genetically distinct from other North American gray wolf taxa (Wayne and Vilá 2003).

This subspecies of gray wolf historically inhabited the southwestern United States and Mexico. Mexican wolves were associated with montane woodlands characterized by sparsely- to densely- forested mountainous terrain and adjacent grasslands at elevations of 4000-5000 feet where ungulate prey were numerous. Today, elk (*Cervus elaphus*) are the preferred prey of Mexican wolves in the experimental population (Paquet et al. 2001, AMOC and IFT 2005, Reed et al. 2006). Other prey species include deer (*Odocoileus virginianus* and *Odocoileus hemionus*), small mammals, and occasionally birds. Livestock are another source of prey for the Mexican wolf; between 1998 and 2013, 237 confirmed wolf-caused livestock kills (213 cattle, 13 sheep, 5 horses, and 1 mule) were documented in the Blue Range Wolf Recovery Area and Fort Apache Indian Reservation (AMOC and IFT 2005, USFWS 2004, USFWS 2005, USFWS 2006, USFWS 2008; USFWS 2009, USFWS 2010a). However, this should only be considered a minimum count, as some depredations may go undetected (Bangs et al. 1998, Oakleaf et al. 2003, Breck et al. 2011).

Mexican wolves typically live four to five years in the wild, reaching sexual maturity at two years of age. Offspring remain with their family until they disperse to establish a new territory. These hierarchical family units are referred to as packs. Female wolves may produce a litter of several pups each spring. Litter sizes of Mexican wolves in the experimental population documented during opportunistic pup counts are smaller than other gray wolf populations or captive Mexican wolves. Inbreeding depression may be partially responsible for small litter sizes (Fredrickson et al. 2007). In addition, several ecological hypotheses have also been suggested, but data have not been collected to support or refute them. Early pup mortality may also explain the small number of pups observed.

As of the December 31, 2013, annual minimum population count, the experimental population is a minimum of 83 Mexican wolves. Projections had estimated that the population would have reached 100 by 2006. The biological progress of the reintroduction was evaluated in two analyses at three (see Paquet et al. 2001) and five years (see Interagency Field Team 2005) after the inception of the reintroduction effort. Both analyses identified regulatory mechanisms that were slowing the progress of the population, including the internal and external boundaries (and associated regulations limiting release of captive-raised Mexican wolves to a small subset of the recovery area and requiring capture of Mexican wolves that establish territories outside of the recovery area) of the Blue Range Wolf Recovery Area, and provided a number of recommendations to improve the progress of the reintroduction. Many of these recommendations are incorporated into our proposed revisions to the regulations for the Mexican wolf

experimental population and the Mexican Wolf Recovery Program's section 10(a)(1)(A) research and recovery permit.

The three fundamental ecological conditions necessary for wolf habitat include large area, adequate prey, and security from human-caused mortality. Threats related to the destruction, modification, or curtailment of habitat do not likely threaten the Mexican wolf at the current time: the area occupied by the current population has remained stable since 2002; additional tribal lands are now available to support reintroduction efforts; and there is no indication that Mexican wolves are food-limited. Future habitat suitability for Mexican wolves in the Southwest and Mexico may decrease over time due to human population growth and resultant development on public and private lands.

In the current population, causes of mortality have been largely human-related (primarily illegal shooting and secondarily vehicular collision). The Service has not identified any individual threats that are so severe as to put the population at immediate risk of extinction. However, the population does not experience a single threat in absence of the others, but rather all threats simultaneously or at least within spatial or temporal proximity to one another (USFWS 2010a). Therefore, management and regulatory mechanisms, illegal shooting, and inbreeding are identified as threats that are hindering the growth and fitness of the population. Although Mexican wolf deaths related to vehicles do occur each year, the incidence of mortality from vehicles can be accommodated by the Mexican wolf population without a significant impact (http://www.fws.gov/southwest/es/mexicanwolf).

Given the wide-range of this species, several Federal actions affect this species every year. Because the current population is designated as nonessential (10(j)), there are several Conference Opinions on release pens; limiting impacts to other species; and avoidance of Mexican Spotted owl designated critical habitat. A complete list of consultations affecting this species in Arizona and New Mexico can be found on our websites: http://www.fws.gov/southwest/es/arizona by clicking on the "Document Library" tab and then on the "Section 7 Biological Opinions" tab; or http://www.fws.gov/southwest/es/Library by clicking on "Biological Opinions" and entering "wolf" under "search by species." Survey work and recovery projects also occur periodically, and are summarized in our files.

Gray Wolf

Gray wolves were originally listed as subspecies or as regional populations of subspecies in the contiguous United States and Mexico. In 1978, gray wolves were reclassified as an endangered population at the species level (*C. lupus*) throughout the contiguous United States and Mexico, except for the Minnesota gray wolf population, which was classified as threatened (43 FR 9607, March 9, 1978). Although a broad range of rules and delisting actions have occurred with the gray wolf (see 78 FR 35664, June 13, 2013 for a full description), for the action area in Arizona and New Mexico, the gray wolf has been considered endangered since 1978. No critical habitat has been designated for the gray wolf in Arizona or New Mexico.

Gray wolf biology is similar to the Mexican wolf and the population has varied by region (see 78 FR 35664, June 13, 2013 for a full description). With the exception of Mexican wolves reintroduced in the experimental zone, gray wolves are not known to persist in Arizona and New Mexico, although two instances have resulted in trapping attempts to confirm lone animals.

With the exception of biological/conference opinions associated with Mexican wolves, consultations on gray wolves have not been conducted in the action area (see above for consultations associated with Mexican wolves).

Jaguar

In 1972, the jaguar (Panthera onca) was listed as endangered (37 FR 6476, FWS 1972) under the Endangered Species Conservation Act of 1969 (ESCA), a precursor to the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 et seq.). Under the ESCA, the Service maintained separate listings for foreign species and species native to the United States. At that time, the jaguar was believed to be extirpated in the United States; thus, the jaguar was included only on the foreign species list. On July 25, 1979, the Service published a notice (44 FR 43705) stating that, through an oversight in the listing of the jaguar and six other endangered species, the United States populations of these species were not protected by the Act. The notice asserted that it was always the intent of the Service that all populations of these species, including the jaguar, deserved to be listed as endangered, whether they occurred in the United States or in foreign countries. Therefore, the notice stated that the Service intended to take action as quickly as possible to propose the U.S. populations of these species (including the jaguar) for listing. On July 25, 1980, the Service published a proposed rule (45 FR 49844) to list the jaguar in the United States. The proposal for listing the jaguar was withdrawn on September 17, 1982 (47 FR 41145) stating that the Act mandated withdrawal of proposed rules to list species which have not been finalized within two years of the proposal. On July 22, 1997, the Service published a final rule clarifying that endangered status for the jaguar extended into the United States (62 FR 39147, FWS 1997c).

The jaguar is a member of the family Felidae and is the largest cat in the Western Hemisphere. The cinnamon-buff coloration with round, black rosette patterns is very distinctive of this species. Male jaguars are typically 10 to 25 percent larger than females, weighing roughly 120 kilograms (265 pounds) as reported in South America. Brown and López González (2001) report jaguars in northern Mexico being smaller, with males weighing 54.5 kilograms (120 pounds) and females about 36 kilograms (80 pounds).

Jaguars range from South America to northern Mexico and the borderlands of the U.S. and Mexico. In northwestern Mexico, jaguars occur from the rugged barrancas connecting northeastern Sinaloa, southeastern Sonora, and southwestern Chihuahua, north to the border with the U.S. Jaguars persist from a variety of vegetation communities (Seymour 1989), including those found in the arid Southwest (Nowak 1994). Toward and at middle latitudes, they show a high affinity for lowland wet communities, typically swampy savannas or tropical rain forests. However, they also occur in upland vegetation communities in warmer regions of North and South America. Jaguars occur in arid areas, including thornscrub, desertscrub, lowland desert, mesquite grassland, Madrean oak woodland, and pine-oak woodland communities of northwestern Mexico and the southwestern U.S. (McCain and Childs 2008, López Gónzalez and Brown 2002). Like most large carnivores, jaguars have relatively large home ranges. According to Brown and López González (2001), their home ranges are highly variable and depend on topography, available prey, and population dynamics. However, little information is available on this subject outside tropical America, where several studies of jaguar ecology have been conducted. No home range studies have been conducted for jaguars in southwestern U.S. using standard radio-telemetry techniques; although McCain and Childs (2008), based on the use of camera-traps, report one jaguar in southeastern Arizona as having a minimum observed "range" of 1359 km^2 (525 mi^2). Because female jaguar scat was used at some camera traps at various times throughout their research, it is unknown how this could have influenced the observed range of the jaguar in this study.

The list of prey taken by jaguars range-wide includes more than 85 species (Seymour 1989), including peccaries or javelina (*Tayassu sp*.), deer (*Odocoileus sp*.) capybara (*Hydrochoerus hydrochaeris*), paca (*Cuniculus sp*.), armadillos (*Dasypus sp*.), caimans (*Caiman sp*.), livestock (*Bos taurus*), and various turtles, birds, and fish. Although it is thought that javelina and deer are mainstays in the diet of jaguars in the U.S./Mexico borderlands, other available prey, including livestock, are probably taken as well. This

is similar to the diet of jaguars in the tropical dry forest of Jalisco, Mexico where white-tailed deer and collared peccary represented the preferred prey species of jaguars (Núñez et al. 2000).

Jaguar females reach sexual maturity at about two years of age, and males at three or four. The cat is believed to mate throughout the year in the wild, although births may increase when prey is plentiful. Like most cats, the jaguar is solitary outside mother-cub groups. Adults generally meet only to court and mate. Both sexes will range more widely than usual during courtship. Typical lifespan in the wild is estimated at around 12–15 years. According to Seymour (1989), in Belize, Rabinowitz (1986) found few wild jaguars over 11 years of age. A male jaguar in Arizona was documented to be at least 15 years of age.

Given the inaccessibility of much of the species' range, particularly the central Amazon, estimating jaguar numbers is difficult. Researchers typically focus on particular bioregions, and thus species-wide analysis is scant. In 1991, 600–1,000 (the highest total) were estimated to be living in Belize. A year earlier, 125–180 jaguars were estimated to be living in Mexico's 4,000 square kilometer (2400 mi^2) Calakmul Biosphere Reserve, with another 350 in the state of Chiapas. The adjoining Maya Biosphere Reserve in Guatemala, with an area measuring 15,000 square kilometers (9,000 mi^2), may have 465–550 animals. Work employing GPS–telemetry in 2003 and 2004 found densities of only six to seven jaguars per 100 square kilometers in the critical Pantanal region of Brazil (Soisalo and Cavalcanti 2006).

Continual loss of habitat has reduced the jaguar's historical range of occupation by more than 50% since 1990 (Sanderson et al. 1999). Large areas continue to be converted for agriculture, cattle ranching, and human settlement, bringing humans into direct conflict with jaguars (Conforti and Azevedo 2003). While international trade in jaguars or their parts is prohibited, the cat is still regularly killed by humans, particularly due to conflicts with ranchers and farmers in South America. Livestock depredation is the primary cause of people's intolerance of these large cats (Sanderson et al. 1999).

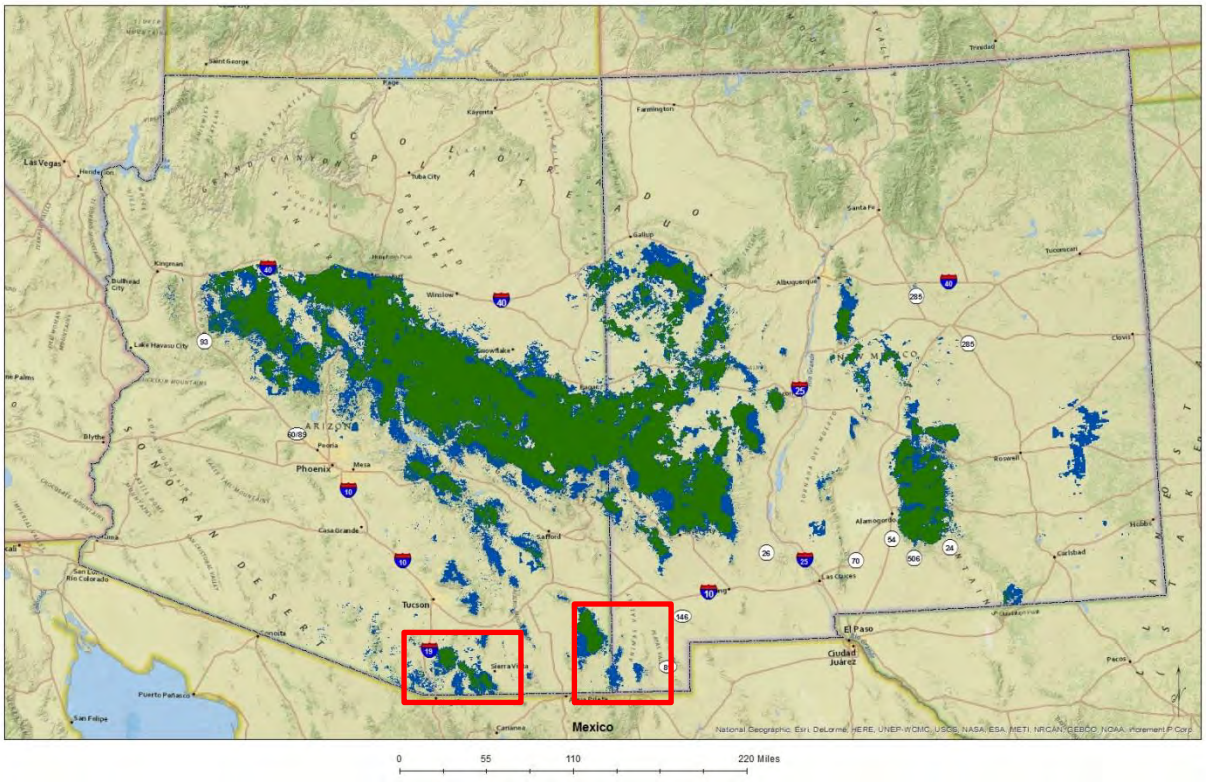

Figure G-2. Suitable habitat of the Mexican wolf south of Interstate 40 (I-40) in Arizona and New Mexico.

The areas in green represent areas where all three habitat models (Oakleaf et al. 2006, Carroll et al. 2006, Carroll et al. 2014) predict Mexican wolf occupancy, while the area in blue represents where only two out of three habitat models predict Mexican wolf occupancy (See the Draft EIS for a complete description of methods). The red boxes show where the overlap between suitable wolf habitat and Jaguar critical habitat occurs.

Of the six units of jaguar critical habit established, five (Atascosa, Patagonia, Whetstone, Peloncillo, and San Luis) overlap with significant areas of suitable habitat for the Mexican wolf (Figure G-2). Final jaguar critical habitat (79 FR 12572) includes the seven primary constituent elements (PCEs) listed below:

Expansive open spaces in the southwestern United States of at least 100 square km (38.6 square mi) in size which: (1) Provide connectivity to Mexico; (2) Contain adequate levels of native prey species, including deer and javelina, as well as medium-sized prey such as coatis, skunks, raccoons, or jackrabbits; (3) Include surface water sources available within 20 km (12.4 mi) of each other; (4) Contain from greater than 1 to 50 percent canopy cover within Madrean evergreen woodland, generally recognized by a mixture of oak, juniper, and pine trees on the landscape, or semi-desert grassland vegetation communities, usually characterized by *Pleuraphis mutica* (tobosagrass) or *Bouteloua eriopoda* (black grama) along with other grasses; (5) Are characterized by intermediately, moderately, or highly rugged terrain; (6) Are below 2,000 m (6,562 ft) elevation; and (7) Are characterized by minimal to no human population density, no major roads, or no stable nighttime lighting over any 1-square-km (0.4-square-mi) area.

While Mexican wolves may compete with jaguars for deer and javelina, we expect Mexican wolves to occur in the designated jaguar critical habitat through natural dispersal and/or translocation of resident Mexican wolves that are already within the jaguar critical habitat area. Thus, we anticipate that effects of the proposed action to jaguar critical habitat will be insignificant and discountable, and therefore we do not address jaguar critical habitat in this biological opinion. In addition, the proposed Revised Rule provides for take of Mexican wolves in response to impacts to wild ungulates, which could be implemented if Mexican wolves were influencing deer numbers in jaguar critical habitat.

A complete list of consultations affecting jaguar in Arizona and New Mexico can be found on our websites: http://www.fws.gov/southwest/es/arizona by clicking on the "Document Library" tab and then on the "Section 7 Biological Opinions" tab; or http://www.fws.gov/southwest/es/Library by clicking on "Biological Opinions" and entering "jaguar" under "search by species." Recent consultations, formal and informal, that have addressed possible impacts to jaguar, include:

- U.S. Army – Biological opinion for ongoing and future military operations and activities at Fort Huachuca, Arizona. May 16, 2014. The operations and activities include tenant-specific activities within Fort Huachuca training areas, air operations associated with Libby Army Air Field, recreational opportunities, resource management, realty actions, and programmed facilities development projects both on post and off post that are master planned to continue to meet mission objectives. The proposed action, Ongoing and Future Military Operations and Activities at Fort Huachuca, Arizona, may result in disturbance to jaguars and their habitat, as well as possible, but highly unlikely, injury or death of a jaguar. That said, because the proposed action may benefit jaguar by reducing the risk of severe fire and managing for open space and wildlife, we anticipate the net effect of the proposed action on jaguars will be beneficial. After reviewing the current status of the jaguar, the environmental baseline for the action area, and the effects of the proposed action, it is our biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the jaguar.
- Arizona Game and Fish Department – Research and Recovery Permit. September 22, 2010. The activities authorized in their permit are only the accidental capture, chemical immobilization, data collection, attachment and use of a radio telemetry or satellite collar, and subsequent release of a jaguar.
- U.S. Department of Homeland Security. September 4, 2008. The activities to construct or retrofit, operate, and maintain communication and sensor towers; construct new road segments and repair existing roads; use mobile surveillance systems; and deploy unattended ground sensors. The proposed actions may result in degradation of jaguar habitat and disturbance to jaguars. Though activities associated with the proposed action could be detrimental to jaguars, conservation measures included in the project description will minimize and help offset disturbance to jaguars and degradation of their habitat.
- Bureau of Land Management – Safford and Tucson Field Offices' Livestock Grazing Program in southeastern Arizona. September 26, 1997. Adverse effects to jaguars were expected to occur from the proposed action by means of habitat loss and predator control activities. The anticipated level of take was considered to be exceeded if: (1) any predator control activities associated with the proposed action are directed at, or ultimately result in death or injury of a jaguar; (2) the injury or mortality of any jaguar that occurs as a result of any activities associated with the proposed action; and (3) jaguar habitat is not maintained in riparian corridors of the project area. Several conservation recommendations were also provided.

- Nationwide Wildlife Services Program. June 22, 1999. Adverse effects to jaguars could occur from certain animal damage control methods, including the use of leg-hold and box traps, snares, M-44s, etc. The anticipated level of take was considered to be exceeded if animal damage control activities are directed at jaguars, or if one jaguar is unintentionally trapped, injured, or killed.
- Department of Homeland Security. August 29, 2007. (AESO/AE 22410-2007- F-0416), addressed effects of DHS's construction of pedestrian fence (and other associated activities such as road construction and maintenance) along the U.S./Mexico international border near Sasabe, Pima County; Nogales, Santa Cruz County; and near Naco and Douglas, Cochise County. Adverse effects to jaguars were expected to occur from the proposed action by impeding jaguar movement between Mexico and the U.S., disturbing jaguars, and degrading their habitat. No incidental take was anticipated and a couple of conservation recommendations were provided.

This is not a comprehensive list of consultations that cover jaguars. Survey work and recovery projects also occur periodically, and are summarized in our files.

Ocelot

The ocelot (*Leopardus pardalis*), a medium-sized spotted cat, belongs to the genus Leopardus, which also includes the margay (*Leopardus wiedii*) and the oncilla (*Leopardus tigrinus*). The ocelot is divided into as many as 11 subspecies that range from the southwestern U.S. to northern Argentina (USFWS 2010b). Two subspecies occur in the United States: the Texas/Tamaulipas ocelot (*L. pardalis albescens*) and the Arizona/Sonora ocelot (*L. p. sonoriensis*) (Hall 1981).

The ocelot was listed as endangered in 1972 under the authority of the Endangered Species Conservation Act of 1969 (ESCA) (37 FR 6176). The 1969 ESCA maintained separate lists for foreign and native wildlife. The ocelot appeared on the foreign list, but due to an oversight, not on the native list. Following passage of the Act in 1973, the ocelot was included on the January 4, 1974, list of "Endangered Foreign Wildlife" that "grandfathered" species from the lists under the 1969 ESCA into a new list under the Act (USFWS 1974). The entry for the ocelot included "Central and South America" under the "Where found" column in the new Act list. Endangered status was extended to the U.S. portion of the ocelot's range with a final rule published July 21, 1982 (47 FR 31670, USFWS 1982b)). The "Historic range" column for the ocelot's entry in the rule reads, "U.S.A. (TX, AZ) south through Central America to South America." The entry on the current list is essentially the same, and reads, "U.S.A. (TX, AZ) to Central and South America" (50 CFR §17.11). The ocelot was upgraded to CITES Appendix I in 1986 (Nowell and Jackson 1996) and is considered endangered in Mexico (SEMARNAT 2002). The ocelot is listed as endangered by the State of Texas and is protected from hunting and live collection in Arizona where it is listed as a species of "special concern." In the 1982 final rule (47 FR 31670), the Service made a determination that the designation of critical habitat was not prudent because such a designation would not be in the best interests of the conservation of the species.

Ocelots historically occurred in Arkansas, Arizona, Texas, and possibly Louisiana, California, and Florida in the U.S. southward through Mexico, Central and South America to Peru, Uruguay, and northern Argentina (Navarro-Lopez 1985). Currently, the ocelot ranges from extreme southern Texas and southern Arizona through the coastal lowlands of Mexico to Central America, Ecuador and northern Argentina. The ocelot also is known from Trinidad and Isla de Margarita, Venezuela, but not from the Antilles (Tewes and Schmidly 1987, Sunquist and Sunquist 2002).

Habitats used by the ocelot throughout its range vary from tropical rainforest, pine forest, gallery forest, riparian forest, semi-deciduous forest, and dry tropical forest, to savanna, shrublands, and marshlands.

The ocelot generally requires dense vegetation and its prey consists primarily of rabbits, rodents, birds, and lizards.

As of July 2011, there were fewer than 35 total known individual ocelots (with the possibility that more cats inhabit surrounding ranches), found in 2 counties at the northern limit of the species' distribution in Texas. A much larger population of the Texas/Tamaulipas ocelot (*L. p. albescens*) occurs in Tamaulipas, Mexico, but is geographically isolated from ocelots in Texas (USFWS 2010c).

Confirmation that the Arizona portion of the range is occupied by the Arizona/Sonoran ocelot (*L. p. sonoriensis*) has recently been gathered through the use of remote and video cameras and the discovery of a road killed ocelot (Sky Island Alliance 2010, unpubl. data, AGFD 2010, unpubl. data, AGFD 2011, unpubl. data). There is no evidence of a breeding population of ocelots in Arizona, as no females have been reported. If there is a population of ocelots in Arizona, the density is thought to be extremely low due to the scarcity of sightings and the number of remote cameras deployed to monitor jaguars, although a number of ocelots have been documented just south of the U.S. border in Sonora, Mexico (USFWS 2010c). However, no ocelot specific monitoring program has been undertaken in Arizona (Haines et al. 2005). Prior to these sightings, the last known ocelot in Arizona was killed in the Huachuca Mountains in 1964 (Hoffmeister 1986, Lopez Gonzalez et al. 2003).

Habitat conversion, fragmentation, and loss comprise the primary threats to the ocelot today. Human population growth and development continue throughout the ocelot's range. Small population sizes in Texas and isolation from conspecifics in Mexico threaten the ocelot in Texas with inbreeding. Connectivity among ocelot populations or colonization of new habitats is inhibited by road mortality among dispersing ocelots. Issues associated with border barrier development and patrolling the boundary between the United States and Mexico further exacerbate the isolation of Texas and Arizona ocelots from those in Mexico. Commercial exploitation and illegal hunting were significant threats to the species when the ocelot was originally listed. Although some hunting of the ocelot continues, and regulations remain challenging to enforce, the harvest and export of ocelots has significantly declined and is controlled by the CITES.

Ocelot populations appear to be rebounding in parts of its range, perhaps due to a decrease of hunting since the end of the 1980s. In the absence of hunting, the ocelot seems tolerant of human settlement and activities if large forests and sufficient prey are available (USFWS 2010c).

The species has a recovery priority number of 5C, meaning that it has a low potential for recovery with a relatively high degree of conflict. Recovery for the ocelot was originally addressed in Listed Cats of Texas and Arizona Recovery Plan (with Emphasis on the Ocelot) (USFWS 1990). A draft revised recovery plan was made available for public comment in 2010 (USFWS 2010b), with the goal of improving the status of the species to the point that it no longer needs the protection of the ESA. The draft revised recovery plan has not been finalized as of the date of this biological opinion. The draft recovery strategy calls for:

- the assessment, protection, and restoration of sufficient habitat to support viable populations of the ocelot in the borderlands of the U.S. and Mexico;
- the reduction of effects of human population growth and development to ocelot survival and mortality;
- the maintenance or improvement of genetic fitness, demographic conditions, and health of the ocelot;

- the assurance of long-term viability of ocelot conservation through partnerships, the development and application of incentives for landowners, application of existing regulations, and public education and outreach;
- the use of adaptive management, in which recovery is monitored and recovery tasks are revised by the USFWS in coordination with the Recovery Team as new information becomes available; and
- the support of international efforts to ascertain the status and conservation of the ocelot in Sonora and south of Tamaulipas.

The major focus of the draft revised recovery plan is on two cross-border management units, the Texas/Tamaulipas Management Unit and the Arizona/Sonora Management Unit (ASMU). The boundaries of the ASMU are defined as the original range of the subspecies (L. p. sonoriensis) as described by Hall (1981) which generally extends from central Arizona south to central Sinaloa.

Draft delisting criteria for the ASMU are: 1) the ASMU population is estimated through reliable scientific monitoring to be above 2,000 animals for 10 years; 2) significant threats to this population have been identified and addressed; and 3) habitat linkages to facilitate an ASMU metapopulation have been identified and are conserved for the foreseeable future.

A complete list of consultations affecting ocelots in Arizona can be found on our website: http://www.fws.gov/southwest/es/arizona by clicking on the "Document Library" tab and then on the "Section 7 Biological Opinions" tab; or http://www.fws.gov/southwest/es/Library by clicking on "Biological Opinions" and entering "ocelot" under "search by species." There have been many consultations, formal and informal, that have addressed possible impacts to ocelots throughout their range in the U.S. However, most have been for ocelots in Texas. The following formal consultation includes the ocelot in Arizona:

- U.S. Army – Biological opinion for ongoing and future military operations and activities at Fort Huachuca, Arizona. May 16, 2014. The operations and activities include tenant-specific activities within Fort Huachuca training areas, air operations associated with Libby Army Air Field, recreational opportunities, resource management, realty actions, and programmed facilities development projects both on post and off post that are master planned to continue to meet mission objectives. The proposed action, Ongoing and Future Military Operations and Activities at Fort Huachuca, Arizona, may result in disturbance to ocelots and their habitat, as well as possible injury or death of an ocelot. That said, because the proposed action may benefit ocelot by reducing the risk of severe fire and managing for open space and wildlife, we anticipate the net effect of the proposed action on ocelots will be beneficial. After reviewing the current status of the ocelot, the environmental baseline for the action area, and the effects of the proposed action, it is our biological opinion that the project, as proposed, is not likely to jeopardize the continued existence of the ocelot.
- Arizona Game and Fish Department – Research and Recovery Permit. September 22, 2010. The activities authorized in their permit are only the accidental capture, chemical immobilization, data collection, attachment and use of a radio telemetry or satellite collar, and subsequent release of an ocelot.

This is not a comprehensive list of consultations that cover ocelots. Survey work and recovery projects also occur periodically, and are summarized in our files.

California Condor

The California condor (*Gymnogyps californianus*) was listed as endangered on March 11, 1967 (32 FR 4001). Critical habitat was designated in California on September 24, 1976 (41 FR 187, USFWS 1976). Critical habitat has not been designated outside of California. The California Condor Recovery Plan, Third Edition was signed on April 25, 1996 (USFWS 1996b). The California condor remains one of the world's rarest and most imperiled vertebrate species.

Despite intensive conservation efforts, the wild California condor population declined steadily until 1987, when the last free-flying individual was captured. During the 1980s, captive condor flocks were established at the San Diego Wild Animal Park and the Los Angeles Zoo, and the first successful captive breeding was accomplished at the former facility in 1988. Following several years of increasingly successful captive breeding, captive-produced condors were first released back to the wild in California in early 1992 and in Arizona starting in 1996.

The first release of condors into the wild in northern Arizona occurred on December 12, 1996. They were released within a designated nonessential experimental population area in northern Arizona and southern Utah (USFWS 1996c). The area is bounded by Interstate 40 on the south, U.S. Highway 191 on the east, Interstate 70 on the north, and Interstate 15 to U.S. Highway 93 on the west. The nonessential experimental population status applies to condors only when they are within the experimental population area. For the purposes of section 7 consultation, when condors are on lands not within the National Wildlife Refuge System or the National Park System, but within the experimental population area, they are treated as if proposed for listing. When condors are on National Wildlife Refuge or National Park System lands within the designated experimental population area, they are treated as a threatened species. Any condors outside of the experimental population area are fully protected as endangered.

Condors are scavengers and rely on finding their food visually, often by investigating the activity of ravens, coyotes, eagles, and other scavengers. Most California condor foraging in northern Arizona occurs in open areas and throughout the forested areas of the rims of the Grand Canyon. Typical foraging behavior includes long-distance reconnaissance flights, lengthy circling flights over a carcass, and hours of waiting at a roost or on the ground near a carcass. Condors are also attracted to human activity; newly released individuals and young inexperienced juveniles are more likely to investigate human activity.

Roost sites include cliffs and tall trees, including snags. Nesting sites for California condors include various types of rock formations such as caves, crevices, overhung ledges, and potholes.

As of April 30, 2014, a total of 238 California condors existed in the wild; what is known as the Southwest (Arizona) population of California condors contained 75 individuals. That latter figure includes 65 free-flying individuals previously released into the population and 10 wild-fledged individuals. Ninety two fatalities and missing California condors have been documented in northern Arizona since 1996. Of 14 chicks that have hatched since 2003, 10 wild-fledged individuals currently exist in the population. Most mortality in northern Arizona has been related to human activity including lead poisoning and shootings.

As part of the program to manage condors within the nonessential experimental population area, all condors released in the area are instrumented and monitored with radio and/or satellite telemetry. Individual condors are tracked and monitored by The Peregrine Fund personnel. Sick or injured condors are rescued, sent to rehabilitation, and re-released when recovered. Dead condors are recovered by The Peregrine Fund field personnel to determine cause of death.

Since critical habitat has only been designated for California condors in California (USFWS 1976), and Mexican wolves are not expected to disperse into the area designated as critical habitat, the proposed

action will notaffect critical habitat for the condor. Therefore, we do not address critical habitat for the California condor in this Biological Opinion/Conference Opinion.

A complete list of consultations affecting California condors in Arizona can be found on our websites: http://www.fws.gov/southwest/es/arizona by clicking on the "Document Library" tab and then on the "Section 7 Biological Opinions" tab; or http://www.fws.gov/southwest/es/Library by clicking on "Biological Opinions" and entering "California condor" under "search by species." There have been several consultations, formal and informal, that have addressed possible impacts to California condor, including:

- Bureau of Land Management – Arizona Strip Resource Management Plan. November 7, 2007. California condors may be disturbed, and nesting and foraging areas degraded, by components of the proposed action including vegetation management, fire and fuels management, and mineral development.
- Injury or mortality of condors is most likely from ingesting contaminants. Depending on location and extent, authorization of watershed, restoration, noxious weed, and vegetation treatments; prescribed fire and fuels reduction projects; sale and use of vegetation 81 products; and range improvement projects may result in modification of foraging and nesting areas used by condors. This modification may degrade the function of the areas to support species that become food for condors. It is possible that such actions may also degrade the characteristics of condor roost and nest locations. Noise and human activity associated with these actions may disturb the normal foraging and breeding behavior of individuals. Disturbance of normal behavior may result in less efficient foraging and reduced reproductive success. Under some circumstances, condors are known to be attracted to human activity, which could lead to adverse human-condor interactions and result in injury or death of individuals. Condors often ingest foreign materials; trash or other debris at work sites could be ingested by the birds, which could directly result in injury or death.
- Condor habitat could be degraded as a result of fire management. Fire (wildfire, wildland fire use, and prescribed fire) may result in large-scale and long-term degradation of areas that support species that are food for condors. Fire may result in loss of characteristics of roost and nest locations that are selected by condors. Fire may result in disturbance of the normal foraging and breeding behavior of individuals.
- Aircraft may be used in the project area in association with a variety of authorized projects including animal damage control, fire suppression and reconnaissance, law enforcement, construction and maintenance of range and/or wildlife improvement projects, herbicide application, and wildlife inventories. A condor would be injured or killed if it collided with an aircraft, with objects slung below or behind an aircraft, or with objects dropped from aircraft such as chemical retardant. Collisions with cell towers, power lines, and other types of aerial communication towers are possible, but there have been no reported condor mortalities due to such collisions to date.
- Grand Canyon National Park – Colorado River Management Plan. January 3, 2006. Components of the CRMP include boating, hiking, camping, swimming, and other activities that are associated with river-running recreation, and helicopter flights transporting passengers to and from the river. Boating can take several forms including private and commercial, and non-motorized and motorized trips. A variety of watercraft is used by river-runners ranging from kayaks to large motorized pontoon rafts. One of the purposes of the river trips is to stop at various attractions for appreciation or further exploration. Because certain attractions are very well-known and popular, a concentration of use can and does occur at various locations.

- California condors may be affected by the special flight rules (overflights) that may overlap a portion of the project area. In the biological opinion developed for the special flight rules, we anticipated that an unquantifiable number of condors would be affected by these rules. Take was expected to be in the form of harassment or accidental displacement when startled individuals are flushed from a perch site by the proposed low- level flights. Additional take in the form of killing, estimated at one bird in five years, was anticipated from collisions.
- Grand Canyon National Park – Fire Use Program. January 26, 2000, August 22, 2003, August 18, 2006, and September 15, 2009 (not a comprehensive list of consultations on this program). Wildland fire use, which previously was known as prescribed natural fire, is the practice of determining whether to allow naturally ignited fires to continue to burn in order to meet resource management goals. Wildland fires can be managed in a variety of ways, ranging from simple monitoring of a fire's progress to full suppression. A combination of management techniques can be applied on various portions of a single fire.
- Based upon observations made during the wildland fires of 2001, the Park helicopter and condors are sharing the same airspace. Although there have been no collisions or near collisions, the potential does exist. There are no data available documenting the number of collisions between aircraft and birds within the Park. Increased aviation activity associated with wildland fire use, and the possible attraction of condors to other wildland fire use activity, will increase the overall risk of a collision.
- Condors may be affected by condor-human interactions. We have conducted informal and formal consultations with Grand Canyon National Park on projects such as previous prescribed fire and wildland fire-use programs, wildfires, construction projects, and exotic plant management. The consultations have primarily focused on the effects of disturbance and condor-human interactions. Where possible, conservation measures were developed and implemented to help reduce the possibility of the adverse interactions.
- Condor-human interactions may also result from recreation activities that occur in Grand Canyon National Park. Condors are also affected by the use of lead ammunition by hunters in areas adjacent to Grand Canyon National Park, resulting in mild contamination of individuals, more serious contamination requiring chelation and recovery, or death.

This is not a comprehensive list of consultations that cover California condors. Survey work and recovery projects also occur periodically, and are summarized in our files.

Canada Lynx

The Canada Lynx (*Lynx Canadensis*) was listed as threatened in the contiguous United States Distinct Population Segment (DPS) on March 24, 2000 (65 FR 16052). This DPS did not include lynx found in the State of New Mexico. Based on a series of lawsuits and settlements, the Service has since listed the Canada Lynx DPS in the contiguous United States as where found, which would include portions of New Mexico (79 FR 54782; September 12, 2014). Critical habitat was initially designated for the lynx in Minnesota, Montana, and Washington on November 9, 2006 (71 FR 66008), and later revised to include larger areas in Minnesota, Montana, and Washington, and additional areas in the states of Idaho, Maine, and Wyoming (74 FR 8616, February 25, 2009). Critical habitat continues to be proposed for these six states, but is not proposed for Colorado or New Mexico because the habitat in the southern Rocky Mountains does not contain the essential physical and biological features of lynx habitat, and is not essential for the conservation of the species (79 FR 54782; September 12, 2014). Since critical habitat has not been designated for lynx in the southern Rocky Mountains, and the scope of the actions covered

in this Biological Opinion/Conference Opinion does not extend into states with proposed or designated critical habitat, there will be no effects to critical habitat for the lynx. Therefore, we do not address critical habitat for the lynx in this Biological Opinion/Conference Opinion.

The lynx is a medium-sized cat with relatively long legs; large, well-furred paws, long tufts on the ears, and a short black-tipped tail. The ear tufts and short black-tipped tail distinguish the lynx from the more common bobcat (*Lynx rufus*). Lynx generally measure 30 to 35 inches (75 to 90 centimenters) long and weigh 14 to 31 pounds (6-14 kilograms). The lynx's large feet and long legs make it adapted to hunting in deep snow.

The lynx is broadly distributed across North America, primarily associated with expansive, continuous boreal forest from eastern Canada to Alaska (Agee 2000, Aubry et al. 2000, Mowat et al. 2000). These areas largely overlap with the lynx's primary prey, snowshoe hare (*Lepus americanus*). In the contiguous United States, these boreal forests become discontinuous and patchy, which limits both lynx and hares to low density levels where they occur (Agee 2000, Aubry et al. 2000). Bobcats and coyotes (*Canis latrans*) are potential competitors with lynx, but are at a disadvantage in areas of fluffy or deep snow (Buskirk et al. 2000).

In Colorado and Northern New Mexico (the portion of the action area in this BO where lynx and Mexican wolves may overlap on extremely rare occasions), all lynx presence is the result of 218 lynx that were captured and translocated to high elevation forest in Colorado from 1999 to 2006 (Shenk 2010, Devineau et al. 2010). Some of these lynx established home ranges in Colorado and produced kittens in some years. Some of these lynx also dispersed into northern New Mexico and Arizona, but production was not documented in these individuals (Devineau et al. 2010, 79 FR 54782; September 12, 2014). Areas in New Mexico are considered incapable of supporting a self-sustaining lynx population (79 FR 54782; September 12, 2014). Further, the hare population and lynx habitat in Colorado is considered marginal at best to support populations of lynx into the future (Ruggiero et al. 2000, Steury and Murray 2004). Much uncertainty persists on the ultimate fate of the lynx populations in Colorado, however, should lynx populations remain, it could prove beneficial for the conservation of the lynx DPS (79 FR 54782; September 12, 2014).

A list of consultations affecting Canada lynx can be found on our websites: http://www.fws.gov/mountain-prairie/species/mammals/lynx/consultation.htm. We do not summarize all previous Biological Opinions on lynx primarily due to limited intersection of those Biological Opinions with the current action area and effects associated with this action. However, the following consultation relates to trapping in the southern Rocky Mountains, which is pertinent to the present Biological Opinion:

- United States Forest Service and Bureau of Land Management – Land and Resource Management Plans and Land Use Plans. October 25, 2000. Each National Forest and BLM District mapped lynx habitats and assessed potential project impacts by using the direction in the Lynx Conservation Assessment and Strategy (LCAS). Plans within portions of the Northern Rockies, Southern Rockies, Great Lakes, and within the Northeast geographic areas allow levels of human access via forest roads that may present a risk of incidental trapping or shooting of lynx or access by other competing carnivores. The risk of road-related adverse effects is primarily a winter issue. Guidance included working cooperatively with States and tribes to reduce incidental take of lynx related to trapping and noted that the LCAS includes conservation measures that would benefit individual lynx that may otherwise be adversely affected by incidental or illegal trapping. This Biological Opinion goes on to state that although we are concerned about the illegal or incidental trapping, we have no information to indicate the loss of these individuals is negatively affecting the overall ability of the DPS to persist. At the present time, mortality of lynx through legal trapping

has been virtually eliminated in the continuous United States. Overall the Biological Opinion concluded that USFS and BLM land management plans, as implemented in accordance with Conservation Agreements, would not jeopardize the continued existence of lynx.

ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

Description of the Action Area

The only area where Mexican wolves currently occur in the United States is the Apache and Gila National Forests in east-central Arizona and west-central New Mexico, encompassing 17,775 km² (6,845 mi²) (USFWS 1996a). However, we are proposing revisions to the regulations for the Mexican Wolf Experimental Population and the Mexican Wolf Recovery Program's section 10(a)(1)(A) research and recovery permit (TE-091551-8 dated 04/04/2013). In summary we propose to:

- Modify the geographic boundaries in which Mexican wolves are managed south of Interstate-40 in Arizona and New Mexico under section 10(j) of the Endangered Species Act
- Modify the management regulations that govern the initial release, translocation, removal and take (see the definition of "*take*" provided in the List of Definitions) of Mexican wolves
- Issue a section 10(a)(1)(A) permit for Mexican wolves and gray wolves inside the MWEPA and areas outside of the MWEPA.

These proposed revisions would allow Mexican wolves to occupy a far greater area than is currently allowed under the existing regulations. In addition, Mexican wolves are known to disperse great distances (see Interagency Field Team 2005: Figure 6). Thus, the entire states of Arizona and New Mexico are included in the action area. Mexican wolves are unlikely to disperse to California, Colorado, Nevada, Texas, and Utah based on habitat connectivity, desert environments, and/or juxtaposition with the MWEPA. However, these states are included in the action area based on the remote possibility that personnel may need to capture Mexican wolves that disperse from the MWEPA and translocate them back to the MWEPA or transfer them to captivity or Mexico (Figure G-1). Thus the action area is the states of Arizona and New Mexico, the western portion of Texas, the southern portions of Colorado and Utah, the southeastern portion of California, and the southern portion of Nevada.

Mexican Wolf

The Mexican wolf population in the United States is wholly contained within the action area. All information concerning the current status of the Mexican wolf and its habitat in the action area is provided in the status of the species section above.

Gray Wolf

Individual gray wolves may disperse to Arizona or New Mexico from established populations in Wyoming or Idaho. While not expected to occur frequently, we would expect to manage gray wolves within the action area of Arizona and New Mexico. For instance, an animal observed on the Kaibab Plateau in northern Arizona in 2014 could be a gray wolf or a hybrid dog released in the area. In either case, the Service would intend to manage these animals to either protect gray wolves or remove hybrid

dogs. Historical populations have varied in other regions of the United States (see 78 FR 35664, June 13, 2013 for a full description).

Molecular genetic evidence from limited historical specimens supports morphometric evidence of an intergradation zone between Mexican wolf and northern gray wolves (Leonard *et al.* 2005). This research shows that, within the time period that the historical specimens were collected (1856–1916), a northern clade (i.e., group that originated from and includes all descendants from a common ancestor) haplotype was found as far south as Arizona, and individuals with southern clade haplotypes (associated with Mexican wolves) occurred as far north as Utah and Nebraska. Leonard *et al.* (2005) interpret this geographic distribution of haplotypes as indicating gene flow was extensive across the subspecies' limits during this historical period, and Chambers *et al*. (2012, p. 37) agree this may be a valid interpretation. Thus, we consider infrequent gray wolf dispersal to northern New Mexico and Arizona as consistent with historical patterns. Similarly, we consider dispersal by Mexican wolves to northern Arizona and New Mexico as consistent with historical patterns.

Jaguar

Historically, jaguars in the U.S. occurred in California, Arizona, New Mexico, Texas, and possibly Louisiana. The last jaguar sightings in California, Texas, and Louisiana were documented in the late 1800s or early 1900s. Jaguars were once known to occur in small numbers in Arizona and New Mexico (Brown and López González 2001). Sightings in the U.S in the late 20th century to the present have occurred mainly along the U.S./Mexico international border. Three records of a female with kittens have been documented in the U.S., the last in 1910 (Lange 1960, Nowak 1975, Brown 1989), and no females have been confirmed in the U.S. since 1963 (Brown and López González 2000). As a result, jaguars in the U.S. are thought to be part of a population, or populations, that occur largely in Mexico.

Some threats (i.e., legal or illegal killing of jaguars) that contributed to the historical decline of the jaguar in the U.S. have been reduced or eliminated, however, other threats exist. For example, infrastructure projects (e.g., vehicle barriers, pedestrian fences) along the U.S./Mexico international border are expected to impede movement of jaguars across the border. Because jaguars in Arizona are believed to be part of a population centered in northern Mexico, preventing jaguar movement and exchange between the U.S. and Mexico will likely have deleterious effects on jaguars, particularly those in Arizona and New Mexico. Fences designed to prevent the passage of humans will also prevent passage of jaguars.

Recently (1996 through 2014), six individual male jaguars have been documented in the U.S. One was observed and photographed on March 7, 1996, in the Peloncillo Mountains in New Mexico near the Arizona border (Glenn 1996, Brown and López González 2001). The Peloncillo Mountains run north-south to the Mexican border, where they join the foothills of the Sierra San Luis and other mountain ranges connecting to the Sierra Madre Occidental. Another was observed and photographed on August 31, 1996 in the Baboquivari Mountains of southern Arizona (Childs 1998, Brown and López González 2001). In February 2006, another jaguar was observed and photographed in the Animas Mountains in Hidalgo County, New Mexico (McCain and Childs 2008). From 2001 to 2007, two jaguars were photographed (one repeatedly) using infra-red camera traps in south-central Arizona, near the Mexico border.

In February 2009, a male jaguar was captured in a leg-hold snare in Peñasco Canyon near Nogales, Arizona. The snare was placed by researchers from the Arizona Game and Fish Department who were trapping mountain lions and black bears as part of a large carnivore movement study. The jaguar, identified as Macho B; was sedated, assessed for health and vigor, and fixed with a GPS tracking device before being set free. Within days after being released, the GPS collar indicated Macho B was not moving, so researchers searched for and located him. Veterinarians from the Phoenix Zoo determined that

Macho B was suffering from renal (kidney) failure and, after gaining Service authorization, euthanized him (Office of Inspector General 2010). A new male jaguar has been documented in the Whetstone and Santa Rita mountains since 2011, based on remote camera pictures.

Jaguar habitat use patterns are affected by many variables, including human infrastructure and activities. Conde et al. (2010) found significant differences in habitat use between male and female jaguars in the Mayan Forest of the Yucatan Peninsula by modeling occupancy as a function of land cover type, distance to roads, and sex. Although both male and female jaguars preferred tall forest, short forest was used by females but avoided by males. Whereas females significantly avoided roads, males did not and ventured into low-intensity cattle ranching and agriculture. Other studies have also shown that jaguars selectively use large areas of relatively intact habitat away from certain forms of human influence. Zarza et al. (2007) report that towns and roads had an impact on the spatial distribution of jaguars (jaguars used greater than expected areas located more than 6.5 km [4 mi] from human settlements and 4.5 km [2.8 mi] from roads) in the Yucatan peninsula. In the state of Mexico, Monroy-Vichis et al. (2007) report that one male jaguar occurred with greater frequency in areas relatively distant from roads and human populations. In some areas of western Mexico, however, jaguars (both sexes) have frequently been recorded near human settlements and roads (Núñez-Pérez, Subcomité Técnico Consultativo para la Conservación y Manejo sustentable del Jaguar y otros felinos de México, August 2, 2011, electronic mail). In Marismas Nacionales, Nayarit, a jaguar den was recently located very close to an agricultural field, apparently 1 km (0.6 mi) from a small town (Núñez-Pérez, Subcomité Técnico Consultativo para la Conservación y Manejo sustentable del Jaguar y otros felinos de México, August 2, 2011, electronic mail).

No formal habitat use studies have been conducted (with the exception of Núñez et al.'s [2002] examination of arroyo use) in the northwestern most portion of the jaguar's range. However, results of a study in the municipality of Nácori Chico, Sonora, showed that jaguar kill sites of wild prey (i.e., white-tailed deer and peccary)(Rosas-Rosas, Colegio de Postgraduados Campus San Luis Potosí, August 6, 2011, electronic mail) and cattle were positively associated with oak forest and semi-tropical thornscrub vegetation types, whereas they were negatively associated with upland mesquite (Rosas-Rosas et al. 2010). Sites of cattle kills were also positively associated with proximity to permanent water sources and roads (Rosas-Rosas et al. 2010). General jaguar habitat associations have been described in this region by various authors. In western Mexico, including Nayarit and Jalisco, jaguars primarily occur in tropical deciduous forest, although other formerly important habitats are the mangrove forests and swamps of the Agua Bravo and Marismas Nacionales straddling the borders of Nayarit and Sinaloa (Brown and López-González 2001). In Jalisco, oak and pine forest are used by jaguars, some of them located between 2,700 and 2,800 m (8,858-9,186 ft)(Núñez-Pérez, Subcomité Técnico Consultativo para la Conservación y Manejo sustentable del Jaguar y otros felinos de México, August 2, 2011, electronic mail). Although jaguars are not primarily associated with these vegetation communities, it is important to consider oak woodlands and pine forests as potential jaguar corridors (Núñez-Pérez, Subcomité Técnico Consultativo para la Conservación y Manejo sustentable del Jaguar y otros felinos de México, August 2, 2011, electronic mail to FWS).

Several studies have helped refine a general understanding of habitats that have been or might be used by jaguars in Arizona and New Mexico, including studies by the Sierra Institute Field Studies Program (2000), Hatten et al. (2002), Menke and Hayes (2003), Robinson et al. (2006), Sanderson and Fisher (2013). As Johnson et al. (2011) explain, however, any conclusions about the conservation importance of the habitat types in which jaguars have occurred or might occur in Arizona and New Mexico are preliminary and can vary widely, depending on what assumptions are factored into the analyses, such as the number and reliability of jaguar occurrence records and the significance of single "point in time" occurrence observations as predictors of habitat use by jaguars.

Hatten et al. (2005) used Geographic Information System (GIS) to characterize potential jaguar habitat in Arizona by overlaying 25 historical jaguar sightings on landscape and habitat features believed important (e.g., vegetation biomes and series, elevation, terrain ruggedness, proximity to perennial or intermittent water sources, human density). The amount of Arizona land area identified as potential jaguar habitat ranged from 21 to 30 percent, depending on the input variables. All jaguar records were observed in four biomes. Of these, 56 percent were observed in scrub grasslands of southeastern Arizona, 20 percent in Madrean evergreen forest (woodland), 12 percent in Rocky Mountain montane conifer forest, and 12 percent in Great Basin conifer woodland. Related to water, when springs, rivers, and creeks were combined, all of the jaguar records were within 10 km (6.2 mi) of a water source. Sixty percent of jaguars were observed between 1,220 and 1,829 m (4,003-6,001 ft) in elevation, largely in the scrub grassland biome of southeastern Arizona. The remaining jaguar sightings were between 1,036 and 2,743 m (3,399-8,999 ft). With respect to topography, 92 percent of jaguar sightings occurred in intermediately rugged to extremely rugged terrain, with the remainder (8%) in nearly level terrain.

More recently, Sanderson and Fisher (2013) modeled jaguar habitat in the Northwestern Jaguar Recovery Unit (NRU)(see description below) following a variant of the Hatten et al. (2005) method. Habitat factors used to characterize potential jaguar habitat were: 1) percentage of tree cover; 2) ruggedness index; 3) human influence; 4) ecoregion; 5) elevation (some model versions only); and 6) distance from water. Altogether, 13 habitat model versions were produced with input from the Technical Subgroup of the Jaguar Recovery Team. The habitat models were also translated into carrying capacity. The final habitat model (version 13) suggests a potential carrying capacity of more than 3,400 jaguars over an area of over 226,000 km2. This capacity was further broken down into smaller geographic areas or "subunits" of the NRU which, from south to north, may have the potential to contain: about 1,318 jaguars in the Jalisco Core Area, about 929 jaguars in the Sinaloa Secondary Area, about 1,124 jaguars in the Sonora Core Area, and about 42 jaguars in the Borderlands Secondary Area (which includes portions of northern Sonora, southern Arizona, and southeastern New Mexico). The current populations are substantially below these carrying capacities, but are not zero according to recent observations in all four subunits (Sanderson and Fisher 2013).

Ocelot

At one time the ocelot was thought to be extirpated from Arizona. However, verified detections have occurred on a regular basis since 2009. Two male ocelots have been detected in the Huachuca Mountains, adjacent and largely contiguous with the Canelo Hills, beginning with one individual in February 2011 and eventually including two, with the most recent single-cat detection occurring in July 2014. One of the ocelots occurring in the Huachuca Mountains was detected in the Patagonia Mountains during the summer of 2014, but was subsequently photographed back in the Huachuca Mountains.

Another male ocelot was detected in 2009 in the Whetstone Mountains. In April 2012, a deceased specimen found along Highway 60 between Superior and Globe was collected and was determined to be a wild adult. A male ocelot was detected repeatedly in April, May, and June of 2014 in various locations in the Santa Rita Mountains.

In addition to the recent Arizona sightings, a number of ocelots have been documented just south of the U.S. border in Sonora, Mexico (USFWS 2010c). Specifically, with the use of camera traps, at least four ocelots have been documented since February 2007 in the Sierra Azul, 30-35 miles southeast of Nogales; and one ocelot was documented in 2009 in the Sierra de Los Ajos, about 30 miles south of the U.S. border near Naco, Mexico. Lopez Gonzalez et al. (2003) obtained 36 verified ocelot records for Sonora, 21 of which were obtained after 1990. A population of 2,025 + 675 ocelots in Sonora was estimated by Lopez Gonzalez et al. (2003) based on the distribution of these records and the availability of potential habitat.

The nearest recently-documented (2011) female ocelot with young (one kitten) was located about 48 km (30 mi) south of the international border in the Sierra Azul of Sonora, Mexico (Avila-Villegas and Lamberton-Moreno 2012).

If the male ocelots documented in the Huachuca and Whetstone mountains dispersed from the nearest breeding population, assuming the nearest breeding population is the one previously mentioned, it means the cats moved about 55 km (35 miles) to the Huachuca Mountains (email from Tim Snow, AGFD, March 18, 2013) and 110 km (70 miles) to the Whetstone Mountains (Avila-Villegas and Lamberton-Moreno 2012).

Prior to these findings, the last known ocelot in Arizona was lawfully shot on Pat Scott Peak in the Huachuca Mountains in 1964 (Hoffmeister 1986, Lopez Gonzalez et al. 2003). The Arizona/Sonora ocelot population is isolated from the Texas/Tamaulipas ocelot by the Sierra Madre highlands and the dry areas of the Mexican Plateau, and once ranged from southeastern Arizona into Mexico's States of Sonora and northern Sinaloa (Goldman 1943).

Connectivity among ocelot populations or colonization of new habitats is inhibited by road mortality of dispersing ocelots. Issues associated with border barrier development and patrolling the boundary between the United States and Mexico further exacerbate the isolation of Texas and Arizona ocelots from those in Mexico.

California Condor

Condors were first released within a designated nonessential experimental population area in northern Arizona and southern Utah in January 2002. The area is bounded by Interstate 40 on the south, U.S. Highway 191 on the east, Interstate 70 on the north, and Interstate 15 to U.S. Highway 93 on the west. The nonessential experimental population status applies to condors only when they are within the experimental population area. California condors outside the California Condor Experimental Population Area have full protection as endangered species under the ESA. However, individual condors found within the action area are considered part of the nonessential experimental population; either released birds or their progeny. Generally, if California condors leave the California Condor Experimental Population Area, they will be captured by the Service and Cooperators and returned to the 10(j) area.

A five-year review of the effort indicates that, as of January 2002, 47 condors had been released in nine release events (Arizona Condor Review Team 2002). Reintroduction efforts have been complicated by predation, lead poisoning, bird-human interactions, and shootings. As of the date of the published review, 18 birds had died and four had been returned to captivity due to behavioral concerns. After the first five years, there were 25 free-flying condors in northern Arizona with an additional eleven individuals in a flight pen for release early in 2002.

In 2001, condors began to demonstrate reproductive behavior in Grand Canyon National Park. One pair produced an egg which did not result in surviving progeny. Two pairs exhibited nesting behavior in 2002, with one egg known to be produced. However, both of those nests also failed to result in surviving young condors. According to the Grand Canyon National Park, roughly 70 condors occur in northern Arizona and southern Utah (http://www.nps.gov/grca/naturescience/california-condors.htm).

As of April 30, 2014, a total of 238 California condors existed in the wild; what is known as the Southwest (Arizona) population of California condors contained 75 individuals. That latter figure includes 65 free-flying individuals previously released into the population and 10 wild-fledged individuals. Ninety two fatalities and missing California condors have been documented in northern Arizona since 1996. Of 14 chicks that have hatched since 2003, 10 wild-fledged individuals currently

exist in the population. Most mortality in northern Arizona has been related to human activity, including lead poisoning and shootings.

Canada Lynx

In 1997, the Colorado Parks and Wildlife began a lynx reintroduction into southern Colorado in areas where biologists thought that quality habitat existed. Initial setbacks required modified release methodology in 1999 and 2000 (Devineau et al. 2011), but overall reintroductions of 218 individual lynx have resulted in establishment of a population of lynx that has shown reproduction and high adult survival (Devineau et al. 2010, Colorado Parks and Wildlife 2014). At least 122 of the reintroduced lynx died by June of 2010 (Shenk 2010), but overall survival rates are sufficient to maintain a population if recruitment and reproduction were to continue at similar rates to that observed from 2003 to 2010 (Shenk 2010). Colorado Parks and Wildlife has declared the lynx reintroduction effort a success based on meeting established benchmarks of: (1) a high rate of survival immediately after release (Devineau et al. 2011), low mortality rates of released lynx over the long term (Devineau et al. 2010), lynx utilization of good habitat at densities sufficient for breeding (Devineau et al. 2010), successfully breeding (Shenk 2010), successful recruitment of wild-born lynx into the population (Shenk 2010), and on balance, lynx recruitment is equal or exceeds mortality over an extended period of time (http://cpw.state.co.us/learn/Pages/SOC-LynxResearch.aspx). Based on this success, Colorado Parks and Wildlife has entered into a period of monitoring occupancy, rather than intensive individual animal research (Ivan 2011).

Although some questions remain about the long-term viability of the lynx population, should lynx populations remain it could prove beneficial for the conservation of the lynx DPS (79 FR 54782; September 12, 2014). In addition, it is likely that lynx will continue to occur in southern Colorado and parts of northern New Mexico in the near term as a result of reintroductions.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Mexican Wolf

There are no direct effects to Mexican wolves from the Proposed Revision to the Regulations for the Experimental Population of the Mexican Wolf, the issuance of a 10(a)(1)(A) permit authorizing take resulting from discretionary management activities, or providing funding for the implementation of the Mexican wolf recovery program. Indirect effects to the species may include disruption of essential behaviors, incidental injury, or death during the implementation of the Mexican wolf recovery program in the action area. The ultimate goal of the Mexican Wolf Recovery Program is to recover the species so that it no longer needs protection under the ESA. The recovery and long-term conservation of the Mexican wolf in the southwestern U.S. and northern Mexico is likely to "depend on establishment of a metapopulation or several semi-disjunct but viable populations spanning a significant portion of its historic range in the region" (Carroll et al. 2006). As specified in our 1998 Final Rule, the reintroduction of the Mexican wolf into the BRWRA was envisaged "as the first step toward recovery of the Mexican wolf in the wild" (63 FR 1752, January 12, 1998). The MWEPA, as proposed to be configured, was created to support the reintroduction of the Mexican wolf with the intent that this experimental

population, once successfully reestablished, would contribute to recovery. Attempting to recover a species from the brink of extinction is obviously a beneficial effect to the species. However, management activities discussed in the project description may have adverse effects to individual Mexican wolves and thus must be evaluated under Section 7 of the ESA. The following discussion describes the effects to individual Mexican wolves from the management activities of the Mexican Wolf Recovery Program as explained in the project description.

Captures and Collaring – Collars have been known to cause some minor injuries, especially if improperly fitted. There has been one instance of a Mexican wolf being injured through an improperly fitted collar. Since the first releases in 1998, only two Mexican wolves in the experimental population have been severely injured during captures by agency personnel. In addition, three capture-related wild Mexican wolf mortalities have occurred as a result of project activities (USFWS 2001, USFWS 2006a, USFWS 2014). Thus, five instances of severe injuries or death have occurred as a result of wild capture efforts. As of December 2013, Mexican wolves have been captured 348 times by project personnel and thus the rate of severe injury or death is 1.4 % of all captures. There may be negative effects (injury or death) from capturing and collaring Mexican wolves, but the overall effects on the survival and recovery of this species in the wild are beneficial. The monitoring of Mexican wolves through the use of radio telemetry has proven to be beneficial in the collection of biological data, monitoring human and livestock conflicts, targeting proactive management in areas of potential livestock conflicts, and helping to reduce adverse effects on non-target individuals and non-target species, thus, reducing adverse effects to the species as a whole.

Non-lethal Techniques – From 1998-2003, 11 Mexican wolves were removed from the wild that displayed poor behavioral characteristics and were located close to humans, and 14 Mexican wolves were removed that depredated repeatedly on livestock (Interagency Field Team 2005: Table 5). Harassing Mexican wolves using techniques such as rubber bullets is intrusive and primarily causes minor injuries (rubber bullets could cause death to animals if personnel are too close or hit the animal in vulnerable areas), but these techniques are meant to assist in the overall recovery of the species by keeping human and livestock conflicts to a minimum and Mexican wolves in the wild. Further, data suggest that animals living in the wild for a greater proportion of their lives are more likely to be successful and are less likely to succumb to mortality or removal (Interagency Field Team 2005). Thus, the use of non-lethal techniques are expected to result in fewer permanent removals and more Mexican wolves successfully breeding and reproducing in the wild. Further, staff utilizing less-than-lethal projectiles are trained and evaluated by law-enforcement personnel in the effects of the non-lethal projectiles and gun-handling safety. As a result of this training, no significant injuries to Mexican wolves or staff have occurred as a result of using less-than-lethal munitions. Further, the 10(a)(1)(A) permit and the proposed rule authorize use of less-than-lethal munitions by certain residents, ranchers, and/or private landowners with a documented history of interaction with problem Mexican wolves, who go through training and are issued a sub-permit and receive appropriate training. Non-lethal techniques, such as less-than-lethal munitions, allow agency staff and sub-permitted individuals the ability to provide Mexican wolves with a negative association with humans or livestock with only minor, non-permanent injury to the Mexican wolf, which will reduce overall conflicts between Mexican wolves and humans. While there may be negative effects (injury or death) to individual Mexican wolves from the use of non-lethal projectiles, the overall effects on the survival and recovery of this species in the wild are beneficial, as the use of non-lethal projectiles will reduce negative interactions between wolves and humans.

Initial Release and Translocation Procedures – Mexican wolves that are initially released have generally been reared in captivity and are used to being in pens. Therefore, no negative effects are anticipated while Mexican wolves are penned before being initially released. Mexican wolves that are translocated

have previous wild experience and often have never experienced time in a pen. These animals are generally held for shorter time periods or often hard released (not put into a pen in the wild but rather released from a crate) to the wild. Although Mexican wolves could injure themselves while in the release pens, the level of precautions (e.g., rigorous caretaker routines and husbandry protocols) minimizes adverse effects to Mexican wolves. The only instance of mortality related to Mexican wolves being held in the pens was caused by disease. In 1999, one Mexican wolf pup died of parvovirus, while being held in an initial release pen. No other mortalities have occurred within initial release and translocation pens or during transport, which includes over 197 initially released or translocated animals, or an injury rate of 0.5% of all Mexican wolves that are initially released or translocated. Further, the Mexican Wolf Recovery Program takes steps that provide the greatest likelihood of a successful reintroduction, including minimizing human contact (e.g., public access is restricted around the pens and supplemental food may be provided after release to assist with acclimation to the wild). While there may be negative effects (injury or death) from holding Mexican wolves in captivity, the overall effects on the survival and recovery of this species in the wild are beneficial, as these actions will provide for the expansion of the population and an increase in the genetic diversity of Mexican wolves in the wild.

Biological Data Collection – All of the data collection and monitoring techniques (i.e., aerial and ground telemetry monitoring; visually observing Mexican wolves near den sites to count the number of pups; collecting hair, blood, semen, ova, and scat; and howling surveys) may result in short-term disturbance. These actions will result in an increased understanding of Mexican wolves in the wild and may guide future research and provide information for management decisions that would benefit the species' survival and recovery. . There may be negative effects (harassment) from biological data collection, but the overall effects on the survival and recovery of this species in the wild are beneficial, as the collection of biological data will increase our ability to manage and recover the Mexican wolf.

Mexican Wolves in Captivity – Maintaining and/or increasing the number of Mexican wolves in captivity includes, but is not limited to, breeding, handling, administering health care, and obtaining samples such as blood, tissue, semen, ova, and hair. The program ensures that Mexican wolves remain healthy and that the highest quality of care exists while minimizing human contact of the captive Mexican wolves. The captive Mexican wolf program is the only source population of Mexican wolves for reintroduction into the wild and satisfies the primary purpose of the Mexican Wolf Recovery Program. There may be negative effects (harassment) from holding Mexican wolves in captivity, but the overall effects on the survival and recovery of this species in the wild are beneficial. Veterinarians may be present at captures within the captivity facility and proper protocols, including those in the *Husbandry Manual*, are followed to minimize adverse effects to Mexican wolves in captivity.

Lethal Control –If, after reasonable attempts to capture problem Mexican wolves alive fail, and when the Service determines that immediate removal of a particular Mexican wolf or wolves from the wild is necessary, lethal take is also authorized under the proposed Revised Rule and 10(a)(1)(A) permit. Lethal control outside of the MWEPA is not included in the 10(a)(1)(A) permit. The lethal removal of an individual will adversely affect that individual and its short-term contribution to the species' recovery program and population through loss of future offspring, contribution to its pack, and genetic contribution. For this reason nonlethal control methods are preferred and encouraged, as depredating Mexican wolves captured alive are generally translocated to an area where they are less likely to depredate, or they may be put back into the captive population. However, when lethal control is used, it is a last resort and the effects on the recovery program are weighed in any decision to use lethal control on an individual Mexican wolf. Recent literature suggests that consistent and responsible depredation management programs for wolves may reduce illegal killing (Olson et al. 2014), and that lethal control implemented near the time (within 7 days) of the depredation reduced the likelihood of future

depredations (Bradley et al., in review). While there may be negative effects (death) from lethal control of individual wolves, the overall effects on the survival and recovery of this species in the wild are beneficial by reducing human and livestock conflicts with the Mexican wolf experimental population. Further, growth of the population is expected to continue despite lethal control of individual animals (Bradley et al., in review).

Mexican wolves not covered by the 10(j) Rule – Mexican wolves that disperse north of Interstate-40 in New Mexico and Arizona, or into other peripheral states (California, Colorado, Nevada, Texas, and Utah) will be fully protected as endangered species under the ESA. Any Mexican wolves that have dispersed from the experimental population and that establish a territory outside of the MWEPA, will be captured and: (1) translocated back inside of the MWEPA, (2) transferred to captivity for a period of time, or (3) transferred to Mexico, in accordance with the stipulations of the 10(a)(1)(A) permit. While we recognize the importance of natural dispersal and colonization/recolonization of unoccupied habitat which expands the species' range (Mech and Boitani 2003) our purpose in proposing revisions to the 1998 Final Rule is to further the conservation of the Mexican wolf by improving the effectiveness of the Reintroduction Project in managing the experimental population in the MWEPA. For this reason, until we complete a recovery plan that describes where additional populations should go, letting Mexican wolves above 1-40 would not improve the effectiveness of trying to establish Mexican wolves in the MWEPA. Capture and translocation or incorporation of a Mexican wolf into the captive breeding population has inherit risks such as injury or death, but the documented occurrences of this are extremely low, as discussed above. There may be negative effects (injury, death) from capturing and returning Mexican wolves to the MWEPA, but the overall effects on the survival and recovery of this species in the wild are beneficial by allowing the Service to focus efforts on establishing a population south of Interstate 40 within the MWEPA.

Gray Wolf

There are no direct effects to gray wolves from the proposed revised rule, the issuance of a 10(a)(1)(A) permit for Mexican wolves and gray wolves, nor providing funding for the implementation of the Mexican wolf recovery program. Indirect effects to gray wolves may occur under the section 10(a)(1)(A) research and recovery permit to to capture and manage a gray wolf in Arizona or New Mexico. Effects may include disruption of essential behaviors, incidental injury, or death during the implementation of the Mexican wolf recovery program in the action area. The effects to gray wolves from the management activities of the Mexican Wolf Recovery Program as explained in the project description, would be similar to the analysis above for Mexican wolves. However, because gray wolves are an endangered species in the action area only the following management actions would be allowed under a 10(a)(1)(A) permit: (1) Capture and Collaring, (2) Non-Lethal Techniques, (3) Biological Data Collection, and (4) Translocation(s) in response to depredation scenarios. There may be negative effects (injury, death) from capturing, use of non-lethal techniques, or translocations, but the overall effect on the survival and recovery of the species in the wild are beneficial. Overall, management of gray wolves within Arizona and New Mexico should be extremely limited because there are few resident gray wolves in Utah and Colorado. Gray wolves may also be inadvertently captured in a trap intended for a Mexican wolf. Effects may include injury or death. There may be negative effects (injury, death) from the management activities associated with gray wolves, but the overall effects on the survival and recovery to the species in the wild are beneficial by providing information on dispersal and habitat use and reducing conflicts with humans and livestock.

Jaguar

There are no direct effects to jaguars from the proposed revised rule, the issuance of a 10(a)(1)(A) permit for Mexican wolves and gray wolves, nor providing funding for the implementation of the Mexican wolf recovery program. Indirect effects to the jaguar may include incidental injury or death during the implementation of the Mexican wolf recovery program within the action area. Mexican wolves and jaguars will likely compete for the same prey where the two species overlap. Mexican wolves may push jaguars off of kills or the opposite depending on the individual interaction. Jaguar-killed cattle or other ungulates may be investigated if Mexican wolves are also in the area, resulting in disturbance to jaguar kills. Food caches for Mexican wolves may potentially influence the movement of jaguars if they are utilizing the caches. Traps for Mexican wolves are placed in areas of high Mexican wolf utilization (Mexican wolf territories) based on either radio collar data or sign, and for a short period of time to accomplish goals (≤ 3 weeks), thus, limiting the potential for incidental jaguar capture. Overall, given the limited overlap of jaguar and Mexican wolf distribution in New Mexico and Arizona, it is unlikely that incidental capture of jaguars will occur. However, leg-hold traps have padded jaws to reduce the likelihood of injury to captured animals, and personnel receive annual training from a licensed veterinarian; and they have appropriate drugs and emergency supplies to safely handle non-target captures, including jaguars.

The primary Mexican wolf management activity that could affect a jaguar is the use of leg-hold trapping. Jaguars have been documented in Santa Cruz, Pima, and Cochise counties, Arizona; and Hidalgo County, New Mexico. However, jaguars are in extremely low numbers along the U.S.-Mexico border and thus, the chance of one being caught in a trap intended for a Mexican wolf is extremely low. As stated above, leg-hold traps are used frequently by the Mexican Wolf Recovery Program to catch Mexican wolves that need to be radio-collared or translocated. Jaguars could potentially be incidentally captured in traps meant for Mexican wolves, especially if trapping is being conducted in areas occupied by jaguars. Traps are sometimes placed near carcasses to attract Mexican wolves, which may also attract jaguars, but it is unlikely that a jaguar would be captured without jaguar specific lures or baits. If captured, a jaguar could suffer dehydration, injury, or death especially if the animal is not detected for some time. However, wolf traps are visually checked at least every 24 hours, and more often if weather conditions dictate. Additionally, personnel are trained in emergency procedures annually and fluids are given to trapped animals that are sedated. A jaguar would have to be sedated in order to free it from the trap. There may be negative effects (harassment, injury or death) if a jaguar were accidentally captured in a trap, However, the data collected from an individual jaguar accidentally captured could provide information on habitat use, occurrence, and movements that may guide future research proposals and provide information for management decisions that would have beneficial effects on the species' survival and recovery.

Ocelot

There are no direct effects to ocelots from the proposed revised rule, the issuance of a 10(a)(1)(A) permit for Mexican wolves and gray wolves, nor providing funding for the implementation of the Mexican wolf recovery program. Indirect effects to the ocelot may include incidental injury or death during the implementation of the Mexican wolf recovery program within the action area. The primary activity that may affect the ocelot is the use of leg-hold trapping. As stated above, leg- hold traps are used frequently by the Mexican wolf recovery program to catch Mexican wolves that need to be radio-collared or translocated. An ocelot could potentially be caught in traps meant for Mexican wolves, especially if trapping is being conducted south of Interstate 10 in Arizona. Other felids (e.g., bobcats, mountain lions) have been caught in leg-hold traps in the past during Mexican wolf trapping efforts (J. Oakleaf, pers. comm. 2010). If Mexican wolves begin occurring along the U.S.-Mexico border and Mexican wolves need to be captured, an ocelot could potentially be subjected to incidental capture. Ocelots are in

extremely low numbers along the U.S.-Mexico border and thus, the chance of one being caught in a trap intended for a Mexican wolf is extremely low. As mentioned above however, ocelots were documented in Cochise County, Arizona in 2009, and in the Huachuca Mountains in 2011, with the use of camera traps. Although it is unlikely that an ocelot would be caught in a trap because ocelots are at such low densities and because their habitat of choice is dense underbrush, where wolf trapping would be unlikely to occur, ocelots could be at risk of incidental capture if wolf trapping activities occur in or near areas considered ocelot habitat. Similar to the adverse effects to a jaguar, an ocelot could suffer dehydration or injury or death, especially of the animal is not detected for some time. However, Mexican wolf traps are visually checked every 24 hours or more often if weather conditions dictate. Additionally, personnel are trained in emergency procedures annually and fluids are given to trapped animals that are sedated. The animal may need to be sedated in order to free it from the trap. While there may be negative effects (harassment, injury, death) from accidentally capturing an ocelot, the overall effects on the survival and recovery of this species in the wild are beneficial, as the data collected from an individual ocelot accidentally captured could provide information on habitat use, occurrence, and movements that may guide future research proposals and provide information for management decisions.

California Condor

There are no direct effects to California condors from the proposed revised rule, the issuance of a 10(a)(1)(A) permit for Mexican wolves and gray wolves, nor providing funding for the implementation of the Mexican wolf recovery program. Indirect effects to the California condor may include incidental injury or death during the implementation of the Mexican wolf recovery program within the action area. Although condors can travel long distances, the population of condors exists within the Grand Canyon and within the Vermillion Cliffs in southern Utah. The only activities that could adversely affect the California condor are the change in distribution of California condors if they locate food caches left for Mexican wolves or gray wolves, the use of leg-hold trapping, and helicopter capture of Mexican wolves or gray wolves. Food caches are generally provided when Mexican wolves are released or to divert Mexican wolves or gray wolves from killing livestock. In both cases, the provision of food caches is temporary, rarely lasting six months. Therefore, the change in distribution of condors attracted to such food caches would be temporary. Wolf traps are often placed in the vicinity of wolf-killed ungulates. Because condors only eat carrion and traps are sometime placed near a carcass, there is a small possibility that a condor could be incidentally captured. Because condors are very curious birds and feed exclusively on animal carcasses, they could be captured if trapping were to occur within areas occupied by condors. Similar to the adverse effects to a jaguar, a California condor could suffer dehydration, injury or death, especially of the animal is not detected for some time. However, wolf traps are visually checked every 24 hours or more often if weather conditions dictate. Additionally California condors may be affected by the helicopter capture operations in Grand Canyon or Vermillion Cliffs area, if they are necessary to capture dispersing Mexican wolves or gray wolves. Should the helicopter capture operations be necessary, and the Mexican Wolf Recovery Program would only use this technique if trapping was not feasible or failed to capture the animal, take would be expected in the form of harassment or accidental displacement when startled individuals are flushed from a perch site by low- level flights.

Canada Lynx

There are no direct effects to lynx from the proposed revised rule, the issuance of a 10(a)(1)(A) permit for Mexican wolves or gray wolves, nor provision of funding for the implementation of the Mexican wolf recovery program. Indirect effects to the lynx may include incidental injury or death during implementation of the Mexican wolf recovery program within the action area. The primary activity that may affect the lynx is the use of leg-hold trapping. Mexican wolves would be captured if they established territory wholly outside of the MWEPA. Gray wolves may be captured if they disperse into Arizona or

New Mexico. As stated above, leg- hold traps are used frequently by the Mexican wolf recovery program to catch Mexican wolves and gray wolves that need to be radio-collared or translocated. A lynx could potentially be caught in traps meant for Mexican wolves or gray wolves, especially if trapping is being conducted in northern New Mexico or southern Colorado. Other felids (e.g., bobcats, mountain lions) have been caught in leg-hold traps in the past during wolf trapping efforts (J. Oakleaf, pers. comm. 2010). Similar to the adverse effects to a jaguar and ocelot, a lynx could suffer dehydration, injury or death, especially of the animal is not detected for some time. However, wolf traps are visually checked every 24 hours or more often if weather conditions dictate. Additionally, personnel are trained in emergency procedures annually and fluids are given to trapped animals that are sedated. The animal may need to be sedated in order to free it from the trap. Mexican wolves are unlikely to occur in areas occupied by lynx because they will be captured prior to existing in these areas. The MWEPA does not overlap with lynx range and lynx and Mexican and gray wolf habitat differ, reducing the likelihood of lynx being present in the area of most Mexican or gray wolf management activities. However, lynx could be at risk of incidental capture if wolf trapping activities occur in or near areas considered lynx habitat outside of the MWEPA.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Because of the extent of Federal lands in the action area potentially affected by the specific Mexican wolf and gray wolf management activities, most site specific (i.e. construction of mesh pen sites for release or translocation of Mexican wolves) activities for Mexican wolves will be subject to additional section 7 consultation relative to the impact to other threatened and endangered species at specific sites. Livestock production and hunting as well as urban, suburban, and rural development are expected to continue to dominate private lands within the action area. As urban centers continue to expand, the demand for outdoor recreation will increase. Roads, housing developments, and retail space will continue to fragment habitat and reduce the likelihood that suitable habitat that is not occupied will be recolonized in the future. The rate at which these effects are occurring has slowed down with the declining economy, but as recovery of the economy continues the rate of these impacts will be similar to that of a few years ago. In some cases, these activities may directly or indirectly affect habitat or individual Mexican wolves, gray wolves, jaguars, ocelots, California condors, or lynx. Many illegal activities associated with cross- border smuggling and illegal immigration also occur in the action area. These activities result in creation of trails and routes that can degrade habitats, and individuals involved in these illegal activities often build cooking or warming fires, some of which escape and become wildfires. In excessively dry areas, vehicles may also start fires.

Non-federal trapping activities also occur within the action area and thus would be considered a cumulative effect. From 1998 through 2013, the Mexican Wolf Recovery Program has documented a minimum of 25 incidents of Mexican wolves caught by recreational trappers. Some of those Mexican wolves caught have been released unharmed, but at least seven Mexican wolves have been severely injured and at least three Mexican wolves have died as a result of injuries or activities associated with being captured in a leg-hold trap. Mexican wolves could be caught in non-project associated leg-hold traps in the future (J. Oakleaf, pers. comm. 2011). Neck snares are rarely used in the southwest because they typically require dense vegetation and well used trails to place the loop on.

CLIMATE CHANGE

All of North America is very likely to warm during this century, and the annual mean warming is likely to exceed the global mean warming in most areas. The lowest winter temperatures are likely to increase more than the world-wide average in northern North America, and the highest summer temperatures are likely to increase more in the southwest U.S. than the average world- wide temperature increases. Annual mean precipitation is very likely to increase in Canada and the northeast U.S., and likely to decrease in the southwest U.S. (IPCC 2007).

Average Northern Hemisphere temperatures during the second half of the 20th century were very likely higher than during any other 50-year period in the last 500 years and likely the highest in at least the past 1,300 years. It is very likely that over the past 50 years cold days, cold nights and frosts have become less frequent over most land areas, and hot days and hot nights have become more frequent. It is also likely that heat waves have become more frequent, and the frequency of heavy precipitation events has increased over most areas. The IPCC (2007) predicts that changes in the global climate system during the 21st century are very likely to be larger than those observed during the 20th century. For the next two decades, a warming of about 0.2°C (0.4°F) per decade is projected. Afterwards, temperature projections increasingly depend on specific emission scenarios. By the end of the 21st century, average global temperatures are expected to increase 0.6°C to 4.0°C (1.1°F to 7.2°F) with the greatest warming expected over land. Localized projections suggest the southwestern U.S. may experience the greatest temperature increase of any area in the lower 48 states. The IPCC says it is very likely that hot extremes, heat waves, and heavy precipitation will increase in frequency. There is also high confidence that many semi-arid areas like the western U.S. will suffer a decrease in water resources due to climate change.

Mexican wolf

We do not know whether the climate changes that have already occurred have affected Mexican wolf populations or distribution, nor can we predict how the species will be affected by the type and degree of climate changes forecast by a range of models. However, ongoing and future changes in climate have the potential to adversely affect the Mexican wolf within the next 50 to 100 years. Reductions or distributional shifts in large animal populations may result in a decreased food supply for Mexican wolves in their current range. Stochastic threats such as drought and wildfires in Mexican wolf habitat may make this species especially vulnerable. Monitoring of habitat and populations will be needed to address the potential threat of climate change. The result of predicted climate change trends could include reduced summer base flow in streams, increased runoff and erosion during storm events, and the earlier onset of summer low-flow conditions (Mote et al. 2005). Reduced water in the system may reduce or localize big game populations in the summer months, however, it is not clear how these changes may affect habitat for the Mexican wolf nonessential experimental population.

Gray Wolf

We do not know whether the climate changes that have already occurred have affected gray wolf populations or distribution, nor can we predict how the species will be affected by the type and degree of climate changes forecast by a range of models. However, ongoing and future changes in climate have the potential to adversely affect the gray wolf within the next 50 to 100 years. Reductions or distributional shifts in large animal populations may result in a decreased food supply for gray wolves in their current range. Stochastic threats such as drought and wildfires in gray wolf habitat may make this species especially vulnerable. Monitoring of habitat and populations will be needed to address the potential threat of climate change. The result of predicted climate change trends could include reduced summer base flow in streams, increased runoff and erosion during storm events, and the earlier onset of summer low-flow conditions (Mote et al. 2005). Reduced water in the system may reduce or localize big game populations

in the summer months, however, it is not clear how these changes may affect habitat for the gray wolf populations.

Jaguar

We do not know whether the climate changes that have already occurred have affected jaguar populations or distribution, nor can we predict how the species will be affected by the type and degree of climate changes forecast by a range of models. However, ongoing and future changes in climate have the potential to adversely affect the jaguar within the next 50 to 100 years. Reductions or distributional shifts in large animal populations may result in a decreased food supply for jaguars in their current range. Stochastic threats such as drought and wildfires in jaguar habitat may make this species especially vulnerable. Monitoring of habitat and populations will be needed to address the potential threat of climate change.

Ocelot

We do not know whether the climate changes that have already occurred have affected ocelot populations or distribution, nor can we predict how the species will be affected by the type and degree of climate changes forecast by a range of models. However, ongoing and future changes in climate have the potential to adversely affect the ocelot within the next 50 to 100 years. Stochastic threats such as drought and wildfires in ocelot habitat may make this species especially vulnerable. Monitoring of habitat and populations will be needed to address the potential threat of climate change. Therefore, we will continue to monitor the species and its habitat, and will adapt our recovery and management strategies when necessary to address the changing conditions.

California Condor

It is difficult to predict potential effects of climate change on California condors. Snyder and Snyder (2000) addressed the potential of adverse weather conditions on condors. They considered the weather in most of the current range of the species to be relatively benign, and observed that events such as hurricanes and tornados are quite rare where condors currently occur. However, they did cite an instance of two condors that may have died from battering during a violent hailstorm in Santa Barbara County, California, in 1936. Climate change in the Southwest is likely to result in warmer temperatures and drier but more variable precipitation. Increased temperatures may affect the ability of condors to effectively thermoregulate for normal behavior. Hotter and drier conditions may also result in fewer or smaller open water sources. Snyder and Snyder (2000)) discussed the possibility of injury or mortality of condors at water sources from which the birds may not be able to extricate themselves. Another possible effect of climate change may be reductions or distributional shifts in large animal populations. Reductions may result in a decreased food supply for condors in their current range, which would also affect survival and reproduction. Distributional shifts could range from beneficial to detrimental for condors, depending on large mammal and condor distribution of patterns. Finally, climate change may result in more, larger, and longer-lasting fire events. Such fire events can also affect condors by destroying or reducing roost sites, prey availability, and smoke- free conditions for condor reproduction.

Canada Lynx

Lynx are dependent on deep persistent snow cover across their worldwide distribution. Bobcats and coyotes (*Canis latrans*) are potential competitors with lynx, but are at a disadvantage in areas of fluffy or deep snow (Buskirk et al. 2000). Snow cover is predicted to be reduced as a result of climate changes and has the potential to limit lynx habitat and utilization (79 FR 54782; September 12, 2014). Reduced snow depth and duration has the potential to reduce the lynx competitive advantage over bobcats, which are not as adept at hunting hares in deep snow (Carroll 2007). The Service concluded that climate change is a

significant issue of concern for the future conservation of the lynx DPS in the contiguous United States, and that climate change is likely to substantially reduce the amount of lynx habitat (79 FR 54782; September 12, 2014).

Within the action area, the hare population and lynx habitat in Colorado are considered marginal at best to support populations of lynx into the future (Ruggiero et al. 2000, Steury and Murray 2004). There is much uncertainty regarding the ultimate fate of the lynx populations in Colorado, however, should lynx populations persist, it could prove beneficial for the conservation of the lynx (79 FR 54782; September 12, 2014). The effects of climate change would likely further reduce the available habitat and perhaps limit lynx populations. In addition, climate change would further erode connectivity with larger populations of lynx required to maintain the demographic and genetic robustness of the lynx population in the absence of additional translocations (79 FR 54782; September 12, 2014).

CRITICAL HABITAT

This Biological Opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR §402.02 for species' effects analysis. Instead, we rely upon the statute and the August 6, 2004, Ninth Circuit Court of Appeals decision in *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service* (No. 03-35279) to complete critical habitat effect analyses. Critical Habitat for the listed aquatic plants, aquatic invertebrates, and fish within the action area will be avoided because of safety concerns for Mexican wolves and the physical constraints of conducting management activities in aquatic, riparian, or marsh habitats. Therefore, Critical Habitat for those species will not be affected.

Management activities may occur in designated critical habitat for Mount Graham red squirrel (*Tamiasciurus hudsonicus*, Mexican spotted owl (*Strix occidentalis lucida*), southwestern willow flycatcher (*Empidonax traillii extimus*), desert tortoise (*Gopherus agassizii*), New Mexico ridge- nosed rattlesnake (*Crotalus willardi obscurus*), San Francisco Peaks groundsel (*Senecio franciscanus*), and jaguar. However, none of the proposed actions will adversely affect the primary constituent elements to the point that critical habitat units will not function for the survival and recovery of the listed species due to the small area involved in any particular management activity, the lack of any permanent habitat altering activity, and the temporal nature of Mexican wolf management activities in any given location.

CONCLUSION

Mexican wolf

After reviewing the current status of Mexican wolf, the environmental baseline for the species, the proposed revised rule, the issuance of a 10(a)(1)(A) permit authorizing take, and the cumulative effects, it is the Service's biological opinion that implementation of the Mexican wolf project, as proposed, is not likely to jeopardize the continued existence of the Mexican wolf. No critical habitat has been designated for this species; therefore, none will be affected. In making this determination we considered the following:

1. Mexican wolves from the section 10(j) nonessential experimental population are by definition not essential to the survival of the species.
2. Mexican wolves that are removed from the action area outside the MWEPA will be captured and either re-released in the MWEPA, transferred to Mexico for re-release, or placed in a captive breeding facility.
3. The small percentage of project-related captures that have resulted in severe injuries or death (5 of 348 to date) does not represent a significant risk to the species' survival or recovery in the wild.

4. The level of injury or death that may occur to Mexican wolves as a result of the proposed action will be low, based on past experience in implementing management actions in the nonessential experimental population. The reproductive capacity of the remaining breeding population, both captive and in the wild, will minimize any long-term impact on survival or recovery in the wild.
5. Data collection and monitoring techniques (i.e., aerial and ground telemetry monitoring, visually observing Mexican wolves near den or rendezvous sites to count the number of pups, and howling surveys) may result in short-term disturbance, but are likely to have extremely minor effects on Mexican wolves.

Gray wolf

After reviewing the current status of the gray wolf, the environmental baseline for the species, the issuance of a 10(a)(1)(A) permit authorizing take, and the cumulative effects, it is the Service's biological opinion that issuance of a 10(a)(1)(A) permit, as proposed, is not likely to jeopardize the continued existence of the gray wolf. No critical habitat has been designated for this species; therefore, none will be affected. In making this determination we considered the following:

1. Gray wolf populations are robust in other parts of the United States.
2. The small percentage of project-related captures that have resulted in severe injuries or death (5 of 348 to date) does not represent a significant risk to the gray wolves survival or recovery in the wild.
3. The level of injury or death that may occur to gray wolves as a result of the proposed action will be low, based on past experience in implementing management actions in the nonessential experimental population. The reproductive capacity of wild populations in the northern Rocky Mountains will minimize any long-term impact on survival or recovery in the wild.
4. Data collection and monitoring techniques (i.e., aerial and ground telemetry monitoring, visually observing gray wolves near den or rendezvous sites to count the number of pups, and howling surveys) may result in short-term disturbance, but are likely to have extremely minor effects on gray wolves.

Jaguar

After reviewing the current status of jaguar, the environmental baseline for the species, the proposed revised rule, the issuance of a 10(a)(1)(A) permit authorizing take, and the cumulative effects, it is the Service's biological opinion that implementation of the Mexican wolf project, as proposed, is not likely to jeopardize the continued existence of the jaguar. Critical habitat designated for this species will not be affected due to the small area involved in any particular management activity, the lack of any permanent habitat altering activity, and the temporal nature of Mexican wolf management activities in any given location.

In making this determination we considered the following:

1. The MWEPA only overlaps with the extreme northern extent of the jaguar’s range, where jaguar numbers are very low, reducing the likelihood of a jaguar being present in the area of most Mexican wolf management activities.
2. While Mexican wolf management activities could occur anywhere within Arizona or New Mexico, most of these activities will be centered in the central portions of the states versus the southern areas, where jaguars have most recently been documented, reducing the likelihood of adverse effects to jaguars.

3. The implementation of conservation measures will reduce the likelihood of a jaguar being captured in a leg-hold trap and reduce the effects to an individual jaguar if one is captured.

Ocelot

After reviewing the current status of ocelot, the environmental baseline for the species, the proposed revised rule, the issuance of a 10(a)(1)(A) permit authorizing take, and the cumulative effects, it is the Service's biological opinion that implementation of the Mexican wolf recovery program, as proposed, is not likely to jeopardize the continued existence of the ocelot. No critical habitat has been designated for this species; therefore, none will be affected.

In making this determination we considered the following:

1. The MWEPA only overlaps with the extreme northern extent of the ocelot's range, where ocelot numbers are very low, reducing the likelihood of an ocelot being present in the area of most Mexican wolf management activities.
2. The implementation of conservation measures will reduce the likelihood of an ocelot being captured in a leg-hold trap and reduce the impact to an individual ocelot if one is captured
3. No known ocelot has been accidentally captured to date.
4. The loss of one individual through a capture accident, while locally causing an adverse effect on the recolonization of this part of the range, would not affect the species' population or range..

California Condor

After reviewing the current status of California condor, the environmental baseline for the species, the proposed revised rule, the issuance of a 10(a)(1)(A) permit authorizing take, and the cumulative effects, it is the Service's biological opinion that implementation of the Mexican wolf recovery program, as proposed, is not likely to jeopardize the continued existence of the California condor. Critical habitat has only been designated for this species in California, outside of the action area; therefore, none will be affected. In making this determination we considered the following:

1. California condors from the section 10(j) nonessential experimental population are by definition not essential to the survival of the species.
2. California condors (condors released into the nonessential experimental area and their offspring) will be visually identifiable. If, and when these condors move away from the California Condor Experimental Population Area, they will be captured and returned; thus, reducing the potential for activities under the Mexican wolf recovery program to impact California condors.
3. The implementation of conservation measures will reduce the likelihood of a California condor being captured in a leg-hold trap and reduce the effects to an individual condor if one is captured.
4. The loss of one individual through a capture accident would not affect the species' range or population.

Canada Lynx

After reviewing the current status of lynx, the environmental baseline for the species, the proposed revised rule, the issuance of a 10(a)(1)(A) permit authorizing take, and the cumulative effects, it is the Service's biological opinion that implementation of the Mexican wolf recovery program, as proposed, is not likely to jeopardize the continued existence of the lynx. No critical habitat has been designated for this species within the action area; therefore, none will be affected.

In making this determination we considered the following:

1. The MWEPA does not overlap with lynx range, reducing the likelihood of lynx being present in the area of most Mexican wolf management activities.
2. Mexican wolves may disperse north of the MWEPA, but any Mexican wolves that have dispersed from the experimental population and that establish territories outside of the MWEPA will be captured.
3. Management of gray wolves in northern New Mexico and the capture of Mexican wolves that disperse outside of the MWEPA may result in harm or injury to lynx, however because the lynx and wolves occupy different habitats, the chance of such effects is low.
4. The implementation of conservation measures will reduce the likelihood of an lynx being captured in a leg-hold trap and reduce the impact to an individual lynx if one is captured
5. No known lynx has been accidentally captured to date, although trapping has been extremely limited in areas of potential overlap.
6. The loss of one individual through a capture accident would not affect the species' range or population.

The conclusions of this Conference/Biological Opinion are based on full implementation of the project as described in the Description of the Proposed Action section of this document, including any Conservation Measures that were incorporated into the project design. The Conference Opinion addresses the Mexican wolf when inside the MWEPA and not on National Park Service or National Wildlife Refuge lands. The Biological Opinion addresses the Mexican wolf when inside the MWEPA and on National Park Service or National Wildlife Refuge lands, or when outside of the MWEPA.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR §17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR §17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Mexican Wolf Recovery Program so that they become binding conditions of any grant or permit issued, as appropriate, for the exemption in section 7(o)(2) to apply. The Mexican Wolf Recovery Program has a continuing duty to regulate the activity covered by this incidental take statement. If the Mexican Wolf Recovery Program fails to assume and implement the terms and conditions of the incidental take statement, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Mexican Wolf Recovery Program must keep records of impacts to the Mexican wolf and report the

progress of the action and its impacts on the jaguar, ocelot, California condor, or lynx to the species' lead Ecological Services Field Office as specified in the incidental take statement [50 CFR §402.14(i)(3)].

AMOUNT OR EXTENT OF TAKE

Mexican wolf

The Service anticipates incidental take as follows:

- Up to all Mexican wolves that disperse outside of the 10(j) boundaries (e.g., endangered Mexican wolves) will be incidentally taken in the form of harassment
- Up to three Mexican wolves that disperse outside of the 10(j) boundaries (e.g., endangered Mexican wolves) will be incidentally taken in the form of permanent disablement or mortality as a result of the proposed actions.
- Within the 10(j) boundaries, up to all Mexican wolves wil be incidentally taken in the form of harassment
- Within the 10(j) boundaries, up to three Mexican wolves will be incidentally taken in the form of permanent disablement or mortality as a result of the proposed action.

Unavoidable and unintentional take means accidental, unintentional take which occurs despite reasonable care, is incidental to management activities described in this conference/biological opinion, and is not done on purpose. Incidental take in all forms will be exceeded if incidental take in the form of mortality or permanent disablement is greater than the take described above. This incidental take is in addition to any purposeful or incidental take authorized in 50 CFR 17.84(k) for the management of the section 10(j) non-essential experimental population of Mexican wolves.

Gray Wolf

The Service anticipates up to all gray wolves that within the action area of Arizona and New Mexico will be incidentally taken in the form of harassment, and up to one gray wolf will be incidentally taken in the form of permanent disablement or mortality as a result of the proposed actions. Unavoidable and unintentional take means accidental, unintentional take which occurs despite reasonable care, is incidental to management activities described in this conference/biological opinion, and is not done on purpose. Incidental take in all forms will be exceeded if incidental take in the form of mortality or greater than one individual.

Jaguar

The Service anticipates one jaguar will be taken as a result of this proposed action. The incidental take is expected to be in the form of harassment, injury, or mortality. This incidental take may be from the incidental capture in a leg-hold trap intended to capture Mexican wolves under the Service-approved management plan and special management measure adopted by the Service pursuant to the provisions of §17.84 (k), as well as to conduct activities related directly to the conservation, protection, and recovery of reintroduced nonessential experimental populations of Mexican wolves within Arizona and New Mexico. Incidental take in all forms will be exceeded if incidental take in the form of mortality or permanent disablement is greater than one individual..

Ocelot

The Service anticipates one ocelot will be taken as a result of this proposed action. The incidental take is expected to be in the form of harassment, injury or mortality. This incidental take may be from the incidental capture in a leg-hold trap intended to capture Mexican wolves under the Service-approved

management plan and special management measure adopted by the Service pursuant to the provisions of §17.84 (k), as well as from conducting activities related directly to the conservation protection, and recovery of reintroduced nonessential experimental populations of Mexican wolves within Arizona and New Mexico. Incidental take in all forms will be exceeded if incidental take in the form of mortality or permanent disablement is greater than one individual.

California Condor

The Service anticipates one California condor may be taken, if outside of the California condor 10j boundaries, as a result of implementing this proposed action. The incidental take is expected to be in the form of harassment, injury, or mortality. This incidental take may be from the incidental capture in a leg-hold trap intended to capture Mexican wolves or gray wolves under the Service-approved management plan and special management measure adopted by the Service pursuant to the provisions of §17.84 (k), as well as to conduct activities related directly to the conservation protection, and recovery of reintroduced nonessential experimental populations of Mexican wolves within Arizona and New Mexico. It may also occur as a result of implementing the section 10(a)(1)(A) permit outside of the MWEPA in northern Arizona and New Mexico or in southern Colorado, Utah, or California to capture and manage gray wolves or Mexican wolves that disperse from the MWEPA. Incidental take in all forms will be exceeded if incidental take in the form of mortality or permanent disablement is greater than one individual.

Canada Lynx

The Service anticipates one lynx will be taken as a result of this proposed action. The incidental take is expected to be in the form of harassment, injury or mortality. This incidental take may be from the incidental capture in a leg-hold trap intended to capture Mexican wolves under the Service-approved management plan and special management measure adopted by the Service pursuant to the provisions of §17.84 (k), as well as from conducting activities related directly to the conservation protection, and recovery of reintroduced nonessential experimental populations of Mexican wolves within Arizona and New Mexico. This incidental take may also occur as a result of implementing the section 10(a)(1)(A) permit outside of the MWEPA in northern New Mexico or in southern Colorado to capture and manage gray wolves or Mexican wolves that disperse from the MWEPA. Incidental take in all forms will be exceeded if incidental take in the form of mortality or permanent disablement is greater than one individual.

Effect of the Take

In this biological opinion, the Service determines that this level of anticipated take in the form of harassment of all Mexican gray wolves and the mortality or permanent disablement of up to three Mexican wolves outside of the MWEPA; harassment of up to all Mexican wolves and mortality or permanent disablement of up to three Mexican wolves outside of the MWEPA; and the mortality or permanent disablement of one gray wolf, one jaguar, one ocelot, one California condor, if outside of the California condor 10j boundaries, and one lynx is not likely to result in jeopardy to the species for the reasons stated in the Conclusions section above.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of the Mexican wolf, gray wolf, jaguar, ocelot, California condor, and lynx:

1. The Mexican Wolf Recovery Program will follow approved management plans, protocols, and guidance when conducting specific Mexican wolf and gray wolf management activities.

2. The Mexican Wolf Recovery Program will take every precaution to avoid the incidental capture of jaguars, ocelots, California Condors, gray wolves and lynx in leg-hold traps.
3. The Mexican Wolf Recovery Program will monitor any effects to the gray wolf, jaguar, ocelot, California Condors, and lynx from activities conducted within the program.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the ESA, the Mexican Wolf Recovery Program must comply with the following terms and conditions, which implement the reasonable and prudent measures, described above and outline required reporting and monitoring requirements. These terms and conditions are non-discretionary.

The following terms and conditions implements reasonable and prudent measure.

Number 1:

a. The Mexican Wolf Recovery Program will follow the most current management plan for Mexican wolf.
b. The Mexican Wolf Recovery Program will follow the most current management plans, protocols, and guidance for gray wolf, jaguar, ocelot, California Condors, and lynx.

The following terms and conditions implement the reasonable and prudent measure.

Number 2:

a. The Mexican Wolf Recovery Program will coordinate with the appropriate endangered species biologists and/or managers about sightings or other documentations of jaguars, ocelots, California Condors, and lynx, and gray wolves to avoid trapping these species incidentally. Sightings or other documentations of these species will be reported to the appropriate species leads.
b. Leg-hold traps set to target Mexican wolves and gray wolves should be visually checked a minimum of once every 24 hours so that if a jaguar, ocelot, California Condor or lynx is caught, biologists can release the animal quickly in order to minimize harm.
c. Biologists conducting trapping activities will be trained, through the annual immobilization training, on preventative measure to avoid capture of jaguars, ocelots, and lynx. This training will include capture and handling protocol for large cats to ensure that a jaguar, ocelot or lynx captured in a leg-hold trap will be safely sedated, examined, and released.
d. Biologist conducting trapping activities will be trained, through the annual immobilization training, on techniques for safely removing a California condor from a trap in the event that a California condor is accidentally captured in a leg-hold trap. Training will include, but is not limited to a description of techniques for safely removing a condor from a trap and locations of the nearest raptor rehabilitation center in case a condor is injured.

The following terms and conditions implement reasonable and prudent measure.

Number 3:

a. In order to monitor the impacts of incidental take, the Mexican Wolf Recovery Program will report the progress of the action and its impact on the species mentioned above to the lead office for the species pursuant to 50 CFR402.14(i)(3).

b. Reporting the progress of the action for monitoring purposes should be accomplished at least once a year and can be accomplished informally such as documenting a discussion about monitoring in a meeting or through electronic mail.

Review requirement: The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The Mexican Wolf Recovery Coordinator must immediately provide an explanation of the causes of the taking and review the need for possible modification of the reasonable and prudent measures with the lead office for the species.

The Fish and Wildlife Service will not refer the incidental take of any migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including amount and/or number) specified herein.

Upon locating a dead, injured, or sick listed species initial notification must be made to the Service's Law Enforcement Office – 4901 Paseo del Norte NE, Suite D, Albuquerque, NM, 87113, telephone 505/346-7828 within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to this office. Care must be taken in handling sick or injured animals to ensure effective treatment and care, and in handling dead specimens to preserve the biological material in the best possible state.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that the Mexican Wolf Recovery Program actively promote recovery of Mexican wolves to suitable habitat in Mexico and promote establishment of Mexican wolves in the U.S. through natural dispersal.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, we request notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes the Biological/Conference Opinion for the proposed revision to the regulations for the nonessential experimental population of the Mexican wolf; issuance of a section 10(a)(1)(A) research and recovery permit that authorizes activities for the management of the Mexican wolf within Arizona, New Mexico, and to a far lesser extent California, Colorado, Nevada, Texas, and Utah; issuance of a section 10(a)(1)(A) permit for the gray wolf in Arizona and New Mexico; and funding provided to the Mexican Wolf Recovery Program for the purpose of implementing the program.

The Federal agency shall request reinitiation of consultation if: 1) the amount or extent of incidental take is exceeded; 2) new information reveals effects of the agency action that may affect the species in a manner or to an extent not considered in the conference/biological opinion; 3) the agency action is

subsequently modified in a manner that causes an effect to the species that was not considered in this opinion; or 4) a new species is listed or critical habitat designated that may be affected by the action.

For further information please contact John Oakleaf at 505/761.4782.

_____/S/_____
Sheryl L. Barrett
Mexican Wolf Recovery Coordinator

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Figure G-3. Action Area in Arizona and New Mexico. Figure also shows the proposed experimental population area boundary, within which all Mexican wolves are considered "experimental." Mexican wolves are unlikely to disperse to California, Colorado, Nevada, Texas, and Utah based on habitat connectivity, desert environments, and/or juxtaposition with the MWEPA. These states are included in the action area based on the remote possibility that personnel may need to capture and translocate Mexican wolves from these areas.

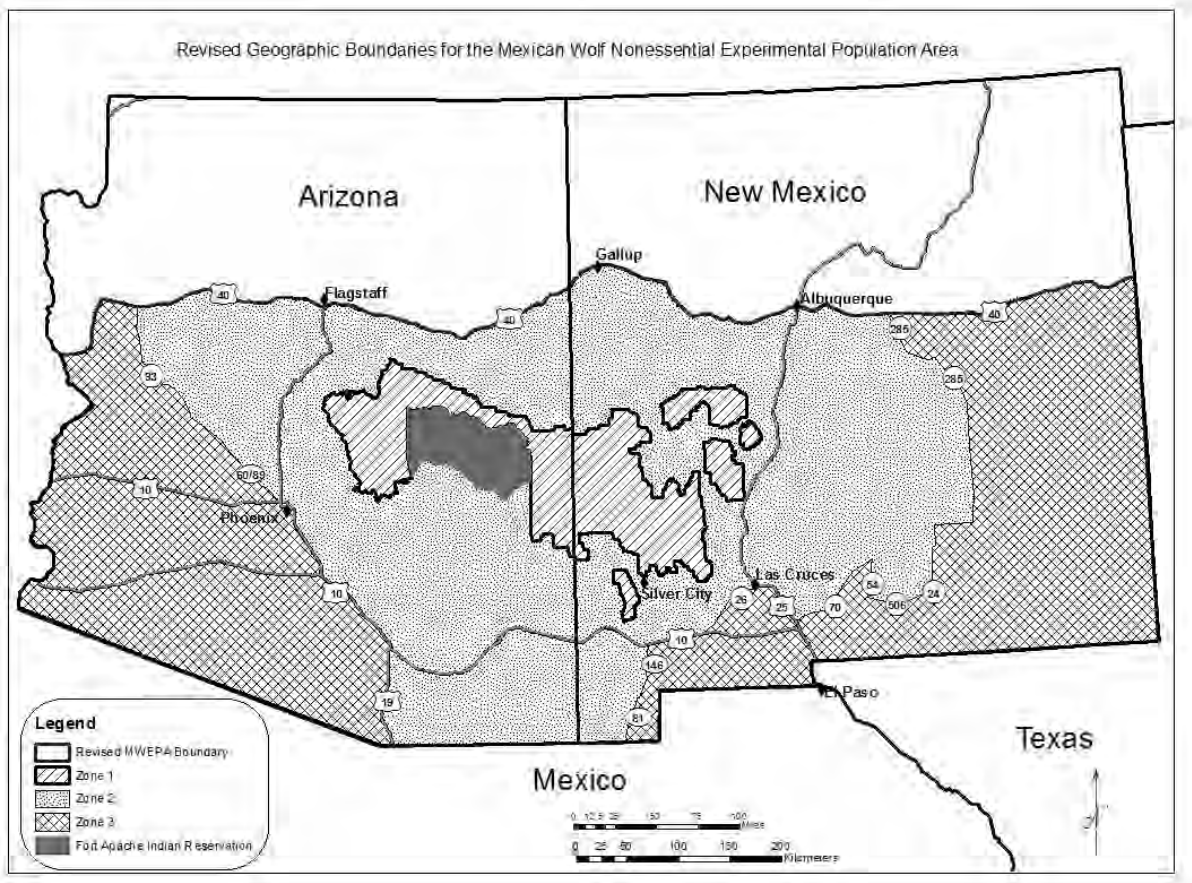

Figure G-3. Revised Geographic Boundaries for the Mexican Wolf Nonessential Population Area

Appendix A: Concurrences

The proposed action is anticipated to have no effect on the following species in Arizona and New Mexico for the reasons indicated in the table, the proposed action is anticipated to have no effect on species in California, Colorado, Nevada, Texas and Utah because of reason 1 and are not specifically listed in the table below:

Species	Status	Reason for No Effect Determination
Plants		
Acuna Cactus (*Echinomastus erectocentrus var.*)	E	3
Arizona cliff-rose (*Purshia* (=*Cowania*) *subintegra*)	E	3
Arizona hedgehog cactus (*Echinocereus triglochidiatus* var. *arizonicus*)	E	3
Brady pincushion cactus (*Pediocactus bradyi*)	E	3
Canelo Hills ladies'-tresses (*Spiranthes delitescens*)	E	1, 2
Cochise pincushion cactus (*Coryphantha robbinsorum*)	T	3
Fickeisen plains cactus (*pediocactus peeblesianus*)	E	3
Gierisch mallow (*Sphaeralcea gierischii*)	E	3
Gypsum wild-buckwheat (*Eriogonum gypsophilum*)	T	1, 6
Holmgren milk-vetch (*Astragalus holmgreniorum*)	E	1
Holy Ghost ipomopsis (*Ipomopsis sancti-spiritus*)	E	1
Huachuca water-umbel (*Lilaeopsis schaffneriana* var.)	E	1, 2
Jones Cycladenia (*Cycladenia jonesii* (=*humilis*))	T	1
Kearney's blue-star (*Amsonia kearneyana*)	E	1
Knowlton's cactus (*Pediocactus knowltonii*)	E	3
Kuenzler hedgehog cactus (*Echinocereus fendleri* var. *kuenzleri*)	E	1
Lee pincushion cactus (*Coryphantha sneedii* var. *leei*)	T	1
Mancos milk-vetch (*Astragalus humillimus*)	E	3
Mesa Verde cactus (*Sclerocactus mesae-verdae*)	T	3
Navajo sedge (*Carex specuicola*)	T	2
Nichol's Turk's head cactus (*Echinocactus horizonthalonius* var. *nicholii*)	E	1
Pecos (=puzzle, =paradox) sunflower (*Helianthus*)	T	6
Peebles Navajo cactus (*Pediocactus peeblesianus*)	E	3, 6

Species	Status	Reason for No Effect Determination
Pima pineapple cactus (*Coryphantha scheeri var.*	E	1,3
Sacramento Mountains thistle (*Cirsium vinaceum*)	T	6
Sacramento prickly poppy (*Argemone pleiacantha* ssp. *pinnatisecta*)	E	6
San Francisco Peaks ragwort (*Packera franciscanus*)	T	6
Sentry milk-vetch (*Astragalus cremnophylax* var.	E	6
Siler pincushion cactus (*Pediocactus* (=*Echinocactus*,=*Utahia*) *sileri*)	T	3
Sneed pincushion cactus (*Coryphantha sneedii* var.	E	1
Todsen's pennyroyal (*Hedeoma todsenii*)	E	3
Welsh's milkweed (*Asclepias welshii*)	T	6
Zuni fleabane (*Erigeron rhizomatus*)	T	3
Invertebrates		
Alamosa springsnail (*Tryonia alamosae*)	E	2
Chupadera springsnail (*Pyrgulopsis chupaderae*)	E	2
Kanab ambersnail (*Oxyloma haydeni kanabensis*)	E	2
Koster's springsnail (*Juturnia kosteri*)	E	2
Noel's Amphipod (*Gammarus desperatus*)	E	2
Pecos assiminea snail (*Assiminea pecos*)	E	1, 2
Roswell springsnail (*Pyrgulopsis roswellensis*)	E	2
San Bernardino springsnail (*Pyrgulopsis bernardina*)	T	2
Socorro isopod (*Thermosphaeroma thermophilus*)	E	2
Socorro springsnail (*Pyrgulopsis neomexicana*)	E	2
Three Forks springsnail (*Pyrgulopsis trivialis*)	E	2
Fish		
Apache trout (*Oncorhynchus apache*)	T	2
Arkansas River shiner (*Notropis girardi*)	T	2
Bonytail chub (*Gia elegans*)	E	2
Beautiful shiner (*Cyprinella formosa*)	T	2
Chihuahua chub (*Gila nigrescens*)	T	2
Desert pupfish (*Cyprinodon macularius*)	E	2
Gila chub (*Gila intermedia*)	E	2

Species	Status	Reason for No Effect Determination
Gila trout (*Oncorhynchus gilae*)	T	2
Gila topminnow (incl. Yaqui) (*Poeciliopsis occidentalis*)	E	2
Gila trout (*Oncorhynchus gilae*)	T	2
Humpback chub (*Gila cypha*)	E	2
Little Colorado spinedace (*Lepidomeda vittata*)	T	2
Loach minnow (*Tiaroga cobitis*)	E	2
Pecos bluntnose shiner (*Notropis simus pecosensis*)	T	2
Pecos gambusia (*Gambusia nobilis*)	E	2
Pikeminnow (=squawfish) (*Ptychocheilus Lucius*)	E	2
Razorback sucker (*Xyrauchen texanus*)	E	2
Rio Grande silvery minnow (*Hybognathus amarus*)	E	2
Sonora chub (*Gila ditaenia*)	T	1, 2
Spikedace (*Meda fulgida*)	E	2
Virgin River Chub (*Gila seminuda* (=*robusta*))	E	1, 2
Woundfin (*Plagopterus argentissimus*)	E	1, 2
Yaqui catfish (*Ictalurus pricei*)	T	2
Yaqui chub (*Gila purpurea*)	E	2
Amphibians		
Chiricahua leopard frog (*Rana chiricahuensis*)	T	2
Jemez Mountains salamander (*Plethodon neomexicanus*)	E	2
Sonora tiger salamander (*Ambystoma tigrinum stebbinsi*)	E	1, 2
Reptiles		
desert tortoise (*Gopherus agassizii*)	T	1, 3, 6
Mexican gartersnake (*Thamnophis eques magalops*)	T	1, 2
Narrow-headed gartersnake (*Thamnophis rufipunctatus*)	T	1, 2
New Mexico ridge-nosed rattlesnake (*Crotalus willardi obscurus*)	T	6
Birds		
California least tern (*Sterna antillarum browni*)	E	2
Least tern (*Sterna antillarum*)	E	2

Species	Status	Reason for No Effect Determination
Lesser prairie-chicken (*Tympanuchus pallidicinctus*)	T	1
Piping plover (*Charadrius melodus*)	E, T	2
Yuma clapper rail (*Rallus longirostris yumanensis*)	E	2
Mammals		
Hualapai Mexican vole (*Microtus mexicanus*	E	4, 6
New Mexico meadow jumping mouse (*Zapus hudsonius*	E	2, 4
Sonoran pronghorn (*Antilocapra americana sonoriensis*)	E	1, 6

Table G-1. List of Species Unaffected the Proposed Action

1. Species is not located within an area that has had past or current wolf management actions, and the species will not be affected because wolves are not reasonably certain to occur, and thus wolf management actions are not reasonably certain to occur, in the occupied range of the species.
2. Species occurs in aquatic habitat, riparian, and/or marsh lands where wolf management actions under the permit are not taken due to safety concerns for Mexican gray wolves and physical constraints of the habitat.
3. Species occurs in steep, rocky terrain or low desert where wolf management actions under the permit would not occur due to safety concerns for Mexican gray wolves and physical constraints of the habitat.
4. Species is small and will not be incidentally trapped, no habitat destruction will occur, and species not likely to be disturbed during critical time periods.
5. Wolf management actions will not occur in an area where the species roosts due to safety concerns for Mexican wolves, physical constraints of the habitat, and safety concerns of Permittees.
6. Species range, life history, and/or habitat requirements are such that disturbance by wolf management activities is unlikely to have any effect on the species.
7. Mexican wolf management activities are unlikely to have any effect on the species.
8. Experimental, non-essential population. Wolf management actions are expected to have little effect.

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Appendix B: Concurrences

Black-footed Ferret

The black-footed ferret (*Mustela nigripes*) was listed as endangered (32 FR 4001; March 11, 1967) without critical habitat in 1967. A Recovery Plan was completed in June 1978 and revised in August 1988. A final rule to reintroduce and establish an experimental nonessential population of black-footed ferrets into Aubrey Valley, Arizona was published in 1996 (61 FR 11320, March 20, 1996). The proposed action of funding and implementing the Mexican wolf recovery program may affect, is not likely to adversely affect, the black-footed ferret based upon the following: (1) Black-footed ferret populations are not located within an area that has had past or current wolf management actions and although it is possible that wolves could pass through the area, they are not reasonably certain to occur there, and (2) Activities that are included in the action will not alter habitat.

Lesser Long-nosed Bat & Mexican Long-nosed Bat

The lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*), previously known as Sanborn's long-nosed bat (*Leptonycteris sanborni*), and the Mexican long-nosed bat (*Leptonycteris nivalis*) were listed as endangered in 1988 (53 FR 38456; September 30, 1988) without critical habitat.

A Recovery Plan for the lesser long-nosed bat was completed in March 1997. A Recovery Plan for the Mexican long-nosed bat was completed in September 1994. The proposed action of funding and implementing the Mexican wolf recovery program, may affect, is not likely to adversely affect, either bat species based upon the following: (1) Lesser long-nosed and Mexican long-nosed bats roost in areas that would pose safety issues for wolves and Permittees, so wolf management activities would not be expected in or near roost sites.

Mount Graham Red Squirrel

The Mount Graham red squirrel (*Tamiasciurus hudsonicus grahamensis*) was listed as endangered (52 FR 20994; June 3, 1987) with critical habitat (55 FR 425, February 5, 1990). A Recovery Plan was completed in May 1993 and a revised draft Recovery Plan was noticed in the Federal Register on May 27, 2011. The proposed action of funding and implementing the Mexican wolf recovery program, may affect, is not likely to adversely affect, the Mount Graham red squirrel or adversely modify its designated Critical Habitat based upon the following: (1) Mount Graham red squirrels occupy an area at higher elevations in the Pinaleno Mountains in spruce/fir and old growth Douglas-fir forests and activities that are included in the action will not alter habitat, and (2) nighttime hazing activities would not be conducted within occupied Mount Graham red squirrel habitat.

Masked Bobwhite

The masked bobwhite (*Colinus virginianus ridgewayi*) was listed as endangered (32 FR 4001, March 11, 1967; 35 FR 8495, June 2, 1970)) without critical habitat in 1967. A Recovery Plan was completed in February 1978 and revised in 1984 and 1995. A refuge population and captive rearing was established in 1985 at Buenos Aires National Wildlife Refuge in the southern Altar Valley in Pima County, Arizona. The proposed action of funding and implementing the Mexican wolf recovery program, may affect, is not likely to adversely affect, the masked bobwhite based upon the following: (1) the masked bobwhite population is very small and within a protected area, and (2) the masked bobwhite population is not located within an area that has had past or current wolf management actions and although it is possible that wolves could pass through the area, they are not reasonably certain to occur there, and (3) activities within masked bobwhite habitat would not likely to be of long duration.

Mexican spotted owl

The Mexican spotted owl was listed as threatened in 1993 (58 FR 14248) and critical habitat was designated in 2004 (69 FR 53182). We appointed the Mexican Spotted Owl Recovery Team in 1993, which produced the Recovery Plan for the Mexican Spotted Owl (Recovery Plan) in 1995 that was revised in 2012 (U.S. Fish and Wildlife Service 1995, 2012). The proposed action of funding and implementing the Mexican wolf recovery program, may affect, but is not likely to adversely affect, the Mexican spotted owl and designated critical habitat, based upon the following: (1) activities that are included in the action will not alter the key habitat components of Mexican spotted owl restricted and protected habitat, or the primary constituent elements of designated critical habitat, (2) wolf management activities are extremely unlikely to occur in nest/roost core areas, will be of very short-duration, and will not result in modification to MSO feeding, sheltering, or breeding behaviors, (3) Mexican Wolf Recovery Program participants will not camp near Mexican spotted owl nests or roosts during the breeding season and follow Recreational Disturbance Guidelines as outlined on page 294 of the Mexican spotted owl recovery plan, first revision, and (4) flying low over a Mexican spotted owl nest or roost in an aircraft will be avoided during the MSO breeding season.

Northern Aplomado Falcon

The northern aplomado falcon (*Falco femoralis septentrionalis*) was listed as endangered (51 FR 6686, January 25, 1986) without critical habitat. A Recovery Plan was completed in June 1990. A final rule to reintroduce and establish an experimental nonessential population of northern aplomado falcons into Arizona and New Mexico was published in 2006 (71 FR 42298, July 26, 2006). The proposed action of funding and implementing the Mexican wolf recovery program, may affect, but is not likely to adversely affect, the northern aplomado falcon based upon the following: (1) the experimental nonessential northern aplomado falcon population is not located within an area that has had past or current wolf management actions and although it is possible that wolves could pass through the area, they are not reasonably certain to occur there.

Southwestern Willow Flycatcher

The southwestern willow flycatcher (*Empidonax traillii extimus*) was listed as endangered (60 FR 10694, February 27, 1995) with critical habitat (70 FR 60886, October 19, 2005). Revised critical habitat was finalized on January 3, 2013 (78 FR 343). A Recovery Plan was completed in August 2002. The proposed action of funding and implementing the Mexican wolf recovery program may affect, is not likely to adversely affect, the southwestern willow flycatcher based upon the following: (1) the southwestern willow flycatcher nests in riparian habitats along streams, lakesides, and other wetlands and nests are found in dense thickets, Migration habitat is also believed to occur primarily along riparian corridors, wolf management actions under the permit are not taken in riparian habitats due to safety concerns for Mexican gray wolves and because of the physical constraints of the habitat, and (2) activities that are included in the action will not alter habitat, and (3) hazing activities would not occur during nesting season.

End.