Finding of No Significant Impact
and
Final Environment Assessment
for the
Black-footed Ferret
Programmatic Safe Harbor Agreement

October 23, 2013

U.S. FISH AND WILDLIFE SERVICE
MOUNTAIN-PRAIRIE REGION

FINDING OF NO SIGNIFICANT IMPACT FOR THE PROPOSED ISSUANCE OF AN ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) ENHANCEMENT OF SURVIVAL PERMIT FOR THE BLACK-FOOTED FERRET PROGRAMMATIC SAFE HARBOR AGREEMENT

The U.S. Fish and Wildlife Service (Service) is proposing to issue an Endangered Species Act (ESA) Section 10(a)(1)(A) Enhancement of Survival Permit (Permit) to the Black-footed Ferret Recovery Program Coordinator for the purpose of implementing a Programmatic Safe Harbor Agreement (SHA) to support the recovery of the endangered black-footed ferret (*Mustela nigripes*). The permit will have a term of 50 years, and will enable the implementation of the SHA in the states of Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming.

Pursuant to the National Environmental Policy Act (NEPA) of 1969, we evaluated the potential environmental effects associated with the Proposed Action of issuing the Permit and implementing the SHA, as well as two alternatives, in an Environmental Assessment (EA). The EA addressed two alternative SHA implementation scenarios and a no-action alternative. We made the draft EA and SHA available for public review at the National Black-Footed Ferret Conservation Center in Carr, Colorado, and online at www.blackfootedferret.org for 30 days on December 19, 2012. In response to requests for an extension of the public comment period, we provided the draft documents for review for an additional 30 days on January 23, 2013. We reviewed comments submitted by the public and are providing our responses to substantive comments in Appendix A of this FONSI. Appendix A also describes changes we made to the Final EA (Appendix B) in response to certain comments.

All final documents associated with the SHA are available at the Black-footed Ferret Recovery Program website (http://www.blackfootedferret.org/), the Service's Mountain-Prairie Region website (http://www.fws.gov/mountain-prairie/species/mammals/blackfootedferret/), or from the Black-Footed Ferret Recovery Coordinator (currently Pete Gober; pete_gober@fws.gov or 970-897-2730 x224) upon request. We also initiated government-to-government consultation with potentially affected Tribes; a summary of these consultations is found in Table 1 of Section 2.0 of the EA.

As a result of the analyses we conducted in the EA and review of public comments, we have made a Finding of No Significant Impact (FONSI). This FONSI documents the support for our finding as follows.

We selected the proposed alternative of implementing a Programmatic Safe Harbor Agreement (Alternative B). The development of the SHA is a critical step in the eventual recovery of the black-footed ferret, as it will help facilitate reintroductions of the species on non-federal lands while providing regulatory assurances that will encourage greater private landowner participation in black-footed ferret recovery. The SHA is summarized in more detail in the attached EA. Furthermore, it allows implementation of recovery efforts on non-federal lands

within the historic range of the black-footed ferret to proceed more quickly than Alternative C, which would rely on the development of individual Safe Harbor Agreements on a case-by-case basis. Both Alternative B and Alternative C would conform with the Service's Safe Harbor policy and regulations (50 CFR 17.22 and 17.32), which allow landowners to return to baseline conditions at any time without penalty. However, under Alternative C, the time necessary to develop individual SHAs and prepare the required environmental compliance documentation for each agreement would delay implementation of reintroductions and associated recovery activities on non-federal lands under these SHAs. The additional time and processes involved in developing individual SHAs are likely to be a disincentive for some landowners to volunteer enrollment of their properties which would result in a diminished benefit to the black-footed ferret relative to Alternative B. In contrast, Alternative B provides a streamlined process for landowner enrollment. Both Alternative B and Alternative C would encourage the recovery of the black-footed ferret to a greater extent than the no-action alternative (Alternative A), which would not provide mechanisms for landowners to volunteer their lands for black-footed ferret reintroductions other than through Section 10(a)(1)(A) permits or within designated Section 10(j) areas. These mechanisms do not provide the same level of streamlining or the regulatory assurances that serve as incentives under SHAs.

Under Alternative B, landowners who choose to participate in the SHA would commit to continue to utilize their lands as agreed upon by them and the permit holder. In most cases, enrolled landowners are likely to continue livestock grazing, the activities that facilitate grazing (e.g., installing and maintaining fences, installing and maintaining watering facilities and controlling weeds), and other agricultural land uses compatible with black-footed ferret conservation. Furthermore, under Alternative B, the reintroduction of black-footed ferrets and associated management activities to be implemented under the SHA are not expected to change or disrupt current land uses or constitute a significant effect on other factors of the human environment within the action area. These factors and a summary of the determination of effect for each are found below:

1. *Threatened, Endangered, and Candidate Species* – Federally listed species and candidates for listing potentially affected by the implementation of Alternative B include the black-footed ferret (endangered), Gunnison's prairie dog (candidate), California condor (endangered), greater sage-grouse (candidate), Gunnison sage-grouse (proposed endangered), lesser prairie-chicken (candidate), northern aplomado falcon (endangered), and Sprague's pipit (candidate). Alternative B is expected to have a beneficial effect on the black-footed ferret due to the implementation of reintroduction activities and plague management; prairie dog management activities are not expected to exceed the level of lethal control that presently occurs, so will likely not constitute a negative effect for the black-footed ferret. Reintroduction of the black-footed ferret is not expected to occur in the montane portion of Gunnison's prairie dog habitat due to the paucity of colonies of adequate size (approximately 3,000 acres, depending on prairie dog density). Due to limited habitat overlap, conservation practices implemented as a result of Alternative B are not expected to constitute a negative effect on the California condor, greater sage-grouse,

Gunnison sage-grouse, lesser prairie-chicken, northern aplomado falcon, and Sprague's pipit.

2. *Wildlife* – The implementation of Alternative B is expected to have beneficial effects for wildlife species dependent on prairie dog colonies. Many of these species are listed as species of management concern in State Wildlife Action Plans for the states contained within the action area (see Section 4.2 of the EA for additional information). While there may be some risk of short term impacts to some wildlife species, particularly from prairie dog management activities, the overall impacts are expected to be beneficial to wildlife. Additionally, the scope of Alternative B would affect only a very small percentage of the landscape (<0.1 percent, or approximately 500,000 acres of occupied prairie dog habitat); therefore, any short term impacts to wildlife would be negligible to population or species stability

3. *Environmental Justice* - Under Alternative B, participation in the SHA would be voluntary for any landowner who meets the eligibility requirements for habitat suitability identified in Section 3.2 of the EA. Because participation is voluntary, disproportionately high and adverse human health or environmental effects of this alternative are not expected on minority populations, low-income populations, or Indian Tribes. Many Tribes have indicated a desire to participate in recovery efforts for ferrets and the implementation of Alternative B would expedite the ability for these Tribes to participate and would provide assurances that their participation would not result in additional regulatory burdens.

4. *Farm and Ranch Land* - Under Alternative B, landowners who choose to participate in the SHA would commit to continue to utilize their lands as agreed upon by them and the Black-footed Ferret Recovery Coordinator. In most cases, participating landowners are likely to continue livestock grazing, the activities that facilitate grazing (e.g., installing and maintaining fences, installing and maintaining watering facilities and controlling weeds), and other land uses compatible with black-footed ferret conservation. Thus, the release of ferrets and associated management activities are not expected to change or disrupt current land uses or contribute to the unnecessary and irreversible conversion of farm and ranch lands to nonagricultural uses. Some landowners may be concerned with potential impacts to ranching activities from the presence of prairie dogs, such as the risk of injury to livestock and damage to equipment from prairie dog burrows and competition for livestock forage. However, Alternative B allows for prairie dog management in designated Management Zones to address such concerns. For this reason and because participation in the SHA is voluntary, conservation activities that might result in expansion of areas inhabited by prairie dogs under this alternative would not occur in areas where not desired by landowners.

5. *Socioeconomic* - Under Alternative B, landowners would be anticipated to continue their current use of lands enrolled in the SHA. The release and management of black-footed ferrets as described in Section 3.2 and Appendix C of the EA will be coordinated with existing livestock grazing and other agricultural activities. The presence of ferrets, and the

management activities associated with their release, is not expected to change or disrupt current land uses. Furthermore, the assurances provided to landowners through the SHA will provide regulatory certainty that the economic benefits derived from these uses should remain unaffected by the implementation of Alternative B.

As discussed in Sections 6.0 and 7.0 of the EA, none of the actions described in Alternative B are likely to have highly controversial environmental effects, and there are no other actions which in combination with the proposed alternative would result in cumulatively significant actions.

In our Biological Opinion (U.S. Fish and Wildlife Service 2013) on the proposed issuance of the permit, pursuant to Section 7 of the ESA, we concluded that the implementation of the Alternative B would not jeopardize or adversely modify the designated critical habitat of any federally listed or candidate species. Before we make a final decision on whether to issue the permit, we will prepare a Set of Findings to determine whether all the permit issuance criteria are met, in accordance with the Safe Harbor Policy (50 CFR 17.22(d)(2) (64 FR 32717)).

Based on my review and evaluation of the enclosed EA and other supporting documentation, I have determined that the issuance of an ESA Section 10(a)(1)(A) Enhancement of Survival Permit to the Black-footed Ferret Recovery Program Coordinator for the purpose of implementing the Programmatic Safe Harbor Agreement to support the recovery of the endangered black-footed ferret is not a major Federal action that would significantly affect the quality of the human environment within the meaning of Section 102(2)(C) of the National Environmental Policy Act of 1969. Accordingly, preparation of an environmental impact statement on the proposed action is not required.

Approved: _____ Date: 10/23/13

Assistant Regional Director, Ecological Services

APPENDIX A

Summary of Public Comments and Responses

On November 29, 2012, the Service's Black-Footed Ferret Recovery Coordinator first submitted an application for an Enhancement of Survival Permit under Section 10(a)(1)(A) of the ESA. The availability of this application for public comment, along with the draft SHA and draft Environmental Assessment (EA), was published in the Federal Register on December 19, 2012. The 30-day public comment period closed on January 18, 2013, and a 30-day extension to the comment period was initiated on January 23, 2013. The Service received a total of 302 individual written comments on the application package during the public comment period. The Service's response to these comments, in summarized form, is addressed below.

Comment Category #1: Impacts to non-participating landowners are unclear.

Response: The SHA (Sections 7.3, 10.1, and 14.0) and the EA (Section 3.2) were modified to clarify sections pertaining to the impacts of the SHA on non-participating landowners. Lethal control of prairie dogs by non-participating landowners is not constrained by the SHA. Additionally, the final SHA reiterates that: 1) the Permittee is committed to consider the concerns of non-participating landowners and that these landowners will not be subject to any land use restrictions with the exception of the deliberate take of black-footed ferrets; and 2) regulatory assurances and incidental take for otherwise lawful activities will be granted to non-participating neighboring landowners via the Service's Biological Opinion, pursuant to Section 7 of the ESA, prepared for the SHA permit issuance.

Comment Category #2: Requested details on the level of baseline, consequences of early termination, and circumstances where incidental take coverage is provided.

Response: The SHA (Sections 6.0, 8.1, and 14.0) and EA (Section 3.2) were modified to emphasize that individual Cooperators may opt to return to baseline prior to the complete implementation of the Reintroduction Plan by withdrawing from the SHA. In such instances, incidental take coverage will be retained, provided activities are otherwise lawful and the Cooperator notifies the Permittee and allows the Service access to recapture black-footed ferrets during the following fall, prior to initiating activities that would return the property to baseline. Cooperators should notify the Permittee no later than July 1 to allow recapture of black-footed ferrets during September-October. All potential Cooperators are assumed to have a baseline of zero black-footed ferrets upon enrollment, and the regulatory assurances provided by the Certificate of Inclusion apply only to the black-footed ferret and not to any other listed species that may be found on a Cooperator's property.

Comment Category #3: Questions regarding potential incentive payments provided to Cooperators who voluntarily conserve prairie dogs.

Response: The potential development of prairie dog conservation incentive payments is a parallel effort to the SHA, but it is not a provision of the SHA. Therefore, it was not addressed in the EA.

Comment Category #4: Commenters felt that the implementation of the SHA would adversely impact rangeland and grazing resources, and increase the incidence of soil erosion.

Response: Rates of soil erosion are not expected to increase because significant ground disturbance beyond what already occurs as part of the Cooperator's existing land use is not expected as a result of SHA implementation.

Comment Category #5: Commenters requested clarification on the allowable size of Conservation Zones and Management Zones as defined in the draft SHA.

Response: The number of acres in the Management Zone (where lethal prairie dog control may occur) may or may not exceed the number of acres in the Conservation Zone; acreages will differ for each potential Cooperator due to differences in prairie dog species, topography, and other factors. The Service anticipates that Conservation Zones with black-tailed prairie dog habitat will be a minimum of 1,500 acres, and Conservation Zones within white-tailed or Gunnison's prairie dog habitat will be a minimum of 3,000 acres.

Comment Category #6: Commenters requested that certain definitions be refined, and citations added for other terms; clarification on the notification requirement for unexpected take was requested.

Response: We reworded definitions in the glossaries of the SHA and EA to ensure consistency between the two documents. Definitions for *routine livestock grazing and ranching, Management Zone*, and *downlist* were revised, and a definition of *delist* was added. Further clarifications added to the Glossary and Sections 2.0 and 10.2 of the SHA included the addition of citations for the term *population bottlenecks*, updated black-footed ferret population estimates, and the addition of a requirement that Cooperators must notify the Permittee of any unexpected take of black-footed ferrets within seven calendar days.

Comment Category #7: Commenters asked where lethal control of prairie dogs is permitted, what toxicants may be used, and who will pay for lethal control activities.

Response: Lethal control of prairie dogs by Cooperators enrolled in the SHA is not allowed inside the Conservation Zone, but is allowed in the Management Zone, and may include shooting, zinc phosphide application, or other appropriate activities as directed by the Permittee. Anticoagulants such as Rozol or Kaput are not allowed due to the risks of secondary poisoning of wildlife. These stipulations are found in Section 7.3 of the SHA. These constraints do not apply to non-participating landowners or non-enrolled properties of a Cooperator.

Comment Category #8: Commenters felt that the implementation of the SHA would infringe on private property rights, and could negatively impact property values.

Response: As stated in Section 1.0 of the SHA, enrollment in the SHA is strictly voluntary. In the event that enrolled lands are purchased by another party, the new owner has the option of continuing enrollment or terminating enrollment; in either instance, incidental take coverage is retained (see Section 17.0 and Appendix B of the SHA). The SHA does not constitute an encumbrance or deed restriction if a Cooperator chooses to sell enrolled lands.

Comment Category #9: Commenters questioned if the implementation of the SHA involves the creation of new Federal laws, or if it would nullify existing state and local laws.

Response: The SHA follows existing Service policy and does not change or nullify any federal, state, or local laws.

Comment Category #10: Commenters questioned what insecticides would be used to control plague and if they were toxic to wildlife.

Response: DeltaDust is the standard insecticide used to control fleas (vectors of plague), to reduce the occurrence of plague. The active ingredient is deltamethrin. Deltamethrin toxicity to birds is very low, and it is essentially nontoxic to mammals. Deltamethrin can be toxic to some reptiles, and the Environmental Protection Agency has requested formal consultation, pursuant to Section 7 of the ESA, on its effects on some species of reptiles in California; data from this consultation is pending.

Comment Category #11: Commenters asked if new energy developments (oil and gas and/or wind energy) could nullify the SHA.

Response: If new energy development is proposed, the Permittee will work with Cooperators to address potential issues. If black-footed ferrets will not be significantly impacted or if habitat losses can be offset, the development can be implemented. Incidental take coverage is provided for any loss of black-footed ferrets due to any actions by the Cooperator or his agents for any lawful activity. If material impacts to black-footed ferrets are likely, the Cooperator and/or the Permittee can withdraw from the SHA without penalty (see Section 4.5 of the SHA).

Comment Category #12: Commenters requested an extension of the comment period and the scheduling of public meetings throughout the action area.

Response: The Service extended the end of the comment period from January 18, 2013 to February 22, 2013, providing a total of 60 days for public comment. It was deemed impractical to hold multiple public meetings in individual counties throughout the action area, and the appropriate process of notification (including publication in the *Federal Register*, notification on the Black-footed Ferret Recovery Program website (http://www.blackfootedferret.org/), and

notification on the Service's Mountain-Prairie Region website (http://www.fws.gov/mountain-prairie/species/mammals/blackfootedferret/, and direct letters to interested parties) was followed by the Service.

Comment Category #13: Commenters stated that a 10(j) experimental non-essential population designation would protect neighboring landowners more effectively than the SHA, and should be implemented before the SHA is finalized.

Response: The creation of 10(j) experimental non-essential population designations is beyond the scope of the SHA. Incidental take authorization for the loss of an black-footed ferret on neighboring lands via the Biological Opinion related to this SHA provides comparable coverage to a 10(j) experimental non-essential population designation.

Comment Category #14: Commenters stated that impacts to other wildlife species were not addressed under the No Action alternative in the EA.

Response: Because the No Action alternative means that no SHA would be developed and no reintroductions and associated management activities would occur due to a SHA, no additional effects to other wildlife species would occur. Thus, we consider the effects analysis for other wildlife species under the No Action alternative to be sufficient.

Comment Category #15: Commenters asked if Certificates of Inclusion and Reintroduction Plans would need to be signed by outside parties such as non-governmental conservation organizations.

Response: The Certificate of Inclusion and Reintroduction Plan only require the signatures of the Permittee and the Cooperator.

APPENDIX B

Final Environmental Assessment for the Black-footed Ferret Programmatic Safe Harbor Agreement

U.S. Fish and Wildlife Service
October 23, 2013

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Acronyms

ACT	Endangered Species Act
APHIS	Animal and Plant Health Inspection Service
AUM	Animal Unit Month
BFFRIT	Black-footed Ferret Recovery Implementation Team
BFFRC	Black-footed Ferret Recovery Coordinator
FOIA	Freedom of Information Act
MLRA	Major Land Resource Area
NGO	Non-governmental Organization
NRCS	Natural Resources Conservation Service
Service	U.S. Fish and Wildlife Service
SPV	Sylvatic Plague Vaccine

Glossary

10(a)(1)(A) Enhancement of Survival Permit (Permit) – This Permit also may be referred to as an incidental take permit or a recovery permit. It authorizes incidental take of a threatened or endangered species that would otherwise be prohibited by section 9 of the Endangered Species Act (Act) when such take is a result of activities for scientific research or to enhance the propagation or survival of a listed species. Section 10 of the Act provides for exceptions to prohibited activities identified in section 9 of the Act. Section 10(a)(1)(A) allows the Secretary of Interior to issue permits to authorize incidental take of threatened and endangered species for scientific research or to enhance the propagation or survival of such species. The Safe Harbor policy (64 FR 32717) provides for the extension of this authority to non-federal landowners who volunteer to enroll in a Safe Harbor Agreement that provides a net conservation benefit to covered species.

10(j) Experimental Population – Section 10(j) of the Act allows the Secretary of Interior to introduce experimental populations of threatened or endangered species into the wild as long as they are wholly separate from non-experimental populations of the same species. This designation is accomplished through a rulemaking process and allows for regulatory flexibility within the section 10(j) designated areas.

Assurances – Regulatory certainty provided by the U.S. Fish and Wildlife Service (Service) pursuant to the Safe Harbor policy (64 FR 32717) that it will not impose additional conservation measures and restrictions on the use of land, water, or resources beyond those measures and restrictions agreed upon in the Safe Harbor Agreement as a result of voluntary conservation actions by participating landowner interests (Cooperator) that benefit covered threatened or endangered species. These assurances are conveyed to the Cooperator through certificates of inclusion issued under a 10(a)(1)(A) enhancement of survival permit.

Baseline – Population estimates and distribution (if available or determinable) of the covered threatened or endangered species and/or habitat characteristics of enrolled property at the time of enrollment under the Safe Harbor Agreement as mutually agreed upon by the Black-footed Ferret Recovery Coordinator (Permittee) and the Cooperator. Baseline for this Agreement will be zero black-footed ferrets for both existing and new reintroduction sites, because none will occur on any property until reintroduction of the species, and none will likely occur in the long-term future on any property that may have ferrets now without purposeful management of prairie dogs to protect both ferrets and prairie dogs from sylvatic plague—a recurring non-native disease that will likely result in any extant ferret population being reduced to zero without active management.

Biological Opinion – A document stating the opinion of the Service on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. In this instance, the Federal action is the

implementation of a Programmatic Safe Harbor Agreement and related permit for the black-footed ferret.

Certificate of Inclusion – The document issued by the Permittee to a Cooperator that conveys incidental take authorization for covered threatened and endangered species.

Changed Circumstances – Changes in circumstances affecting a threatened or endangered species or geographic area covered by a Safe Harbor Agreement that can be reasonably anticipated and planned for by the Service (e.g., the listing of a new species, or a fire or other natural catastrophic event in areas prone to such events).

Conservation Activities – The actions that will be taken or avoided under this Safe Harbor Agreement to provide a net conservation benefit to the black-footed ferret. Conservation activities may be carried out by the Permittee (or designee), by the Cooperator, as described in the Reintroduction Plan for the enrolled property, or by partners approved by the Permittee and Cooperator.

Conservation Zone – An area that can contribute to the necessary attributes to support at least 30 adult ferrets. Typically, it will be a minimum of 1,500 acres of black-tailed prairie dog occupied habitat or 3,000 acres of white-tailed prairie dog or Gunnison's prairie dog occupied habitat. It may be owned by one or more Cooperators. All otherwise legal activities may be conducted as appropriate, except those that are incompatible with ferret recovery. Inappropriate, prohibited activities will include any activity that reduces prairie dog numbers, including, but not limited to, poisoning, shooting, and major landscape alterations (e.g., tilling soil). The Conservation Zone will be identified on a map of the enrolled lands. All conservation activities within the Conservation Zone will be described in the Reintroduction Plan for the enrolled property. Prohibited activities will also be identified in the Reintroduction Plan.

Cooperator – Any non-federal landowner—including private individuals, Tribes, States, and municipalities—eligible for enrollment in the Safe Harbor Agreement who voluntarily chooses to assist in the development and implementation of a Reintroduction Plan for black-footed ferrets on their lands (or some portion of their lands). Under the Agreement, each Cooperator will receive a Certificate of Inclusion, which conveys incidental take authorization to enrolled landowners.

Covered Species – The species listed under the Act for which the Safe Harbor Agreement is designed to provide a net conservation benefit and for which incidental take and Safe Harbor assurances are authorized. For this particular Agreement, the covered species is the black-footed ferret.

Delist – The removal of a species from a listed status under the Act. Usually delisting is a result of successful recovery actions that have increased a species' numbers and addressed threats to its viability. For the black-footed ferret, delisting is expected to require the establishment of at

least 3,000 breeding adult ferrets in 30 or more populations in at least nine states within the historical range of the species, with no fewer than 30 breeding adults in any population. Management efforts will continue to address threats to the species, especially from disease.

Downlist – The reclassification of a species from endangered to threatened. Usually downlisting is a result of successful recovery actions that have increased a species' numbers and addressed some portion of the threats to the species. For the black-footed ferret, downlisting is expected to require the establishment of at least 1,500 breeding adult ferrets in 10 or more populations in at least six states within the historical range of the species, with no fewer than 30 breeding adults in any population. Management efforts will continue to address threats to the species, especially from disease.

Endangered species – An animal or plant species in danger of extinction throughout all or a significant portion of its range.

Experimental population – A population (including its offspring) of a listed species designated by rule published in the Federal Register that is wholly separate geographically from other populations of the same species. An experimental population may be subject to less stringent prohibitions than are applied to the remainder of the species to which it belongs.

Incidental Take – Incidental take is the accidental or inadvertent take of a species listed as threatened or endangered under the Act pursuant to carrying out otherwise legal activities.

Kit – A kit is the young of a black-footed ferret.

Landowner – Any entity with a legally recognized interest in a parcel of land including, but not limited to, surface, mineral, mortgage, and/or lease rights.

Management Zone – An area adjacent to or near a Conservation Zone. It may or may not have occupied prairie dog habitat. All otherwise legal activities may be conducted as appropriate, including lethal control of prairie dogs—except for the use of anticoagulant toxicants such as chlorophacinone (Rozol®) or diphacinone (Kaput®). The Management Zone will be identified on a map of the enrolled lands. The precise characteristics and size of a Management Zone, including the associated conservation activities, may vary for each enrolled property, depending on the attributes of a particular property, the needs of the Cooperator, and the potential concerns of non-participating neighboring landowners. Consequently, site-specific details will be described in each individual Reintroduction Plan.

Net conservation benefit – All conservation actions taken under the Safe Harbor Agreement that contribute to the recovery of the species minus any incidental take of the species.

Non-essential experimental population – An experimental population whose loss would not appreciably reduce the prospect of survival of the species in the wild.

Non-federal lands – Lands owned by entities other than the Federal government, including Tribes (see tribal lands below), States, counties, municipalities, private individuals, and non-governmental organizations.

Non-participating landowner – Any landowner within the vicinity of a black-footed ferret reintroduction site developed under the Black-footed Ferret Programmatic Safe Harbor Agreement—including private individuals, Tribes, States, and municipalities—who does not participate. Under this Agreement, non-participating neighboring landowners will be covered for incidental take, via an associated Biological Opinion, of any black-footed ferrets that may disperse onto their lands.

Parties – The Permittee, the Cooperator, and others as described in Part 10.3 of this Safe Harbor Agreement and identified in the Reintroduction Plan.

Permittee – The entity who holds the 10(a)(1)(A) Enhancement of Survival Permit issued under the Safe Harbor Agreement. Under this Agreement, the Permittee is the Service's Black-footed Ferret Recovery Coordinator.

Programmatic Safe Harbor Agreement (Agreement) – The parent document, prepared by the Service, that describes the conservation strategy and activities that will be carried out to provide a net conservation benefit for the covered species, in this case the black-footed ferret. It also describes the process and requirements for developing the site-specific Reintroduction Plans for lands to be voluntarily enrolled in the Agreement.

Reintroduction Plan – The document that describes site-specific characteristics of any lands enrolled in this Agreement. It will include: (1) a description of the ownership interest; (2) a map of the enrolled land, identifying boundaries of any nearby Conservation and Management Zones; (3) a description of the conservation activities to be carried out in any Conservation and Management Zones on the enrolled lands; and (4) a description of any activities that may be prohibited within the Conservation or Management Zone. The Permittee and the Cooperator will develop a Reintroduction Plan prior to enrollment of any property and prior to issuing any Certificate of Inclusion. Upon completion, it will be signed by the Permittee and the Cooperator. Information provided in a Reintroduction Plan could be made public as a result of a Freedom of Information Act request. A template for the Reintroduction Plan is in Appendix B of this Safe Harbor Agreement.

Routine Livestock Grazing and Ranching Activities – Those activities required to manage a livestock operation. For the purposes of this Safe Harbor Agreement, any livestock grazing or ranching practice that does not reduce prairie dog occupied habitat to a degree that the viability of a ferret population occupying the same lands would be impacted would be appropriate. Prohibited activities within any Conservation Zone would include lethal control of

prairie dogs and/or major landscape alterations, except in unusual circumstances as agreed to by both the Permittee and Cooperator.

Split Estate – For purposes of this Safe Harbor Agreement, a split estate refers to any property where the management of wildlife habitat may be diminished by other ownership interests (e.g., mineral rights, mineral leases, hunting agreements, etc.).

Take – Defined by the Act as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Take may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

Threatened species – An animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Tribal Lands – Tribal lands refer to those lands within the boundaries of an Indian reservation or land outside of an Indian reservation that are held in trust by the United States for the benefit of an individual Indian or Indian Tribe, held by an individual Indian or Indian Tribe, or held by a dependent Indian community.

Unforeseen Circumstances – Circumstances affecting a species or geographic area covered by a conservation plan or agreement that could not reasonably have been anticipated by the Service at the time of development of the Safe Harbor Agreement, and that result in a substantial and adverse change in the status of the covered species.

1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The black-footed ferret was originally listed as endangered in 1967 and grandfathered into the current Endangered Species Act (Act) in 1973 (U.S. Fish and Wildlife Service 2008a). It was twice considered extinct or nearly extinct before all known wild ferrets were captured for captive breeding by 1987. Secure in captivity, efforts to reintroduce the species back into the wild have been underway since 1991. Today there are 20 reintroduced populations within 8 of the 12 states where it historically occurred, Mexico, and Canada. Recovery progress to date is due to the efforts of a diverse team of conservation partners known as the Black-footed Ferret Recovery Implementation Team (BFFRIT). The BFFRIT is guided by a charter originally developed in 1996 and revised in 2012. The purpose of the BFFRIT is to recover the ferret through the coordinated efforts of many interested partners.

Recently the BFFRIT and other partners have explored a comprehensive black-footed ferret recovery strategy for non-federal lands that includes regulatory assurances, landowner grazing assistance, boundary control of prairie dogs, and plague abatement techniques. As part of this strategy, a Programmatic Safe Harbor Agreement (Agreement) has been developed under section 10(a)(1)(A) of the Act. Pursuant to an agreement approved by the Service, a section 10(a)(1)(A) Enhancement of Survival Permit (Permit) will be issued to the Black-footed Ferret Recovery Coordinator (Permittee) of the U.S. Fish and Wildlife Service (Service). The Agreement is incorporated herein as Appendix C. Enrollment in the Agreement by a non-federal landowner is strictly voluntary, and the landowner can withdraw from the Agreement at any time.

The National Environmental Policy Act (NEPA) requires Federal agencies to identify and disclose the expected effects of Federal actions to the human environment. Because the issuance of an Enhancement of Survival Permit is a Federal action, the Service must ensure that the action complies with the requirements of NEPA. Therefore, the Service is preparing this Environmental Assessment (EA) to analyze potential effects of the Proposed Action and alternatives to the human environment and determine whether such effects may be significant. Because U.S. Department of Agriculture's Animal Plant Health Inspection Service/Wildlife Services (Wildlife Services) has specialized expertise on prairie dog management (one of the conservation activities identified in the alternatives), and may be affected by the Proposed Action, they are participating in the EA as a cooperating agency. Typically Wildlife Services, pursuant to 7 CFR 372.5(c)(1))(I), categorically excludes their projects for prairie dog management. However, given the coordinated nature of this effort, they have elected to participate in this analysis.

1.2 THE PURPOSE OF THE ACTION

The Federal action under consideration is the issuance of a Permit to the Permittee pursuant to the Agreement. The purpose of the proposed Agreement and issuing the Permit is to facilitate recovery of the black-footed ferret on non-federal and tribal lands within the historical range of

this species. The Agreement and Permit are intended to provide incentives for landowners to volunteer their land for reintroduction of ferrets and implementation of conservation activities to support the goal for establishment of new ferret populations on approximately 500,000 acres within approximately 3 million acres of ferret habitat currently present rangewide (U.S. Fish and Wildlife Service 2009a, Memorandum of Understanding 2012). The incentives include a streamlined process for enrollment, land management flexibility, and regulatory assurances consistent with the Safe Harbor Policy (64 FR 3271, 52686, and 69 FR 24084) and related implementing regulations (50 CFR Parts 13 and 17).

1.3 NEED FOR TAKING ACTION

Black-footed ferret recovery efforts have successfully established a captive-breeding population and reintroduced ferrets at 20 locations. To contribute to recovery of this species, the Black-footed Ferret Recovery Plan (U.S. Fish and Wildlife Service 1988) calls for the establishment of multiple ferret populations throughout the species' historical range. Several populations throughout the range of the species are necessary to prevent losses from demographic and environmental effects associated with local stochastic events such as plague and climate change. Reintroduction efforts to date have involved substantial coordination and cooperation by many State, Tribal, Federal, and non-governmental partners. All past reintroduction actions in the United States have been carried out as section 10(j) experimental populations or as section 10(a)(1)(A) recovery permits under the Act. These processes can be complex and time-consuming and have resulted in approximately one new reintroduction site per year for the last 20 years. Reintroductions carried out as 10(j) experimental populations or 10(a)(1)(A) recovery permits may not provide the same regulatory assurances as the Safe Harbor program that no further restrictions or commitments would be imposed on landowners. Additionally, these approaches may not always include conservation activities that would benefit the species, such as disease management, targeted prairie dog management, and monitoring. Finally, these approaches did not provide a baseline condition to which the landowners could return, as provide by the Safe Harbor policy (62 FR 32178).

An additional challenge to the reintroduction of black-footed ferrets on non-federal lands is the concern that the presence of an endangered species will create additional regulatory burdens for the landowner. In order to engage non-federal landowners to participate in the recovery of ferrets, assurances that no additional regulatory constraints will be placed on their lands are needed. With such assurances, land management flexibility, and a streamlined enrollment process as proposed by the Agreement, many landowners are more likely to volunteer their lands for ferret reintroductions.

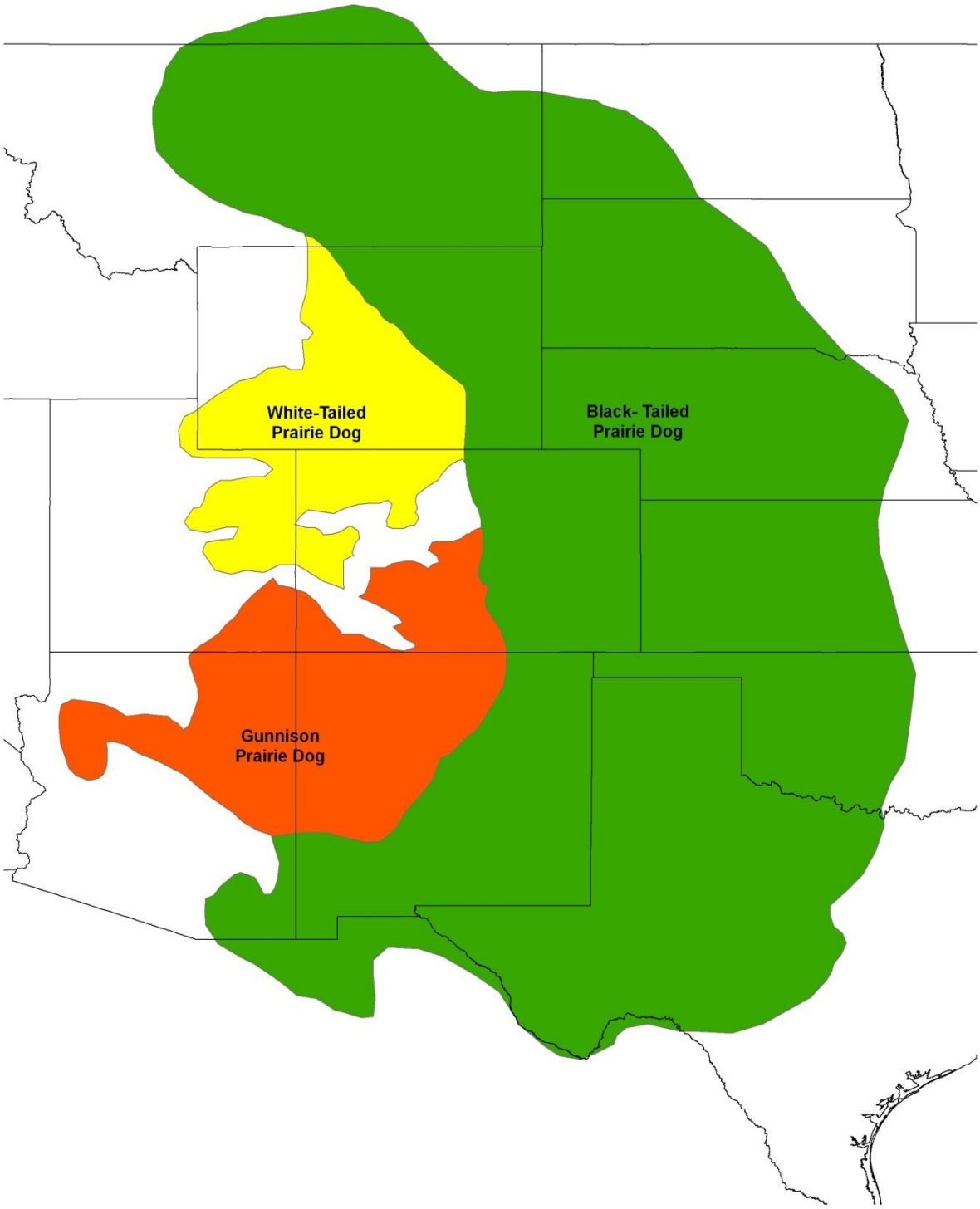
1.4 ACTION AREA

The Agreement and Permit are proposed to cover non-federal lands across the entire historical range of the species, which includes portions of Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming. We expect that the Agreement will be implemented in only a small portion of this area because only 0.08 percent of the ferret's historical range may be needed to recover (delist) the species. While

only lands that have suitable prairie dog habitat adequate to support 30 adult breeding black-footed ferrets would be eligible to enroll in the Agreement, we are covering all lands in the range because we do not have precise information on locations of all such suitable habitat and ferrets may disperse from lands enrolled under the Agreement. Therefore, the action area for this EA includes the entire historical range of the species. However, an increase in the amount of currently occupied prairie dog occupied habitat is not necessary. Purposeful management of existing habitat on enrolled properties is needed.

Black-footed ferrets prey primarily on prairie dogs (*Cynomys* spp.) and use their burrows for shelter and denning (Henderson et al. 1969; Hillman and Linder 1973; Forrest et al. 1985). Since ferrets depend almost exclusively on prairie dogs for food and shelter, we believe that they were historically endemic to the contiguous range of three prairie dog species (black-tailed, Gunnison's, and white-tailed) (Figure 1). Therefore, the historical range of the ferret and hence the action area is the range of these three prairie dog species. Two additional species of prairie dogs (Utah prairie dog and Mexican prairie dog) have small, disjunct ranges that likely did not historically support ferrets.

Figure 1. Black-footed Ferret Programmatic Safe Harbor Agreement Action Area



2.0 SCOPING

Informal scoping was carried out through a number of meetings, internet conferences, and conference calls to discuss concepts and various concerns by different parties. The following table summarizes scoping efforts for this action. We initiated government-to-government consultation with each potentially affected Tribe in the action area, pursuant to Executive Order 13175, Secretarial Order 3206, and the Department of the Interior Policy on Consultation with Indian Tribes. We sent letters describing our Proposed Action and requesting input to 142 tribes on June 6, 2012. Responses, including those from Tribes, are summarized below.

Table 1. Summary of scoping efforts for the Black-footed Ferret Programmatic Safe Harbor Agreement

Date	Party Contacted	Type of Contact	General Comments
3/13/2012	BFFRIT Executive Committee meeting at North American Wildlife and Natural Resources Conference	Meeting	General support of the Agreement concept and the first draft SHA. No red flag concerns identified.
3/28/2012	Majority participation of 12 State Wildlife Agencies	Teleconference	General support for the concept. Comments on the first draft included concerns of grazing expectations for landowners, monitoring requirements. Clarification of eligibility, changed circumstances and incidental take.
3/29/2012	Colorado Cattlemen's Assoc. and Wyoming Stockgrowers Assoc.	Meeting	General support for the concept. Indicated that financial assistance to landowner is only one aspect; assurances and recovery of species also important
4/16/2012	NRCS Technical Staff	Teleconference	General support for the concept. Clarify who holds the permit and eligible lands. Concern that Reintroduction Plans are subject to FOIA. Clarification of non-participating vs non-enrolled lands.
5/31/2012	NRCS State Conservationist	Teleconference	General support for the concept. Questions about termination and extension of participation in the Agreement. Concern that the Agreement does not contradict with other actions NRCS is taking for other species such as sage grouse and prairie chickens.
6/14/2012	The United Keetoowah Band of the Cherokee Indians.	Email	No comments at present, would like to reserve the right to comment on the documents.

6/26/2012	Defenders of Wildlife	Teleconference	General support for the concept. Concerned that the eligible acreage size is too small to be sustainable.
6/26/2012	World Wildlife Fund	Teleconference	General support for the concept. Wants to ensure that NGO can participate in the implementation of conservation activities.
7/24/2012	Gila River Indian Community	Letter	The Gila River Indian Community agrees with the plan to protect and enhance ferret populations.
8/10/2012	Choctaw Nation of Oklahoma	Letter	The Choctaw Nation has historic areas of interest in Oklahoma and Texas. They requested additional information regarding the counties affected within these states.
12/12-13/2012	Black-footed Ferret Recovery Implementation Team Executive Committee	Meeting	General support for the concept. Discussed Safe Harbor program and landowner options under Safe Harbor for ferret reintroduction.
01/29-30/2013	Black-footed Ferret Recovery Implementation Team Conservation Sub-committee	Meeting	General support for the concept. Discussed Safe Harbor program and landowner options under Safe Harbor for ferret reintroduction.

3.0 ALTERNATIVES

3.1 ALTERNATIVE A – NO ACTION

Under Alternative A, the Service would not issue a section 10(a)(1)(A) Enhancement of Survival Permit under a programmatic Safe Harbor Agreement. Black-footed ferret reintroduction efforts would continue to be carried out as they have in the past through a combination of designations of experimental populations under section 10(j) and issuance of section 10(a)(1)(A) recovery permits. Individual Safe Harbor Agreements could potentially be developed and issued.

Section 10(j) of the Act allows for the designation of experimental populations for purposes of reintroduction efforts. An experimental population is designated through a rulemaking process, which also determines whether the population is essential or non-essential. All 10(j) black-footed ferret populations are designated as non-essential experimental populations. For purposes of section 7 of the Act, these populations are treated as if they are a species listed as threatened on Service lands and National Park Service lands, and as proposed for listing on all other lands.

Section 10(a)(1)(A) recovery permits provide authorization for incidental take associated with reintroduction and management activities. The intra-Service consultation under section 7 of the Act on the issuance of such permits covers incidental take via the Biological Opinion for

landowners where black-footed ferrets may disperse or expand onto their properties. The maximum term for these permits is five years, but they can be renewed.

Additional conservation activities beneficial to black-footed ferret recovery, such as plague management and purposeful prairie dog management, may or may not occur for existing or new areas with 10(j) experimental population designations or 10(a)(1)(A) recovery permits. If they do occur, they likely will be intermittent and infrequent. Plague management to conserve prairie dog populations occasionally occurs at existing reintroduction sites where plague outbreaks occur. Fleas, the main vector of plague transmission, are controlled with deltamethrin, the active ingredient in DeltaDust, an unrestricted use pesticide classified by the Environmental Protection Agency (EPA). DeltaDust may be applied according to the EPA label requirements once per year, generally between March and August, and involves placement of approximately 5 grams of DeltaDust directly into each prairie dog burrow. The insecticide is typically applied by a spray device mounted on All Terrain Vehicles (ATV) or by hand while walking depending on topography (Matchett et al. 2010, Seery et al. 2003). Applications take several days to two weeks depending on the acreage treated and the size of work crews. Under the No Action Alternative, it is likely that sporadic efforts to address plague outbreaks would continue as budgets allow. To date approximately 10 of the 20 reintroduction sites have been treated with DeltaDust for flea control.

Prairie dog management may refer to the lethal control of prairie dogs. However, it can also refer to non-lethal techniques used to manage prairie dog colony expansion on the landscape. Lethal prairie dog management includes shooting, trapping, and the use of various fumigants and toxicants. Currently lethal prairie dog management is legal in all 12 states within the action area, but regulated at various levels (U.S. Fish and Wildlife Service 2009a). Lethal prairie dog management that currently occurs is done by various means, including shooting and using a variety of poisons. The most commonly used products today are zinc phosphide oats or other grain baits applied on active burrows and fumigants inserted into active burrows. Non-lethal techniques could include live trapping, flushing with water, or “vacuuming” with large vacuum trucks. These animals are then relocated to other locations, if local ordinances and State laws permit such activities. Non-lethal techniques also include exclusion devices such as buried fences and tall vegetation to discourage prairie dog movements.

Because landowners carry out prairie dog management independently in most situations, it is unknown exactly how much lethal and non-lethal prairie dog management is occurring on non-federal lands within the action area. However, in 2008, data compiled by various State agencies from North Dakota, South Dakota, Kansas, Oklahoma, and Texas suggests that approximately 800,000 acres or 33 percent of occupied black-tailed prairie dog habitat in these States was treated (U.S. Fish and Wildlife Service 2009b). In spite of these efforts, increasing black-tailed prairie dog population trends across the range indicate that poisoning is not a current threat to this species (U.S. Fish and Wildlife Service 2009b). Under the No Action Alternative, prairie dog management, both lethal and nonlethal, is expected to remain unchanged, with minimal monitoring of the occurrence of this activity or the potential associated impacts.

Routine livestock grazing and ranching activities are currently a predominant land use on suitable lands within the action area. Under the No Action alternative, landowners would likely continue to utilize their lands for livestock production and engage in activities to facilitate that use, such as installing and maintaining fences, providing water for livestock, controlling weeds, and other associated routine ranching and grazing activities. Under the No Action alternative, livestock grazing likely would continue. However, there are a number of factors that influence the economics of livestock grazing including weather, regulations, and financial situations. In difficult economic times, landowners may look for other opportunities for financial returns on these lands which could lead to their conversion to other uses.

3.2 ALTERNATIVE B – PROPOSED ACTION – BLACK-FOOTED FERRET RANGE-WIDE PROGRAMMATIC SAFE HARBOR AGREEMENT

The Proposed Action is to issue a 10(a)(1)(A) Enhancement of Survival Permit under the Black-footed Ferret Programmatic Safe Harbor Agreement to promote additional ferret reintroductions through voluntary participation on non-federal lands throughout the species' historical range. Below is a synopsis of the Agreement. A complete copy of the Agreement is found in Appendix C.

The Service would issue a 10(a)(1)(A) Enhancement of Survival permit to the Permittee, who would then enroll eligible landowners (Cooperator) who volunteer their property for ferret reintroduction and/or implementation of conservation activities identified in the Agreement. Each Cooperator would be enrolled through a Certificate of Inclusion, which would convey incidental take authorization and assurances that the Service would not impose restrictions on or commitments of land, water, or financial resources beyond those in the Agreement. The proposed duration of the Agreement and Permit is 50 years.

Lands eligible for enrollment in this Agreement include non-federal lands within the historical range of the black-footed ferret that have suitable acres of occupied prairie dog habitat to support a population of at least 30 breeding adult ferrets. The acreage necessary to support 30 breeding adults can vary depending on the species of prairie dog present. Typically, this would be a minimum of approximately 1,500 acres of black-tailed prairie dog habitat or a minimum of approximately 3,000 acres of white-tailed or Gunnison's prairie dog habitat, but these amounts may vary depending on site conditions. The Permittee would evaluate eligibility of potentially suitable lands on a site-specific basis, based on available site information and site visits. Properties owned by more than one adjacent landowner could be combined to meet these eligibility criteria. Adjacent landowners could collectively enroll lands together under the Agreement such that sufficient acreage to support 30 breeding adult ferrets was enrolled.

Each Cooperator would work with the Permittee to develop a Reintroduction Plan for the enrolled lands. The Reintroduction Plan would identify the number and location of enrolled acres and delineate a Conservation Zone and/or a Management Zone. The Reintroduction Plan also would describe the conservation activities to be implemented on the enrolled land.

Each Conservation Zone would be at least 1,500 acres of occupied black-tailed prairie dog habitat or at least 3,000 acres of white-tailed or Gunnison's prairie dog habitat to provide adequate habitat to support a population of at least 30 adult breeding ferrets. Conservation activities within the Conservation Zone would include ferret reintroduction and plague management. Legal activities, including but not limited to routine livestock grazing and ranching activities would continue within the Conservation Zone, with the exception of activities that could substantially alter ferret habitat suitability through the reduction of prairie dogs. Prohibited activities within the Conservation Zone would include major landscape alterations such as plowing and lethal control of prairie dogs, except in unusual circumstances approved by both the Permittee and Cooperator.

The Management Zone may or may not have occupied prairie dog habitat. It would consist of additional lands adjacent or in close proximity to the Conservation Zone, and may or may not exceed the number of acres in the Conservation Zone. Conservation activities within the Management Zone could include plague management if occupied by prairie dogs, and/or prairie dog management (including lethal control) as defined in the Reintroduction Plan. Legal activities, including but not limited to routine livestock grazing and ranching activities, could also continue in the Management Zone.

Cooperators enrolled in this Agreement would allow for the treatment of plague as appropriate and necessary on their enrolled lands for the protection of black-footed ferrets and prairie dogs. Plague management activities would be coordinated by the Permittee or designee.

Currently there is an effective vaccine that will protect black-footed ferrets from plague. All animals at the captive breeding facilities are vaccinated for plague and other diseases as necessary, including those intended for reintroduction. However, if reintroductions are successful and reproduction occurs, it may be necessary to live trap and vaccinate any kits that are produced on a reintroduction site. This would occur in conjunction with other activities discussed herein and in coordination with the Cooperator to minimize disruptions to the Cooperator's use of the land.

Fleas, the main vector of plague transmission, can be controlled with deltamethrin, the active ingredient in the insecticide DeltaDust. DeltaDust is an unrestricted use pesticide classified by the EPA. It may be applied according to label requirements once per year, generally between March and August and involved placement of approximately 5 grams of DeltaDust directly into each prairie dog burrow (dusting). Application of DeltaDust for plague management would be conducted in the same manner as described in Alternative A, but would be coordinated by the Permittee or designee.

An alternative to DeltaDust for plague management is currently under development that involves an oral bait sylvatic plague vaccine for prairie dogs. The vaccine is a genetically modified viral vaccine, using attenuated raccoon pox virus as a vector for orally delivering plague antigens to target animals through the use of baits (U.S. Geological Survey 2012). If

effective, this vaccine could be used on lands enrolled under this Agreement. The oral vaccine would be placed in baits distributed from ATVs or possibly aerially onto a prairie dog colony once per year or possibly less often, depending upon research results. Prairie dogs would consume the bait and become vaccinated, thereby limiting plague outbreaks within the treated lands. Administration of oral plague vaccine is expected to occur no more than once per year after emergence of the young prairie dogs and might occur from late May through October. This plague abatement technique is expected to be less labor intensive than dusting. However, it may require limiting access of livestock to treated areas for a few days after application to avoid livestock consumption of the bait. The bait would not harm the livestock, but could reduce the amount available to prairie dogs, thereby reducing its effectiveness.

Each Reintroduction Plan would outline any necessary prairie dog management that would be carried out on enrolled lands to address landowner concerns of unwanted expansion of prairie dogs onto non-participating or neighboring lands. Only non-lethal prairie dog management would be allowed in Conservation Zones, except in unusual circumstances approved by both the Permittee and Cooperator. Non-lethal prairie dog management may be carried out by the Cooperator or other partners as agreed to and identified in each Reintroduction Plan. Non-lethal methods could include live trapping and relocation to other appropriate locations where local and State ordinances and laws permit such activities. Non-lethal methods could also include the use of structural or vegetative barriers to discourage prairie dog movement. Non-lethal or lethal methods could be conducted in Management Zones. Implementation of lethal prairie dog management could be carried out by Wildlife Services and/or other local entities such as weed and pest boards. Lethal activities could include shooting, the application of zinc phosphide by licensed applicator, and other approved activities as directed by the Permittee. Anticoagulant pesticides such as Rozol would not be allowed on enrolled properties due to the risks of secondary poisoning to other non-target wildlife species than consume prairie dogs, including black-footed ferrets.

As indicated in the Agreement, each Reintroduction Plan would describe the monitoring to occur on enrolled lands. Monitoring would inform the Service of the status of implementation of the conservation activities, track any incidental take of black-footed ferrets, and determine success of ferret reintroductions on the enrolled properties. Annual reports will be provided by the Permittee to the Service's Region 2 and Region 6 Offices. Reports would include the number of acres treated for plague management and prairie dog management, as well as number of ferrets released, number of ferrets observed, any incidental take, and basic information on grazing activities.

The term of each Reintroduction Plan would be a minimum of 10 years and would not exceed 40 years. Each Certificate of Inclusion, which would provide incidental take coverage and assurances to the Cooperator, would extend for as long as the terms of the Agreement and Reintroduction Plan are met. The Cooperator could choose to terminate the Reintroduction Plan prior to expiration. In the event of early termination, incidental take coverage would be retained by the Cooperator as a non-participating landowner via the Biological Opinion,

provided the Cooperator notified the Permittee and allowed the Service access to recapture ferrets during the following fall, prior to the Cooperator carrying out any otherwise lawful activity that could result in take of ferrets on enrolled lands, including a return to baseline. If a Cooperator failed to notify the Permittee regarding possible take or failed to provide access, coverage for incidental take would not be granted.

A non-participating landowner is defined as any landowner with a legally recognized interest on or within the vicinity of enrolled lands which ferrets may occupy as a result of reintroduction efforts. Non-participating landowners whose land-use activities may incidentally take black-footed ferrets on their lands would receive authorization for such take through the intra-Service section 7 Biological Opinion that the Service would complete for the issuance of the Permit. Cooperators are not non-participating landowners.

3.3 ALTERNATIVE C – INDIVIDUAL SAFE HARBOR AGREEMENTS

Under Alternative C, the Service would work with willing individual non-federal landowners to develop individual safe harbor agreements for black-footed ferret reintroductions. Each landowner with an approved Agreement would receive their own permit, which would likely provide the same take authorization and assurances that a certificate of inclusion would under Alternative B. Each safe harbor agreement would likely contain the same conservation activities as each Reintroduction Plan would under Alternative B. However, under this alternative, each participating landowner would need to submit their individual safe harbor agreement to us as part of the permit application package, and we would need to provide a public review period for each individual application, as well as develop NEPA and section 7 documents for each application.

4.0 AFFECTED ENVIRONMENT

We conducted a screening process to determine which environmental components may or may not be affected by the alternatives. Appendix A, Components of the Affected Environment Checklist, provides the rationale for the determinations for each component. Those components determined unlikely to be affected are not further analyzed. Components that may be affected by the Proposed Action are described in this chapter and the potential environmental impacts to them are analyzed in Chapter 5. We have determined the potential impacts would likely be limited to the following components:

- threatened or endangered species
- wildlife
- environmental justice
- farm and ranch lands
- socioeconomics

No other resources are expected to be impacted by the Proposed Action.

4.1 FEDERALLY THREATENED AND ENDANGERED SPECIES

We reviewed all federally threatened, endangered, and candidate species known to occur within the action area (Appendix B) to determine which may be impacted by the alternatives. Only those species that may be impacted are discussed here and analyzed in Chapter 5 Environmental Consequences. The species' listing status under the Act is indicated in parentheses in the headings.

Table 2. Threatened, endangered and candidate species that may be impacted by the alternatives

Species	Status[1]	Location	Impact[2]
Black-footed ferret	E, EXP	AZ, CO, KS, MT, NM, OK, UT, WY	PI
California condor	E, EXP	AZ, NM, UT, CO	PI
Northern aplomado falcon	E, EXP	AZ, NM, TX	PI
Greater sage-grouse	C	WY, MT, SD, ND, CO, UT,	PI
Gunnison's prairie dog	C	CO, UT, NM, AZ	
Gunnison sage-grouse	C	CO, UT	PI
Lesser prairie chicken	C	CO, KS, OK, TX	
Sprague's pipit	C	MT, SD, ND, OK,	PI

[1] Status under the Endangered Species Act. E, EXP= Endangered, experimental non-essential population, C= Candidate for listing

[2] PI – Potential Impact

4.1.1 Black-footed Ferret (Endangered; Non-essential Experimental Population)

The black-footed ferret is an endangered carnivore and is the only ferret species native to North America. Ferrets prey primarily on prairie dogs (*Cynomys* spp.) and use their burrows for shelter and denning (Henderson et al. 1969, Hillman and Linder 1973, Forrest et al. 1985). Because ferrets depend almost exclusively on prairie dogs for food and their burrows for shelter, and the ferret's current range directly overlaps that of certain prairie dog species (black-tailed, white-tailed, and Gunnison's) (Anderson et al. 1986), ferrets were historically endemic to the range of these three prairie dog species.

At present, largely due to a number of anthropogenic factors including land conversion, poisoning, and introduced disease, most of the prairie dogs species occur in highly fragmented subpopulations (Luce 2003). The same factors that have impacted prairie dogs have also impacted black-footed ferrets. While poisoning of prairie dogs is regarded as a major factor in the historical decline of prairie dogs and ferrets (Forrest et al. 1985, Cully 1993, Forest and Luchsinger 2006), most poisoning is currently more limited in nature and undertaken by landowners at very localized locations (U.S. Fish and Wildlife Service 2009b). Sylvatic plague, caused by a non-native bacterium, can be devastating to both prairie dogs and ferrets. Since 2005, plague has been detected in

prairie dogs in all 12 states throughout the historical range of the ferret (Abbott and Rocke 2012).

These factors cumulatively led to declines in black-footed ferret populations. By 1987, the last remaining wild ferrets were taken into captivity for captive breeding purposes (Hutchins et al. 1996, Garelle et al. 2006). Approximately 280 animals currently make up a captive population at six facilities, which provide surplus animals for release. After successful captive breeding efforts, the first captive bred ferrets were released back into the wild at Shirley Basin, Wyoming, in 1991. Today, in addition to those in the 6 captive breeding facilities, approximately 274–448 ferrets exist at 20 reintroduction sites across their historical range (U.S. Fish and Wildlife Service 2013a). Captive breeding and the release of surplus ferrets continue in efforts to establish more ferret populations throughout their range.

4.1.2 California Condor (Endangered; Non-essential Experimental Population)

The California condor (*Gymnogyps californianus*) is a member of the family Cathartidae, the New World vultures. They are among the largest flying birds in the world with adults weighing approximately 22 pounds and wing spans up to 9.5 feet (U.S. Fish and Wildlife Service 1996). Condors reach sexual maturity by 5–6 years of age and breeding begins between 6 and 8 years of age. Condors are strict scavengers. Unlike turkey vultures, condors do not have an exceptional sense of smell and locate their food visually, often by investigating the activity of ravens, coyotes, eagles, and other scavengers. Condors may eat the carcasses of cattle, domestic sheep, California ground squirrels, mule deer, and horses; however, they prefer deer (U.S. Fish and Wildlife Service 1996). Condors may overlap a small portion of the action area in the southwestern United States.

The California condor was listed as endangered in 1967 (32 FR 4001). Critical habitat was designated 9 years later within the state of California. 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, condors were first released back to the wild in California in early 1992. On October 6, 1996, the Service announced its intention to reintroduce California condors into northern Arizona and southern Utah, and designated the released birds as a nonessential, experimental population under Section 10(j) of the Act (61 FR 54043). On October 29, 1996, six California condors were released at the Vermilion Cliffs in Coconino County of northern Arizona. The current nesting sites occur within Grand Canyon National Park and Vermillion Cliffs, Arizona.

Most California condor deaths are directly or indirectly related to human activity. Shootings, poisoning with toxicants, lead poisoning, and collisions with power lines are major threats, and all of these activities occur within the action area. The condor's slow rate of reproduction and high number of years spent reaching breeding maturity make the species more vulnerable to these threats.

4.1.3 Northern Aplomado Falcon (Endangered; Non-Essential Experimental Population)

The northern aplomado falcon (*Falco femoralis septenrionalis*) is a member of the Falconidae family, and is the only one of the three subspecies of aplomado falcon that is found in the United States. It is a medium-sized falcon, standing approximately 16 inches tall with a 44 inch wingspan. Northern aplomado falcon habitat is variable throughout its range and includes palm and oak savannahs, various desert grassland associations, and open pine woodlands. Within these variations, the essential habitat elements appear to be open terrain with scattered trees, relatively low ground cover, an abundance of insects and small to medium-sized birds, and a supply of nest sites (U.S. Fish and Wildlife Service 1990). Northern aplomado falcons feed on a variety of prey, including birds, insects, rodents, small snakes, and lizards. Northern aplomado falcons may overlap a small portion of the action area in the southwestern United States. The northern aplomado falcon once extended from Trans-Pecos Texas, southern New Mexico and southeastern Arizona, to Chiapas and the northern Yucatan along the Gulf of Mexico and along the Pacific slope of Central America north of Nicaragua (U.S. Fish and Wildlife Service 1990). The species was fairly common in suitable habitat throughout these areas until the 1940s. However, it subsequently declined rapidly and became extirpated from the United States after 1952. The last documented nesting pair of wild northern aplomado falcons in the United States was in Luna County, New Mexico, in 1952. The northern aplomado falcon was listed by the Service as an endangered species on February 25, 1986 (U.S. Fish and Wildlife Service 1986).

Several Federal agencies and private landowners have supported the reintroduction of the northern aplomado falcon. Northern aplomado falcons in New Mexico were designated a 10(j) non-essential experimental population to encourage landowners to support the reintroduction of northern aplomado falcons in the state. Under the 10(j) rule, northern aplomado falcons do not have incidental take restrictions on private lands. In Texas, private landowners that have allowed releases of northern aplomado falcons on their property are party to a Safe Harbor Agreement (U.S. Fish and Wildlife Service 1996 and 2000a) that covers the entire area within 30 miles of each release site.

4.1.4 Greater Sage-grouse (Candidate)

Greater sage-grouse (*Centrocercus urophasianus*) are the largest grouse in North America. Males may weigh in excess of 4–7 pounds and hens weigh approximately 2–4 pounds (U.S. Fish and Wildlife Service 2011). Greater sage-grouse require large, interconnected expanses of sagebrush with healthy, native understories (Patterson

1952; Knick et al. 2003; Connelly et al. 2004; Connelly et al. 2011; Pyke 2011; Wisdom et al. 2011). Due to differences in the ecology of sagebrush across the range of the greater sage-grouse, the Western Association of Fish and Wildlife Agencies delineated seven Management Zones (MZs I-VII) based primarily on floristic provinces (Stiver *et al.* 2006). The boundaries of these MZs were delineated based on their ecological and biological attributes rather than on arbitrary political boundaries (Stiver et al. 2006). Therefore, vegetation found within a MZ is similar and sage-grouse and their habitats within these areas are likely to respond similarly to environmental factors and management actions. The Agreement's action area contains MZ I, MZ II, and MZ III. A detailed description of seasonal habitats, sage-grouse natural history, and population trend analyses can be found in the Service's March 2010 status review (U.S. Fish and Wildlife 2010a). Threats include land conversion to agriculture, urban, or industrial uses; fire; invasive plants, particularly nonnative annual grasses; pinyon-juniper encroachment; nonrenewable energy and mineral exploration and development; renewable energy sources such as wind and geothermal; and drought. Greater sage-grouse may overlap a portion of the action area in the United States.

4.1.5 Gunnison's Prairie Dog (Candidate)

The Gunnison's prairie dog (*Cynomys gunnisoni*) is a member of the Sciuridae family which includes squirrels, chipmunks, marmots, and prairie dogs. Adult Gunnison's prairie dogs vary in length from 12–15 inches and weighs 23–42 ounces, with males averaging slightly larger than females. They are yellowish buff in color with blackish hairs intermixed. The tops of the heads, sides of cheeks, and eyebrows are noticeably darker. The species differs from black-tailed prairie dogs in having a much shorter and lighter colored tail and from other white-tailed species in having grayish-white hairs in the tip of the tail rather than pure white. Gunnison's prairie dogs are found on grasslands and semi-desert and montane shrublands at elevations from 6,000–12,000 feet. Gunnison's prairie dogs occur in Arizona, Colorado, New Mexico, and Utah and their range is contained within the action area.

In 2008, the Service found that the Gunnison's prairie dog populations in the montane portion of the range meet the definition of threatened and are considered significant because they would contribute meaningfully to the ability to conserve the species. The montane habitat found in the northeastern portion of the range (central and south-central Colorado and north-central New Mexico) consists primarily of higher elevation, cooler, and moister plateaus, benches, and intermountain valleys. This habitat comprises 35–40 percent of the species' total current range. Gunnison's prairie dogs occupy grass shrub in low valleys and mountain meadows within this habitat.
While the Gunnison's prairie dog is affected by loss of habitat from urbanization and agriculture, it is not considered a significant threat, as these activities are only affecting a small percentage of the species' habitat (U.S. Fish and Wildlife Service 2008b). Shooting continues to be a threat to Gunnison's prairie dogs when combined with the impacts of disease. However, seasonal shooting closures in Colorado and Arizona are

anticipated to limit this impact (U.S. Fish and Wildlife Service 2008b). Of all the factors affecting Gunnison's prairie dog populations, sylvatic plague is the most significant. While both white-tailed and black-tailed prairie dog populations have been reported to recover following reductions due to plague, little to no recovery to previous levels has been noted in montane Gunnison's prairie dog colony die-offs, even after long periods of time. The landscape in the montane portion of the Gunnison's prairie dog range is characterized by fewer, smaller, and more isolated colonies with minimal to no metapopulation structure. These factors make the prairie dogs in this habitat highly susceptible to plague-related declines.

4.1.6 Gunnison Sage-grouse (Candidate)

Gunnison sage-grouse (*Centrocercus minimus*) are smaller than the greater sage-grouse and have distinctive plumage, genetic, and behavioral differences. Sage-grouse populations are closely associated with sagebrush habitats in western North America. They currently occur on 924,000 acres of Federal and non-federal lands in seven widely scattered and isolated populations in Colorado and Utah. They are estimated to occupy only 10 percent of their historical range (Schroeder et al 2004). Approximately 46 percent of their currently occupied habitat occurs on non-federal lands in Colorado and Utah (Colorado Parks and Wildlife, 2005). The range of the Gunnison sage-grouse is contained within the action area.

In September of 2010, the Service found that the Gunnison sage-grouse was warranted for listing under the Act, but precluded by other higher listing priorities. The present and threatened destruction, fragmentation, or curtailment of habitat due to changes in land uses and the expansion of invasive plant species is a primary threat to this species. While livestock grazing and conversion of habitat for agricultural purposes can contribute to this threat, these activities themselves are not a significant threat (U.S. Fish and Wildlife Service 2013b).

4.1.7 Lesser Prairie Chicken (Candidate)

The lesser prairie chicken (*Tympanuchus pallidicinctus*) is a distinct species of North American prairie grouse that inhabits rangelands dominated primarily by shinnery oak (*Quercus havardii*)-bluestem and sand sagebrush (*Artemesia filifolia*)-bluestem vegetation types (Sharpe 1968). Major factors affecting the status of the lesser prairie chicken are conversion, degradation, and fragmentation of habitat. The conversion of native sand sagebrush and shinnery oak rangelands to improved pastures and cropland has been documented as an important factor in the decline of the lesser prairie chicken (U.S. Fish and Wildlife Service 2012). A mixture of heavily, moderately, lightly grazed, and ungrazed native rangelands are all essential components of lesser prairie chicken habitat, and should occur in a mosaic pattern on a landscape scale. However, in most areas, an insufficient amount of lightly grazed or ungrazed habitat is available to support successful lesser prairie chicken nesting. Overutilization of rangeland by livestock, to a degree that leaves less than adequate residual cover remaining in the spring, is

considered detrimental to lesser prairie chicken populations because grass height is reduced below that necessary for nesting cover, and desirable food plants are markedly reduced (Texas Parks and Wildlife Dept, 2006). In December of 2012, the Service published a proposed rule to list the lesser prairie chicken as threatened (U.S. Fish and Wildlife Service 2012). The range of the lesser prairie chicken may overlap a portion of the action area in the southern United States.

4.1.8 Sprague's Pipit (Candidate)

The Sprague's pipit (*Anthus spragueii*) is a small passerine of the family Motacillidae that is endemic to the Northern Great Plains (Robbins and Dale 1999). The Sprague's pipit has buff and blackish streaking on the crown, nape, and underparts, a short bill with a blackish upper mandible and a buff face with a large eye ring. Males and females are similar, as are juveniles, which are slightly smaller (Robbins and Dale 1999). The Sprague's pipit breeds and winters on the North American prairie. The breeding range in the United States includes parts of Montana, North Dakota, South Dakota, and Minnesota. The species' wintering range includes parts of Arizona, Texas, southern Oklahoma, southern Arkansas, northwest Mississippi, southern Louisiana, and northern Mexico. Portions of the species breeding and winter range overlap the action area. Breeding bird surveys suggest that the species is in steep decline (Peterjohn and Sauer 1999.

In September of 2010, the Service found that the Sprague's pipit was warranted for listing under the Act, but precluded by other listing priorities. While extensive grazing and mowing can have impacts on Sprague's pipit, overall habitat fragmentation from conversion of native prairie to other uses is likely having greater impacts on the species (U.S. Fish and Wildlife Service 2010b).

4.2 WILDLIFE

Many wildlife species occur within the action area on non-federal grazing lands and could occur on habitat occupied by prairie dogs and/or the black-footed ferret. Wildlife presence on any lands to be enrolled in the programmatic Agreement would vary greatly depending on location, proximity to urban development, vegetation community, annual precipitation, and proximity to wildlife dispersal corridors. We identify here and analyze in Chapter 5 (Environmental Consequences) the wildlife guilds by state and the species of greatest conservation concern that may occur within the action area and may be affected by the Proposed Action (Table 3).

Table 3. Wildlife that could occur within the action area and may be affected by the Alternatives described in Chapter 3.0

Wildlife Guilds	Wildlife Families
Invertebrates	Butterflies, Beetles
Reptiles	Snakes, Lizards

Amphibians	Frogs, Toads, Salamanders
Birds	Owls, Raptors, Songbirds, Upland Game Birds
Small Mammals	Rabbits, Rodents, Bats
Ungulates	Bison, Antelope, Deer, Elk
Predators	Coyote, Foxes, Badgers, Bobcats, Mt. Lions, Wolves, Bears

State Wildlife Action Plans

Fish and wildlife agencies in all 50 states have developed Wildlife Action Plans that examine the health and status of each state's wildlife and habitats, identify potential threats, and outline the actions that are needed to conserve wildlife and their habitats over the long term. Further information on the wildlife guilds in Table 3 can be found in the Wildlife Action Plans (WAP) for each of the 12 states within the action area.

Arizona – The Arizona State Wildlife Action Plan identifies over 796 wildlife species across the state with more than 311 identified as Species of Greatest Conservation Need (SGCN) including 67 mammals, 102 birds, 35 fish, 18 amphibians, and 59 reptiles. Some of these species include masked bobwhite, lark sparrow and big brown bat (Arizona Game and Fish 2006). For a complete list see: http://www.azgfd.gov/w_c/cwcs_downloads.shtml.

Colorado – The Colorado State Wildlife Action Plan identifies 205 Species of Greatest Conservation Need (SGCN) including 26 mammals, 87 birds, 26 fish, 9 amphibians, 48 invertebrates, and 14 reptiles. Some of these species include mountain plover, ferruginous hawk and meadow jumping mouse (CDWP 2005). For a complete list see: http://wildlife.state.co.us/WildlifeSpecies/ColoradoWildlifeActionPlan/Pages/ColoradoWildlifeActionPlan.aspx.

Kansas – The Kansas State Wildlife Action Plan identifies 315 Species of Greatest Conservation Need (SGCN) including 22 mammals, 100 birds, 67 fish, 17 amphibians, 64 invertebrates, and 47 reptiles. Some of these species include grasshopper sparrow, Eastern meadowlark, swift fox, and various butterflies (Wasson et al. 2005). For a complete list see: http://www.kdwpt.state.ks.us/news/Services/Kansas-CWCP/Kansas-CWCP.

Nebraska – The Nebraska State Wildlife Action Plan identifies 310 Species of Greatest Conservation Need (SGCN) including 31 mammals, 83 birds, 28 fish, 3 amphibians, 144 invertebrates, and 21 reptiles. Some of these species include savannah sparrow, black-tailed jackrabbit, and prairie king snake (Schneider et al. 2011). For a complete list see: http://outdoornebraska.ne.gov/wildlife/programs/legacy/Natural_legacy_document.asp.

New Mexico – The New Mexico State Wildlife Action Plan identifies over 1,166 wildlife species across the State with more than 452 identified as Species of Greatest Conservation Need (SGCN) including 42 mammals, 74 birds, 37 fish, 15 amphibians, 252 invertebrates, and 32 reptiles. Some of these species include prairie vole, white-tailed jackrabbit, and swift fox

(NMDF 2005). For a complete list see: http://www.wildlife.state.nm.us/conservation/comp_wildlife_cons_strategy/index.htm.

North Dakota – The North Dakota State Wildlife Action Plan identifies 100 Species of Greatest Conservation Need (SGCN) including 15 mammals, 45 birds, 22 fish, 3 amphibians, 7 invertebrates, and 8 reptiles. Some of these species include Le Conte's sparrow, dickcissel, Northern harrier, and swift fox (Hagen et al. 2005). For a complete list see: http://gf.nd.gov/conservation-nongame-wildlife/wildlife-action-plan-0.

Montana – The Montana State Wildlife Action Plan identifies over 600 wildlife species across the State with more than 60 identified as Species of Greatest Conservation Need (SGCN) including 15 mammals, 19 birds, 17 fish, 3 amphibians, 1 invertebrate, and 5 reptiles. Some of these species include mountain plover, pygmy rabbit, and American bison (MFWP 2005). For a complete list see: http://fwpiis.mt.gov/content/getItem.aspx?id=25513.

Oklahoma – The Oklahoma State Wildlife Action Plan identifies over 800 wildlife species across the State with more than 228 identified as Species of Greatest Conservation Need (SGCN) including 26 mammals, 74 birds, 52 fish, 16 amphibians, 58 invertebrates, and 22 reptiles. Some of these species include black-tailed prairie dogs, burrowing owl, logger-head shrike, and swift fox (ODWC 2005). For a complete list see: http://www.wildlifedepartment.com/CWCS.htm.

South Dakota – The South Dakota State Wildlife Action Plan identifies 90 Species of Greatest Conservation Need (SGCN) including 10 mammals, 28 birds, 20 fish, 3 amphibians, 20 invertebrates, and 9 reptiles. Some of these species include black-tailed prairie dogs, burrowing owl, long-billed curlew, and swift fox (SDGFP 2005). For a complete list see: http://gfp.sd.gov/wildlife/management/plans/wildlife-action-plan.aspx.

Texas – The Texas State Wildlife Action Plan identifies thousands of wildlife species across the State with more than 1,300 identified as Species of Greatest Conservation Need (SGCN) including 91 mammals, 110 birds, 231 fish, 70 reptiles and amphibians, and 449 invertebrates. Some of these species include black-tailed prairie dogs, burrowing owl, pronghorn, and American badger (TPWD 2005). For a complete list see: http://www.tpwd.state.tx.us/publications/pwdpubs/pwd_pl_w7000_1187a/.

Utah – The Utah State Wildlife Action Plan identifies over 700 wildlife species across the state with more than 188 identified as Species of Greatest Conservation Need (SGCN) including 39 mammals, 44 birds, 29 fish, 10 amphibians, and 34 reptiles. Some of these species include white-tailed prairie dog and burrowing owl (Sutter et al. 2005). For a complete list see: http://wildlife.utah.gov/cwcs/11-03-09_utah_cwcs_strategy.pdf.

Wyoming – The Wyoming State Wildlife Action Plan identifies over 800 wildlife species across the state with more than 188 identified as Species of Greatest Conservation Need (SGCN)

including 54 mammals, 60 birds, 40 fish, 12 amphibians and 26 reptiles, and 88 invertebrates. Some of these species include: black-tailed prairie dog, swift fox, and burrowing owl (WFGD 2005). For a complete list see: http://www.wildlifeactionplan.org/pdfs/action_plans/wy_action_plan.pdf.

4.3 ENVIRONMENTAL JUSTICE

Executive Order 12898, February 11, 1994, requires each Federal agency to make environmental justice a part of its mission. Environmental justice means that, to the greatest extent practicable and permitted by law, all populations are provided the opportunity to comment before decisions are rendered on proposed Federal actions. Furthermore, the principles of environmental justice require that populations are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately high and adverse manner by, government programs and activities affecting human health or the environment.

Agencies are to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations, low-income populations, and Indian Tribes. Environmental justice must be applied throughout the United States, its territories and possessions, the District of Columbia, and the Commonwealths of Puerto Rico and the Mariana Islands. Environmental justice issues encompass a broad range of impacts covered by NEPA, including impacts on the natural or physical environment and related social, cultural, and economic impacts. The primary means to attain compliance with environmental justice considerations is through the inclusion of low-income, minority, and tribal populations in the planning process and by translating documents into other languages when members of the affected area are not English-speaking.

There are 103 Tribes that are located within the action area (Appendix D). However, only a subset of those Tribes is likely to have adequate occupied prairie dog habitat to be eligible for enrollment in the Agreement. The following Tribes have occupied prairie dog habitat and have participated in black-footed ferret recovery efforts through section 10(j) experimental populations and section 10(a)(1)(A) research and recovery permits under the Act: Fort Belknap and Northern Cheyenne Indian Reservations in Montana; and Cheyenne River, Rosebud, and Lower Brule Indian Reservations in South Dakota. The Navaho Nation in Arizona has also participated in ferret recovery on deeded lands not on the Reservation. Tribal use of lands to date has not been limited by ferret recovery efforts and would not be in the future pursuant to the Agreement.

4.4 FARM AND RANCH LANDS

The Farmland Protection Act requires that Federal agencies minimize the extent to which their programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses and to assure that their programs are administered in a manner that, to the extent practical, will be compatible with State and local governments and private programs and policies to protect farmland.

Land areas in the U.S. are divided by the Natural Resources Conservation Service (NRCS) into Major Land Resource Areas (MLRAs) on the basis of physiography, geology, climate, water, soils, biological resources, and land use (http://soils.usda.gov/survey/geography/mlra/mlra_definitions.html). There are a total of 104 different MLRAs within the action area. These MLRAs range in type from river plains and lowlands, to upland plains, rolling hills, mountain foothills, and high mountain areas. Only non-federal lands that have occupied prairie dog habitat within the action area may be affected by the implementation of the proposed alternative. Typically, these lands are used for grazing livestock. Overall, approximately 62 percent of private farmland within the MLRAs that occur within the action area is classified as grazing land. Approximately 531,516,937 acres (830,495 square miles) of privately owned grazing lands fall within the action area. Resource conditions and levels of potential agriculture are relatively uniform within a single MLRA. From the 104 original MLRAs in the action area, 44 were identified as representing the majority of land types identified above, within the historical prairie dog habitat boundaries. We completed a more detailed analysis using these 44 MLRAs. Data for our analysis was obtained on the basis of MLRA or county boundaries. There are 563 separate counties within the action area. To conduct a more efficient analysis, we selected between 1 and 3 counties to represent each of the 44 primary MLRAs. We chose counties on an informal random basis with the condition that each be entirely or mostly included within one of the 44 MLRAs. Within the 87 counties selected for detailed evaluation, the percentage of private farmland in grazing land ranges from 8 percent to over 98 percent with an average of 70 percent. In 59 of the 87 representative counties, more than 50 percent of private farm land is classified as grazing land. Croplands were not considered in this analysis as they are not preferred habitat for prairie dogs or black-footed ferrets. The use of farm and ranch lands to date has not been limited by ferret recovery efforts and would not be in the future pursuant to the Agreement.

4.5 SOCIOECONOMICS

The social and economic conditions within the action area are varied and diverse. We discuss the social and economic aspects of only the agricultural community because agriculture is the primary land use within prairie dog habitat on non-federal or lands. According to U.S. Department of Agriculture (2007) agricultural statistics, agricultural operations within the action area states are mostly crop-based or livestock-based. In North Dakota, livestock sales make up 17 percent of total agricultural sales; in the other states within the action area, livestock-based sales range between 41 and 82 percent of all agricultural sales. In some counties within the action area, as much as 98 percent of all agricultural revenue comes from livestock-based operations. Counties with high economic dependence on livestock sales that are dependent on grazing lands, have the greatest potential to be affected by the actions analyzed in this document. The value of livestock sales in the states within the action area ranges from just under $1 billion per year in Wyoming to over $14 billion per year in Texas. The total annual value of livestock-based sales in states falling within the action area is more than $52 billion.

The average age of principal operators in states within the action area ranges from 55.7 years up to 59.6 years, with an overall average of 57.5 years. Another characteristic in which producers vary is whether or not farming is their principal occupation. Within the 12 action area states, the percentage of producers for whom farming is their principal occupation ranges from a low of 38 percent in Utah, to a high of 61 percent in Arizona. Where a producer is completely dependent on farm income, he or she will have more at stake in protecting his or her ability to continue farming without disruption.

The racial characteristics of farm operators in the states within the project area range from very minimally diverse to very diverse. For example, in Arizona, approximately 43 percent of farm operators are reported as being white, while in Nebraska, white operators make up more than 99 percent of all farm operators (Table 4).

Table 4. Ethnicity percentages by farms in states within the action area

STATE	ETHNICITY					
	American Indian	Asian	Pacific Islander/ Hawaiian	Black/ African American	Spanish/ Hispanic/ Latino	White
ARIZONA	33	<1	<1	<1	6	73
COLORADO	2	<1	<1	<1	7	98
KANSAS	1	<1	<1	<1	1	99
MONTANA	6	<1	<1	<1	1	96
NEBRASKA	<1	<1	<1	<1	<1	99
NEW MEXICO	23	<1	<1	<1	33	78
NORTH DAKOTA	<1	<1	<1	<1	<1	99
OKLAHOMA	13	<1	1	1	1	93
SOUTH DAKOTA	3	<1	<1	<1	<1	97
TEXAS	2	<1	<1	2	9	97
UTAH	4	<1	<1	<1	2	96
WYOMING	3	<1	<1	<1	2	98

·Operators reporting selected race alone or in combination with other races.

5.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the likely environmental consequences of each alternative. The environmental consequences of each alternative will be discussed by the resource components identified in Chapter 4.0.

5.1 ALTERNATIVE A – NO ACTION

Under Alternative A, the Black-footed Ferret Programmatic Safe Harbor Agreement would not be approved and the section 10(a)(1)(A) Enhancement of Survival Permit would not be issued.

In the absence of a programmatic Safe Harbor Agreement, the current conditions as related to all of the environmental components identified in Chapter 4.0 would likely remain unchanged.

5.1.1 Threatened, Endangered and Candidate Species

The no-action alternative would not result in adverse or beneficial effects to threatened, endangered and candidate species that would be additional to the status quo. Under this alternative, achieving recovery of the black-footed ferret would likely be prolonged compared to the proposed alternative, because a single, efficient, coordinated program for providing incentives to landowners to allow ferret reintroductions would not exist. As a result, the potential for decreased genetic diversity due to prolonged captivity may increase. Ferret recovery would rely on designating additional 10(j) experimental populations, which provide flexible management options and fewer regulatory requirements on private landowners than areas without 10(j) designation, but take approximately 2 years and significant funds to complete.

In addition to 10(j) experimental populations, additional reintroduction sites may be established through 10(a)(1)(A) recovery permits. However, unlike a safe harbor agreement, this approach does not provide assurances to the landowner that no further restrictions or commitments would be imposed. Furthermore, these permit terms are limited to five years and must be renewed for extended coverage. Without assurances, landowners are not likely to volunteer for re-introduction of an endangered species onto their lands due to associated regulatory uncertainty. Therefore, few non-federal landowners are likely to participate in ferret reintroduction and conservation under this alternative.

5.1.2 Wildlife

Under the no-action alternative, no additional effects to other wildlife species are expected. Improvements to wildlife habitat and populations are not likely to occur at the same scale as under the proposed alternative due to fewer landowner incentives without a programmatic Safe Harbor Agreement and the resultant likelihood that fewer reintroduction efforts will be initiated. Fewer areas may be managed for sylvatic plague than would be under the Proposed Action; this could result in fewer prairie dogs available as prey to the many wildlife species that consume them.

5.1.3 Environmental Justice

Under the no-action alternative, environmental justice issues would remain unchanged. Minority populations, low-income populations, and Native American Tribes could continue to participate with black-footed ferret recovery actions on a voluntary basis through 10(j) nonessential experimental populations and 10(a)(1)(A) recovery permits, although likely at a lower participation rate than would occur under the Proposed Action. It is unlikely that the current presence of ferrets or any future reintroductions would limit land uses and/or affect cultural uses under the no action alternative. However, participation would be limited by the ability of the Service to develop and approve alternative mechanisms.

5.1.4 Farm and Ranchland

Under the no-action alternative, no changes to the use of these lands are expected as a result of this alternative.

5.1.5 Socioeconomic

Under the no-action alternative, the economic foundation of these states would likely remain in agriculture. Black-footed ferrets in the wild currently exist only where special regulatory provisions are in place, which do not interfere with existing land uses. Recognizing the importance of maintaining local support for the recovery of this species, the Service does not intend to reintroduce ferrets without cooperation from non-federal landowners. Therefore, it is unlikely that the current presence of ferrets or any future reintroductions would limit land uses and/or affect socioeconomic conditions under the no-action alternative.

5.2 ALTERNATIVE B - PROPOSED ACTION

Under the Proposed Action alternative, the Service would issue a section 10(a)(1)(A) Enhancement of Survival Permit to the Permittee in accordance with an approved Black-footed Ferret Programmatic Safe Harbor Agreement. The Permittee may enroll those eligible landowners who volunteer to participate and agree to implement the conservation activities described in a mutually agreed upon Reintroduction Plan. The proposed conservation activities include ferret reintroduction, plague management, prairie dog management, and livestock grazing. Implementation of the proposed Agreement is expected to result in overall beneficial effects to the ferret, prairie dogs, and other associated wildlife species. However, some limited adverse impacts to some environmental factors may occur. The environmental consequences for each environmental component identified in Chapter 4.0 are discussed below.

5.2.1 Threatened, Endangered and Candidate Species

Table 5 indicates whether potential effects to each threatened, endangered, or candidate species from each conservation activity are positive, negative, both, or neutral. Positive effects include the protection and management of enrolled lands, which will provide habitat for black-footed ferrets and possibly other threatened, endangered, and candidate species. Enrollment of non-federal lands under the Agreement may also lead to less conversion of these lands to uses that are incompatible with wildlife habitat, particularly habitat that supports threatened, endangered, and candidate species.

Table 5. Conservation activities to be implemented under the Proposed Action and the potential impacts to threatened, endangered, and candidate Species

Species	Ferret Reintroduction	Disease Management	Prairie Dog Management	Livestock Grazing
Black-footed Ferret	+	+	+	=
California Condor	=	=	-	=

Northern Aplomado Falcon	=	=	-+	-+
Greater Sage-grouse	+	=	-+	-+
Gunnison's Prairie Dog	=	+	-+	=
Gunnison Sage-grouse	=	=	-+	-+
Lesser Prairie Chicken	=	=	-	-+
Sprague's Pipit	=	+	-	=

+ The Conservation Activity identified is expected to have positive impacts to this species
- The Conservation Activity identified is expected to have negative impacts to this species.
= The Conservation Activity identified is expected to have neutral impacts to the species.

Black-footed Ferret Reintroduction

Under the Proposed Action, ferret reintroductions would be carried out on the enrolled lands as described in Chapter 3.2 above and in the draft Agreement (Appendix C). During ferret reintroductions and monitoring, some mortality may result from transporting and handling of ferrets. While occasional ferret deaths due to handling have occurred at some ferret release sites, the use of the handling protocol outlined in Roelle et al. (2006) would minimize losses. To date, less than 0.5 percent of the more than 2,700 ferrets reintroduced have perished from transporting and handling (Gober pers. comm., 2012).

Black-footed ferret survival rates 30 days after release range from 10.1 percent, for early reintroduction efforts, to 45.5 percent, for more recent reintroduction efforts that pre-conditioned ferrets prior to their release (Biggins et al. 2004). Periodically low survival rates among reintroduced ferrets are mainly due to predation and other natural causes. Captive-raised ferrets have not been exposed to the same environmental factors and therefore have not developed the same degree of resilience as wild ferrets. Furthermore, captive-raised ferrets have not had experience in hunting for prey or avoiding predators. According to studies at Meeteetse, Wyoming, in the 1980s, natural mortality of ferrets in the wild is high. Data presented by Forrest et al. (1988) was used for computer simulation modeling that indicated juvenile mortality rate of a stable wild population up to approximately 78.5 percent. Juvenile mortality of captive-raised ferrets is likely to be higher for the reasons stated above. However, despite the relatively low survival rates for reintroduced ferrets, it only takes a few ferrets to establish a wild population as documented at successful ferret reintroduction sites.

Incidental take of reintroduced black-footed ferrets could occur through vehicle or equipment collisions. While such rare incidents have been documented, the likelihood of vehicle collisions is low due to the nocturnal habits of the ferrets.

Additional occurrences or expansions of black-footed ferret populations from the proposed reintroductions under this alternative are not expected to have adverse impacts on California condors, greater sage-grouse, Gunnison sage-grouse, lesser prairie

chicken, or Sprague's pipit because ferrets do not prey on or compete with these species for prey. While some dietary overlap between black-footed ferrets and northern aplomado falcons is possible, it is quite unlikely; the diet of the ferret typically consists of ≥ 90% prairie dogs (Campbell et al. 1987, Sheets et al. 1972), and northern aplomado falcons predominantly prey on medium-sized birds and insects (U.S. Fish and Wildlife Service 1990). Additionally, with the exception of lek sites for greater sage-grouse, Gunnison sage-grouse, and lesser prairie-chicken that may occur on prairie dog colonies, in many instances there is limited overlap in the ferret's range with these species. Additional occurrences or expansions of black-footed ferret populations are also not expected to affect any proposed critical habitat for the Gunnison sage-grouse, as the primary constituent elements of these areas will not be changed as a result of ferret colonization.

Although ferrets rely primarily on prairie dogs for food, the Proposed Action would not impact the Gunnison's prairie dog within the montane areas, where it is a candidate for listing, because few lands in these areas are likely to meet the Agreement's requirement of 3,000 acres of occupied habitat for enrollment. Additionally, predators seldom extirpate their own prey before either emigrating to another area or succumbing to starvation.

Plague Management

Insecticide Use

The use of deltamethrin to kill fleas that may transmit sylvatic plague to prairie dogs and black-footed ferrets is not expected to affect any threatened, endangered, or candidate species. Deltamethrin, the active ingredient of DeltaDust, is an insecticide that provides broad spectrum and residual control of crawling arthropods. DeltaDust is an unrestricted-use pesticide and considered safe for many applications including use in and around homes. The use of deltamethrin has been shown to be effective at controlling fleas for six to ten months (Biggins et al. 2010). Deltamethrin toxicity to birds is very low (LD50 range of 5,000–10,000 mg/kg) and is practically nontoxic to mammals (LD50 range 6,500–22,000 mg/kg (http://www.bvsde.paho.org/bvsapud/i/fulltext/deltameth/deltameth.htm). Because the treatment and application is specifically directed at controlling flea populations in prairie dog burrows under the proposed action, the proposed application rate is about 150 times lower than recommended rates for customary home and agricultural use. There is no information suggesting that deltamethrin has any tendency to bioaccumulate in animal tissues and the chemical has been determined to be noncarcinogenic and have no deleterious effects (http://www.bvsde.paho.org/bvsapud/i/fulltext/deltameth/deltameth.htm).

Product transport, mixing, application, storage, cleanup, and use of protective gear would be consistent with the label specifications. Because the product would be placed down individual prairie dog burrows, and not applied above ground, it would be

unavailable to any federally listed, proposed, and candidate species in the area (Appendix B), because, with the exception of Gunnison's prairie-dog, none of these species use prairie dog burrows. Because few montane areas where the candidate Gunnison's prairie dog occurs are likely to support populations eligible for ferret reintroductions under the Agreement, DeltaDust is not likely to be applied there as a result of the proposed action. However, if application should occur, the Gunnison's prairie-dog is not likely to be affected because deltamethrin is practically nontoxic to mammals. In fact, the species would benefit from this activity because it would reduce the likelihood of sylvatic plague outbreaks. Because deltamethrin is not known to bioaccumulate, California condors and northern aplomado falcons are unlikely to be exposed to the insecticide through consumption of animal carcasses.

The label for DeltaDust requires avoidance of applications to water-bodies. Prairie dog colonies and ferrets typically are not within close proximity to water-bodies. Therefore, federally listed and candidate species within the project area are not likely to be exposed to this pesticide when using water.

The use of DeltaDust on enrolled lands is likely to temporarily reduce arthropod populations that inhabit treated prairie dog burrows. Arthropod populations outside the treated burrows and in areas surrounding the enrolled lands would not be exposed to the pesticide. Therefore, adequate populations of arthropods would be available to re-inhabit prairie dog burrows when the effects of insecticide diminish after six to ten months following treatment. Insects are an important food source for females and chicks of greater sage-grouse, Gunnison sage-grouse, and lesser prairie chickens during brood rearing. However, brood rearing habitat for these species is not typically found in close association with active prairie dog colonies (Connelly 2004, Gunnison Sage-grouse Steering Committee 2005). Therefore, localized depletions of arthropod populations within prairie dog burrows from deltamethrin treatment are unlikely to adversely impact sage-grouse or prairie chicken populations.

Localized depletions of arthropod populations within prairie dog colonies could affect the northern aplomado falcon, but the effects are unlikely to be significant due to the large home range size of the species (8,400 ac; U.S. Fish and Wildlife Service 1990, 2002) and the types of arthropods consumed by the species. Deltamethrin primarily impacts ground-dwelling arthropods that inhabit prairie dog burrows, and northern aplomado falcons typically capture flying insects by aerial pursuit. Depleted arthropod populations could also affect the Sprague's pipit, as the species has been documented using prairie dog colonies during migration; however, Sprague's pipits typically forage for insects in areas where grass height is relatively tall (Robbins and Dale 1999), so foraging in prairie dog colonies with characteristically short vegetation heights is uncommon.

Sylvatic plague has been identified as a significant threat to the montane populations of Gunnison's prairie dog and a stressor to all other prairie dog species within the action

area (U.S. Fish and Wildlife Service 2008b). It is also considered a medium magnitude, imminent threat to black-footed ferrets (U.S. Fish and Wildlife Service 2013a). The positive consequence of the use of deltamethrin is reduction or elimination of mortality from sylvatic plague in both ferret and prairie dog populations. Sylvatic plague control can also stabilize prairie dog populations, an essential component of suitable ferret habitat.

Sylvatic Plague Vaccine (SPV) Application

Should operational use of the SPV be approved by the U.S. Department of Agriculture, its application under this alternative is unlikely to affect any threatened, endangered, or candidate species. SPV is a genetically modified viral vaccine, using attenuated raccoon pox virus as a vector for orally delivering critical plague antigens to target animals through the use of baits (U.S. Geological Survey 2012). Raccoon pox virus has been shown to be highly safe in numerous animals including black-footed ferrets, prairie dogs, dogs, cats, sheep, and mice (Mencher et al. 2004, Rocke et al. 2004, 2006, 2008a, 2008b). While there is no published information on the impacts of the vaccine on birds, it has been successfully used throughout the southeast with no reported effects to birds.

The U.S. Geological Survey is currently refining how to apply bait, which must be ingested by prairie dogs to be exposed to the vaccine. The bait has been developed to be attractive to prairie dogs and other rodents, so the probability of exposure to the vaccine by bait ingestion is high for these animals, including Gunnison's prairie dogs. We do not anticipate any effects to the remaining listed and candidate species in the action area, which are all birds (Table 5) because attraction of the bait to birds is expected to be low (U.S. Geological Survey 2012). Furthermore, the bait is not expected to persist more than several days after application, limiting the potential for exposure to any threatened and endangered species (Abbott and Rocke 2012).

Vehicle Use

During application of either DeltaDust or the SPV, vehicle and ATV use for plague management will typically not exceed two weeks per year. Vehicle and equipment speed will be limited given the rough terrain associated with most occupied prairie dog habitat. These factors would result in a very low likelihood of collisions with individuals of the threatened, endangered, and candidate species identified in Table 5. Furthermore, most, if not all vehicle and ATV use will occur during daylight hours, when black-footed ferrets are not active, so risk of ferret collisions would also be very low to none. The extremely low number of individuals of listed or candidate species, if any, that may be lost due to such collisions is not likely to affect the stability of local populations of these species.

<u>Prairie Dog Management</u>

Live Trapping

Under the proposed alternative, prairie dogs would be managed as requested by the Cooperator, according to each Reintroduction Plan developed for enrolled lands as described in Chapter 3.2 and Appendix C. Prairie dog management is not expected to have significant impacts to threatened, endangered, or candidate species. The likelihood of incidentally trapping non-target listed and candidate species identified in Table 5 is very low to none. The listed and candidate birds are very unlikely to be attracted to the bait used in live traps for prairie dogs. Prairie dog trapping would occur only during the day, greatly limiting the possibility of trapping black-footed ferrets, which are nocturnal. Furthermore, the trapping and handling protocol requires that traps be monitored several time during each day. Thus, in the unlikely event that any of the threatened, endangered, or candidate species enters a trap, the accidentally trapped animal would be released before it could be harmed. Disturbance to sage-grouse during trapping activities would be avoided by conducting all trapping activities outside of sensitive reproductive seasons. The candidate populations of the Gunnison's prairie dog currently are likely not large enough to meet enrollment eligibility requirements under the Agreement. Therefore, such populations would not be subject to trapping. Should a property become eligible to enroll in the SHA with a large enough population, trapping would occur at levels to sustain population numbers adequate for supporting ferrets.

Shooting

Lethal prairie dog management will be restricted to shooting or the use of approved pesticides by a licensed pesticide applicator. Prairie dog shooting is not expected to increase above what currently occurs under local and state laws by non-federal landowners. Opportunistic shooting might occur when a hunter shoots other species instead of the intended prairie dogs simply because the species occurs there and the opportunity to shoot it arises. Because landowners volunteering to participate in the Agreement would be aware of presence of listed species on their lands and prohibitions of take of such species under the Act, such opportunistic shooting is highly unlikely. Although candidate species do not have protection under the Act, a participating landowner is also likely to be aware of the sensitivity of candidate species and would not likely allow shooting in the area. Therefore, risks to threatened, endangered, and candidate species from opportunistic shooting is unlikely. Accidental shooting of listed or candidate bird species in Table 5 is not expected because these birds would likely flush and leave the area in response to gunshot noise. Loss of black-footed ferrets as a result of shooting is unlikely because they are nocturnal and shooting for prairie dog management would occur during the day. The candidate populations of the Gunnison's prairie dog currently are likely not large enough to meet enrollment eligibility requirements under the Agreement. Therefore, such populations would not be subject to shooting.

Zinc Phosphide

Because zinc phosphide is highly toxic to mammals and some birds (Witmer and Fagerstone 2003), it can be applied only by a certified pesticide applicator according to the EPA label, which restricts when and how it is applied. Label restrictions require avoidance of areas occupied or used by non-target species or by threatened and endangered species, which should limit risk of exposure. While zinc phosphide applications have occasionally killed non-target wildlife, most of these incidences involved misuse of the product (Witmer and Fagerstone 2003). Field studies examining the effects of zinc phosphide on non-target wildlife have generally found no significant risk to non-target species when properly applied (Johnson and Fagerstone, 1994). Under the proposed alternative, zinc phosphide for prairie dog management would be applied primarily by Wildlife Services and/or local weed and pest districts. These entities have extensive experience in the application of zinc phosphide for prairie dog management. Therefore, misapplication and exposure to non-target species is low.

Primary effects from toxicants refer to effects from direct consumption of, or exposure to the product. Secondary effects refer to the effects to predators from prey that has consumed the product. However, zinc phosphide does not bio-accumulate in non-target predators or scavengers (Witmer and Fagerstone 2003). Many lab and field secondary toxicity studies conducted on mammalian predators, raptors, and reptiles indicate that zinc phosphide poses little secondary risk to non-target wildlife (Johnson and Fagerstone 1994). Some predators may feed on prairie dogs with undigested grain tainted with zinc phosphide in cheek pouches or gastro-intestinal tracts. However, many predators will not consume the gastrointestinal tract of prey items and many animal species exhibit an emetic response to zinc phosphide consumption (Witmer and Fagerstone 2003). Furthermore, many of the targeted animals die underground (as would be the case for prairie dogs), where they do not pose as great a risk of secondary poisoning to most predators or scavengers (Knowles 1986).

Lethal prairie dog control associated with this Agreement, regardless of the method, will be confined to the Management Zone of enrolled lands of some Cooperators, except in unusual circumstances approved by both the Permittee and Cooperator. While we cannot predict how many acres will be enrolled in the Agreement, the intent of this effort is that, over the life of the Agreement (50 years), up to 500,000 acres of occupied prairie dog habitat will be made available for ferret reintroductions. Furthermore, the overall purpose of the Proposed Action alternative is to contribute to the recovery of the ferret through reintroductions, which requires healthy, stable prairie dog populations. Furthermore, prairie dog management outside the Conservation Zones would be either necessary as a result of expanding populations or would not differ in level from management that would occur under the no action alternative. Therefore, prairie dog management under the proposed alternative would not have significant adverse impacts on long-term rangewide prairie dog populations. The candidate populations of the Gunnison's prairie dog currently are likely not large enough to meet

enrollment eligibility requirements under the Agreement. Therefore, such populations would not be subject to poisoning.

Livestock Grazing

Under the proposed alternative, the Agreement does not require any changes to grazing management on enrolled lands. Therefore, the proposed alternative would not result in changes to any impacts from ongoing grazing activities to threatened, endangered and candidate species listed in Table 5. However, a Cooperator may independently choose to improve the quality of the grazing management on his/her lands. Improved grazing management is expected to provide overall positive effects to the environment and the threatened, endangered, or candidate species in Table 5.

Livestock grazing and the activities to facilitate that activity will require the use of vehicles and equipment. This could result in collisions with some threatened, endangered, and candidate species as identified in table 5. However, vehicle use and equipment use currently occurs on these lands and the Proposed Action will not result in an increase of their use or an increase in the threat of collision to threatened, endangered and candidate species.

Climate Change

Our analyses under NEPA include consideration of ongoing and projected changes in climate. The terms “climate” and “climate change” are defined by the Intergovernmental Panel on Climate Change (IPCC). “Climate” refers to the mean and variability of different types of weather conditions over time, with 30 years being a typical period for such measurements, although shorter or longer periods also may be used (IPCC 2007). The term “climate change” thus refers to a change in the mean or variability of one or more measures of climate (e.g., temperature or precipitation) that persists for an extended period, typically decades or longer, whether the change is due to natural variability, human activity, or both (IPCC 2007). Various types of changes in climate can have direct or indirect effects on species. These effects may be positive, neutral, or negative and they may change over time, depending on the species and other relevant considerations, such as the effects of interactions of climate with other variables (e.g., habitat fragmentation) (IPCC 2007). In our analyses, we use our expert judgment to weigh relevant information, including uncertainty, in our consideration of various aspects of climate change.

Warmer temperatures and increasingly dry conditions that may occur in portions of the action area as a result of climate change could reduce availability of forage for some prairie dogs populations, which may result in declines or inhibit expansion of those populations. Consequently, such declines may reduce prey availability for black-footed ferrets that depend on the affected prairie dog populations. However, part of the purpose of the proposed Agreement is to establish more ferret populations across their range to provide for redundancy against stochastic losses, such as those that could

occur as a result of climate change. Therefore, the Proposed Action alternative would ultimately result in better status of the ferret in the face of climate change than without additional reintroductions.

5.2.2 Wildlife

The effects to wildlife other than threatened, endangered, and candidate species is discussed under the conservation activities identified in the Proposed Alternative. While there may be some risk of short term impacts to wildlife species, particularly from prairie dog management, the overall impacts are expected to be beneficial to wildlife. The scope of the Proposed Alternative would affect only a very small percentage of the landscape (<0.1 percent).

Black-footed Ferret Reintroductions

The activity of reintroducing ferrets and associated monitoring will occur for only a few days in the fall at each reintroduction site. The principal impact to other wildlife associated with ferret reintroduction activities would be vehicle or equipment collisions. For the same reasons explained in the previous section on effects to listed and candidate species, we expect the risk of impacts from collisions to other wildlife to be low. Because ferret releases will be very short in duration and occur well outside the breeding season for most wildlife, associated activities would not impact more sensitive life-cycle activities through disturbance or death or injury of breeding adults, eggs, or young. Prairie dogs within the colony where ferrets are released may experience higher predation rates, but long-term population level impacts are not expected because previous ferret release sites have shown continued prairie dog expansion rates after ferret reintroductions similar to rates that occurred prior to ferret reintroductions (Griebel 2009).

Plague Management

Insecticide Use

Because the product would be placed down individual prairie dog burrows, and not applied above ground, it would remain directly unavailable to essentially all non-burrowing terrestrial wildlife species. Toxicity for birds is very low (LD50 range of 5,000-10,000 mg/kg) (http://www.bvsde.paho.org/bvsapud/i/fulltext/deltameth/deltameth.htm. Therefore, toxicity to birds such as burrowing owls is unlikely. Deltamethrin is practically nontoxic to mammals (LD50 range 6,500-22,000 mg/kg) (http://www.bvsde.paho.org/bvsapud/i/fulltext/deltameth/deltameth.htm). Therefore, toxicity to kit foxes, badgers, and other ground squirrels that may occasionally utilize prairie dog burrows is unlikely. Furthermore, there is no information suggesting that deltamethrin has any tendency to bioaccumulate in animal tissues and the chemical has been determined to be noncarcinogenic and has no deleterious effects (http://www.bvsde.paho.org/bvsapud/i/fulltext/deltameth/deltameth.htm).

Product transport, mixing, application, storage, cleanup, and use of protective gear would be consistent with the label specifications. The label for DeltaDust requires avoidance of applications to water-bodies. Prairie dog colonies and ferrets typically are not within close proximity to water-bodies. Therefore, aquatic wildlife within the project area are not likely to be exposed to this pesticide. Because the treatment and application is specifically directed at controlling flea populations in prairie dog burrows under this alternative, the proposed application rate is about 150 times lower than recommended rates for customary home and agricultural use. The use of deltamethrin has been shown to be effective at controlling fleas for 6-10 months (Tripp et al. 2009, Biggins et al. 2010).

The use of DeltaDust on enrolled lands is likely to temporarily reduce arthropod populations that inhabit treated prairie dog burrows. Arthropod populations outside the treated burrows and in areas surrounding the enrolled lands will have no potential for exposure to the treatment, which will leave adequate populations to re-inhabit prairie dog burrows when the effects of insecticide diminish after 6-10 months following treatment. Insects are an important food source for many wildlife species including burrowing owls, small mammals, and some reptiles. Reduction of arthropod populations within treated prairie dog burrows could temporarily reduce food sources, indirectly impacting wildlife that consume arthropods. However, because the product would be placed down individual prairie dog burrows, and not applied aboveground, adequate populations of arthropods should be available in surrounding, non-treated areas.

The positive consequence of the use of deltamethrin is reduction or elimination of mortality from sylvatic plague an identified stressor to all prairie dog populations within the action area (U.S. Fish and Wildlife Service 2008b, 2009b). Reduction of plague mortality can stabilize prairie dog populations, providing more resilient prairie dog colonies and food sources for wildlife species that depend on prairie dogs such as predators and raptors.

SPV Vaccine Application

Should operational use of the SPV be approved by the U.S. Department of Agriculture, its application under this alternative is unlikely to affect wildlife species other than positive or neutral effects on threatened, endangered or candidate species. SPV is a genetically modified viral vaccine, using attenuated raccoon pox virus as a vector for orally delivering critical plague antigens to target animals through the use of baits (U.S. Geological Survey 2012). Raccoon pox virus has been shown to be highly safe in numerous animals (Mencher et al. 2004, Rocke et al. 2004a, 2006, 2008a, 2008b), including black-footed ferrets, prairie dogs, dogs, cats, sheep, and mice. While there is no published information on the impacts of the vaccine on birds, it has been successfully used throughout the southeast with no reported effects to birds.

The U.S. Geological Survey is currently refining how to apply bait, which must be ingested by prairie dogs to be exposed to the vaccine. The bait has been developed to be attractive to prairie dogs and other rodents, so the probability of exposure to the vaccine by bait ingestion is high for these animals, including Gunnison's prairie dog. We do not anticipate any effects to other wildlife species in the action area. Furthermore, the bait is not expected to persist more than several days after application, limiting the potential for exposure to any non-target wildlife species (Abbott and Rocke 2012).

Vehicle Use

During application of either DeltaDust or the SPV, vehicle and ATV use for plague management will typically not exceed two weeks per year, and vehicle and equipment speed will be limited given the rough terrain associated with most occupied prairie dog habitat. These factors would result in a very low likelihood of collisions with non-target wildlife species. Furthermore, most, if not all vehicle and ATV use will occur during daylight hours, when many species are less active, so risk of collisions would also be very low to none.

Prairie Dog Management

Live Trapping

Under the proposed alternative, prairie dogs would be managed as requested by the Cooperator, according to each Reintroduction Plan developed for enrolled lands as described in Chapter 3.2 and Appendix C. The likelihood of incidentally trapping non-target wildlife species is low. Prairie dog trapping would occur only during the day, greatly limiting the potential to trap non-target wildlife as many are nocturnal. Furthermore, the trapping and handling protocol requires that traps be monitored several time during each day. Thus, in the unlikely event that any of non-target wildlife species enters a trap, the accidentally trapped animal would be released before it could be harmed.

Shooting

Lethal prairie dog management will be restricted to shooting, the use of zinc phosphide by a licensed pesticide applicator, or other approved activities as directed by the Permittee. Prairie dog shooting is not expected to increase above what currently occurs under local and state laws by non-federal landowners. Opportunistic shooting might occur when a hunter shoots other species instead of the intended prairie dogs simply because the species occurs there and the opportunity to shoot it arises. However, this is not expected to occur beyond what might occur currently and is not expected to affect any species at a population level.

Zinc Phosphide

Because zinc phosphide is highly toxic to both mammals and some birds (Witmer and Fagerstone 2003), it can be applied only by a certified pesticide applicator according to

the EPA label, which restricts when and how it is applied. Label restrictions require avoidance of areas occupied or used by non-target species or by threatened and endangered species, which should limit risk of exposure.

While zinc phosphide applications have occasionally killed non-target wildlife, most of these incidences involved misuse of the product (Witmer and Fagerstone 2003). Field studies examining the effects of zinc phosphide on non-target wildlife have generally found no significant risk to non-target species when properly applied (Johnson and Fagerstone, 1994).

Zinc phosphide can have both primary and secondary hazards to non-target species. Primary effects refer to effects from direct consumption of, or exposure to the product. Secondary effects refer to the effects to predators from prey that has consumed the product. However, zinc phosphide does not bio-accumulate in non-target predators or scavengers (Witmer and Fagerstone 2003). Many lab and field secondary toxicity studies conducted on mammalian predators, raptors, and reptiles indicate that zinc phosphide poses little secondary risk to non-target wildlife (Johnson and Fagerstone 1994). While it is possible that predators could be exposed through undigested grain in rodent cheek pouches or gastro-intestinal tracts, many predators will not consume the gastrointestinal tract of prey items and many animal species exhibit an emetic response to zinc phosphide consumption (Witmer and Fagerstone 2003). Furthermore, many of the targeted species die underground where they do not pose a secondary risk to predators or scavengers (Knowles 1986).

Prairie dog management associated with this Agreement, regardless of the method, will be defined in each Reintroduction Plan of enrolled lands of each Cooperator. We do not know how many landowners will enroll in the Agreement. However, it is anticipated that over the life of the Agreement (50 years), that up to 500,000 acres of occupied prairie dog habitat may be made available for black-footed ferret reintroductions. However, annual enrollment will be limited by ferret availability from the captive breeding facilities, thus limiting the acres of prairie dog management that would occur on an annual basis.

Livestock Grazing

There are no changes to grazing management required by the Agreement. Therefore, the Proposed Action is not expected to result in changes to other wildlife species as a result of this action. However, a Cooperator may choose to improve the quality of the grazing management on his/her lands. Improved grazing management is expected to provide overall positive effects to the environment and any other wildlife species would be inconsequential.

5.2.3 Environmental Justice

Under the Proposed Action, participation in the Agreement would be voluntary for any landowner who meets the eligibility requirements for habitat suitability identified in Chapter 3.2. Because participation is voluntary, disproportionately high and adverse human health or environmental effects of the Agreement are not expected on minority populations, low-income populations, or Indian Tribes. Many Tribes have indicated a desire to participate in recovery efforts for ferrets and the Agreement would expedite the ability for these Tribes to participate and would provide assurances that their participation would not result in additional regulatory burdens.

5.2.4 Farm and Ranch Land

The Farmland Protection Act requires that Federal agencies minimize the extent to which their programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses and to assure that their programs are administered in a manner that, to the extent practical, will be compatible with State and local governments and private programs and policies to protect farmland. Most, if not all of the non-federal lands that contain adequate occupied prairie dog habitat to support black-footed ferret populations are predominantly used for livestock grazing. Consequently, we consider livestock grazing compatible with ferret recovery.

Under the Proposed Action, landowners who choose to participate in the Agreement would commit to continue to utilize their lands as agreed upon by them and the Permittee. In most cases, enrolled landowners are likely to continue livestock grazing, the activities that facilitate grazing (e.g., installing and maintaining fences, installing and maintaining watering facilities and controlling weeds), and other land uses compatible with black-footed ferret conservation. Thus, the release of ferrets and associated management activities are not expected to change or disrupt current land uses or contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. In fact, the Proposed Action may result in prolonged use of enrolled lands for agricultural uses.

Some ranchers are concerned with potential impacts to ranching activities from the presence of prairie dogs, such as the risk of injury to livestock and damage to equipment from prairie dog burrows and competition for livestock forage. However, the Agreement under this alternative allows for prairie dog management in designated Management Zones to address such concerns. For this reason and because participation in the Agreement is voluntary, conservation activities that might result in expansion of areas inhabited by prairie dogs under this alternative would not occur in areas where not desired by landowners.

5.2.5 Socioeconomic

Under Alternative B, Cooperators would be anticipated to continue their current use of enrolled lands. The release and management of black-footed ferrets as described in Section 3.2 and Appendix C will be coordinated with the grazing activities. The presence

of ferrets and the management activities associated with the release of ferrets, are not expected to change or disrupt current land uses. Furthermore, the assurance provided to the landowner through the Certificate of Inclusion will provide regulatory certainty that the economic benefits derived from these uses should remain unaffected by the Proposed Action.

Independent of the Agreement, Cooperators may choose to improve their grazing systems with technical and financial assistance provided by the Natural Resources Conservation Service under the Farm Bill. Improved grazing systems can increase range productivity, which can translate to corresponding increases in livestock based revenue. However, landowners that choose to enroll in the Agreement and participate in Farm Bill programs may be eligible for increased financial assistance. This could result in an improved economic situation for enrolled landowners. Under the Proposed Action, the social situation is not expected to change.

Changes in land use, such as new energy development, could also impact prairie dog habitat. If a new land use is proposed, the Permittee would work with the Cooperator to address any potential issues that could affect black-footed ferrets. If ferrets will not be impacted, or if habitat loss can be offset, then the new land use can be implemented. If material impacts to ferrets appear unavoidable, the enrolled landowner has the option to withdraw from the Agreement.

5.3 ALTERNATIVE C - INDIVIDUAL SAFE HARBOR AGREEMENTS

Under Alternative C, landowners who choose to develop an individual safe harbor agreement for their lands would likely commit to conservation activities very similar to those that would be in the reintroduction plans under the proposed alternative. Thus, the type and extent (at the individual participating lands level) of impacts to all of the components of the affected environment—threatened, endangered, and candidate species; wildlife; environmental justice; farm and ranchlands; and socioeconomics—would be the same as identified in the proposed alternative. However, the combined level of both beneficial and adverse impacts from all such agreements is likely to be somewhat lower than from the proposed alternative because fewer landowners would be willing to invest the longer time and more resources required to develop and process an individual safe harbor agreement.

6.0 CUMULATIVE EFFECTS

The Council on Environmental Quality defines cumulative impacts as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-federal) or person undertakes such other actions (40 CFR 1508.7). The timeframe for this cumulative effects analysis corresponds with the 50-year permit duration of the Proposed Action. Specific identification or quantification of past, present, and reasonably foreseeable future actions outside of the Service's purview is not feasible due to the extensive geographic

scope and timeframe defined for the Proposed Action. However, in general, many past and present human activities, in addition to those of the Service, have occurred across the action area over the past century. Collectively these activities have had profound impacts upon the landscape; ranging from agricultural production to urban development, energy development to transportation and infrastructure improvements. Similarly, many additional activities, similar in nature, are reasonably foreseeable within the vicinity of the action area based on expected population increases and associated urbanization, economic development and infrastructure improvements, including transportation and utilities, as well as increased energy development. Examples of such actions that may have some negative impacts on the human environment are included in Table 6.

Table 6. Summary of past, present and reasonably foreseeable future activities in the action area

Types of Actions	Associated Activities/Facilities
Renewable energy development	Vegetation clearing, construction, access roads, hydropower generating stations, powerlines, operations and maintenance, repowering or decommissioning
Natural gas exploration development and production	Exploratory drilling, construction of well pads, well installation, associated pipelines and utility corridors, access, compressor stations, potential spills/releases, site reclamation.
Coal and other mineral exploration, development and production	Exploratory drilling and trenching along with access development, production within surface or underground mines along with associated access roads, processing plants, transportation, solid waste, tailings, site reclamation
Transmission and distribution systems	Development and improvements to utility corridors, including carrier pipelines, oil and gas pipelines, transmission lines, along with associated infrastructure (substations, access roads, fuel transfer stations), and potential for spills/releases.
Transportation/Infrastructure improvements	Construction and improvements to highways, roads, parkways, and railroad construction or improvements.
Changes in land use, urbanization	Changes to forest, grasslands, croplands and other special uses to more urbanized use; changes to commercial, industrial or residential development; conversion to croplands.

As discussed in Chapter 5, very few and limited adverse impacts to the any of the components of the affected environment are expected from any of the alternatives analyzed in this EA, while some components would receive some benefits. Therefore, the minimal adverse impacts and beneficial impacts, when combined with those of past, present, and reasonably foreseeable future activities in the action area, are not expected to result in significant adverse cumulative impacts to the human environment.

7.0 COMPARISON OF ALTERNATIVES

	Alternative A No Action	Alternative B Proposed Action	Alternative C Individual SHAs
Contribution to Black-footed Ferret Conservation and Recovery	Recovery efforts would continue as they currently do with limited new reintroduction opportunities. Plague outbreaks and uncoordinated management responses would likely continue to challenge recovery efforts. Use of 10(j) and 10(a)(1)(A) permits to allow reintroductions would continue to be costly and slow.	Black-footed ferret reintroductions would increase at a more rapid rate rangewide over the following 50 years due to process-streamlining and regulatory assurances for landowners. Plague would be managed at release sites. Cooperative efforts to recover the ferret would be maximized. Lands enrolled in the SHA are much less likely to be converted to an incompatible land use.	Black-footed ferret reintroduction opportunities would increase but at a much slower rate compared to the Proposed Action as each SHA would have to be developed and approved. Plague would also be managed at each SHA site, but limited SHA would mean limited plague management.
Impacts to Threatened, Endangered and Candidate Species	No additional impacts to threatened, endangered, and candidate species are expected. Incidental loss of some individual ferrets during releases could occur as it currently does at ferret reintroduction sites carried out under section 10j and section 10(a)(1)(A) permits.	Impacts to threatened, endangered, and candidate species are expected to be minimal from ferret reintroductions, plague and prairie dog management, and continued ranching and grazing activities. Incidental loss of some individual ferrets during releases may increase over the no action alternative as more ferret reintroductions will occur. The most likely action that could adversely affect threatened and endangered species would be prairie dog management. However, specific avoidance and minimization measures are identified to limit any impacts.	Impacts to threatened, endangered, and candidate species are expected to be similar in nature to the Proposed Action. However, these impacts may occur over a longer time period as a result of the increased time to develop and approve each individual safe harbor agreement
Benefits to Threatened, Endangered and Candidate Species	Increased ferret reintroduction sites would be largely limited to recovery efforts on public lands and very limited on non-federal lands.	Increases in non-Federal lands voluntarily enrolled under the SHA will result in more lands managed for habitat values which will be available not only for ferrets but also other threatened and endangered species. The Proposed Action may also result in fewer acres being converted to land uses incompatible to threatened, endangered, and candidate species.	Benefits to threatened, endangered, and candidate species are expected to be similar to those for the proposed alternative. However these benefits will take more time to realize as a result of the increased time to develop and approve each individual safe harbor agreement.

Impacts to Wildlife	Impacts to other wildlife species would remain as they are currently.	Impacts to other wildlife species are expected to be minimal from ferret reintroductions, plague and prairie dog management, and continued ranching and grazing activities. Adverse impacts to other wildlife could occur particularly from plague management and prairie dog management. However, these impacts will be limited due to the low toxicity of the products used and label restrictions associated with these products.	Impacts to other wildlife species are expected to be similar to those of the proposed alternative, but would occur at a much slower rate as a result of the increased time to develop and approve each individual safe harbor agreement.
Benefits to Wildlife	In the absence of the approved Black-footed Ferret Programmatic Safe Harbor Agreement, benefits to other wildlife species are expected to remain as they are currently.	Increases in non-federal lands voluntarily enrolled under the Agreement will result in more lands managed for habitat values that will also be available for other wildlife species. The Proposed Action may also result in fewer acres being converted to land uses incompatible to wildlife habitat.	Benefits to other wildlife species are expected to be similar to those for the proposed alternative. However these benefits will take more time to realize as a result of the increased time to develop and approve each individual safe harbor agreement. Benefits associated with ferret reintroduction, plague management, and prairie dog management to other wildlife species would occur at a much slower rate as each individual SHA was developed and approved. The number of participating landowners may be reduced as landowners become discouraged by the SHA development and approval process.
Environmental Justice	In the absence of the approved Black-footed Ferret Programmatic Safe Harbor Agreement, impacts to minority and low-income populations, as well as tribes would be unchanged.	As participation is voluntary, disproportionately high and adverse human health or environmental effects of the Agreement are not expected on minority populations, low-income populations, or Indian Tribes.	As participation in any safe harbor agreement, programmatic or individual is voluntary, disproportionately high and adverse human health or environmental effects of the Agreement are not expected on minority populations, low-income populations, or Indian Tribes.
Farm and Ranch Lands	In the absence of the approved Black- footed Ferret Programmatic Safe Harbor Agreement, no changes to the use of these lands are expected.	Participation in the Agreement may result in prolonged use of enrolled lands for agricultural uses and minimize conversion to non-agricultural uses.	While participation in individual Safe Harbor Agreements may prolong use of enrolled lands for agricultural purposes, it will be limited based on the expected time required to develop and approve individual safe harbor agreements.
Socioeconomic	In the absence of the approved Black-footed Ferret Programmatic Safe Harbor Agreement, the socioeconomic conditions within the action area are not expected to be affected. Although fewer opportunities for ferret recovery participation could limit endangered species economic benefits available to	The release and presence of ferrets and the management activities associated with the release of black-footed ferrets, are not expected to change or disrupt current land uses. Furthermore, the assurance provided to the landowner through the Certificate of Inclusion will provide regulatory	Similar to the Proposed Action, individual safe harbor agreements would not be expected to change or disrupt current land uses. Assurances provided to the landowner would provide regulatory assurances that the economic benefits derived from these uses would remain unaffected by the

	private landowners and Tribes.	assurances that the economic benefits derived from these uses would remain unaffected by the Proposed Action.	Proposed Action.

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ATTACHMENT 1

Determinations for which environmental components may be affected and further analyzed in this environmental assessment

Component	Determination[1]	Rationale for Determination
Threatened or Endangered Species	PI	Refer to Appendix B for a list of species reviewed. See Chapters 4 and 5 for further information.
Other Fish and Wildlife	PI	See Chapters 4 and 5 for further information.
Surface Water	NI	Black-footed ferrets are terrestrial animals that depend on the burrows of prairie dogs. Conservation activities such as some treatments for plague and some management activities as described in Chapter 3.2 will not occur in close proximity to surface water. Therefore the Proposed Alternative will not alter or reduce water quality or quantity.
Ground Water	NI	Black-footed ferrets are terrestrial animals that depend on the burrows of prairie dogs. Typically prairie dogs avoid areas where groundwater can impact their burrow systems. Therefore all conservation activities implemented as described in Chapter 3.2 are not expected to withdraw any groundwater or discharge to any groundwater.
Wetlands / Riparian Zones	NI	Activities will not disturb or alter wetland or riparian flora or the riparian ecosystem because activities will take place in uplands.
Air	NI	Activities will not add to emissions that lower ambient air quality by elevating levels of ozone, particulates, and other pollutants.
Cultural Resources	NI	Activities will not have adverse impacts to National Historic Landmarks or other historic properties as the undertakings do not involve ground disturbance.
Farm and Ranch Lands	PI	Activities may preclude unnecessary and irreversible conversion of farm and ranch lands to non-agricultural uses while lands are enrolled under the Agreement. See Chapters 4

[1] NI = No Impact and not carried forth in the analysis in Chapters 4 and 5; PI = Potential Impact and discussed further in Chapters 4 and 5.

		and 5 for more information.
Soils	NI	Activities are not expected to increase rates of soil erosion because they do not involve additional ground disturbance and will be conducted on habitat already occupied by prairie dogs.
Livestock Grazing	NI	Activities will not require changes in livestock grazing. The release of ferrets and associated management activities are not expected to change grazing practices. Lethal control of prairie dogs would likely increase the amount of available forage in the Management Zone. The Cooperator may also choose to participate in NRCS programs to offset potential loss of forage in the Conservation Zone. Stocking rates may be reduced due to changed circumstances such as drought or fire; however, this would be true with or without a Safe Harbor Agreement. See Chapters 4 and 5 for more information.
Hazardous Materials or Waste	PI	Activities may include the use of the insecticide DeltaDust, a registered pesticide used for controlling fleas and possibly the use of an oral plague vaccine. It may also include the use of zinc phosphide to manage prairie dogs on some lands enrolled under the proposed Agreement. The effects of these on threatened, endangered and candidate species and other wildlife are discussed in Chapter 5.
Wild and Scenic Rivers	NI	Activities will not alter wild and scenic rivers because they will occur in uplands.
Environmental Justice	PI	See Chapters 4 and 5 for more information.
Human Health	NI	The Center for Disease Control does not indicate a serious human health risk from plague in the action area (http://www.cdc.gov/ncidod/dvbid/plague). Although activities may result in expanded ferret, associated plague management would avert any increased risk of disease transmission to humans.
Socioeconomics	PI	See Chapters 4 and 5 for more information.
Wilderness	NI	Activities will not occur in wilderness areas.

Mining Operations	NI	Activities will not affect existing mining operations. New development would not be allowed in the Conservation Zone during the term of the Reintroduction Plan unless any decrease in prairie dog habitat could be offset by including additional contiguous prairie dog habitat. However, a Cooperator could choose to terminate the Reintroduction Plan if he or she decided to pursue energy development.

ATTACHMENT 2

Threatened, Endangered, Proposed, and Candidate Species by State that Occur Within the Action Area

Common Name	Federal Status[1]	Location	Determination of Effect[2]	Rationale for Determination
Amphibians				
Wyoming toad (*Bufo baxteria*)	E	WY	NI	Habitats do not overlap
Chiricahua leopard frog (*Rana chiricahuensis*)	T	AZ, NM	NI	Habitats do not overlap
Reptiles				
New Mexico ridgenose rattlesnake (*Crotalus willardi obscures*)	T	NM	NI	Habitats do not overlap
New Mexican gartersnake (*Thamnophis eues megalops*)	C	AZ, NM	NI	Habitats do not overlap
sand dune lizard (*Sceloporus arenicolus*)	C	NM, TX	NI	Habitats do not overlap
Birds				
Black-capped vireo (*Vireo atricapilla*)	E	OK, TX	NI	Habitats do not overlap
Brown pelican (*Pelecanus occidentalis*)	T	AZ	NI	Habitats do not overlap
California condor (*Gymnogyps californianus)*	E EXP	AZ, UT	PI	Potential Impacts; see EA for more information
Greater sage-grouse *(Centrocercus urophasianus)*	C	CO, MT, ND, SD, UT, WY	PI	Potential Impacts; see EA for more information
Gunnison sage-grouse *(Centrocercus minimus)*	PE	CO, UT	PI	Potential Impacts; see EA for more information
Least tern *(Sternula antillarum)*	E	CO, KS, MT, NE, NM, ND, OK, SD, WY	NI	Habitats do not overlap
Lesser prairie-chicken *(Tympanuchus pallidicinctus)*	PT	CO, KS, NM, OK, TX	PI	Potential Impacts; see EA for more information
Mexican spotted owl *(Strix occidentalis lucida)*	T	AZ, CO, NM, UT	NI	Habitats do not overlap
Northern aplomado falcon (*Falco femoralis septentrionalis*)	E	NM, TX	PI	Potential Impacts; see EA for more information
Piping plover *(Charadrius melodus)*	T	CO, KS, MT, NE, ND, OK, SD, WY	NI	Habitats do not overlap
Southwestern willow flycatcher (*Empidonax traillii extimus*)	E	AZ, CO, NM, UT	NI	Habitats do not overlap

Sprague's pipit (*Anthus spragueii*)	C	MT, ND, OK, SD	PI	Potential Impacts; see EA for more information
Whooping crane (*Grus americana*)	E	CO, KS, MT, NE, ND, OK, SD, WY	NI	Habitats do not overlap
Yellow-billed cuckoo *(Coccyzus americanus*)	C	CO, NM, UT, WY	NI	Habitats do not overlap
Fish				
Apache trout *(Oncorhynchus apache)*	T	AZ	NI	Habitats do not overlap
Arkansas River shiner *(Notropis girardi)*	T	KS, NM, OK	NI	Habitats do not overlap
Beautiful shiner *(Cyprinella Formosa)*	T	AZ, NM	NI	Habitats do not overlap
Bonytail chub *(Gila elegans)*	E	AZ, CO, UT, WY	NI	Habitats do not overlap
Chihuahua chub *(Gila nigrescens)*	T	NM	NI	Habitats do not overlap
Colorado pikeminnow *(Ptychocheilus lecius)*	E	AZ, CO, NM, UT, WY	NI	Habitats do not overlap
Gila chub *(Gila intermedia)*	E	AZ, NM	NI	Habitats do not overlap
Gila topminnow *(Poeciliopsis occidentalis)*	E	NM	NI	Habitats do not overlap
Greenback cutthroat trout *(Oncorhynchus clarki stomias)*	T	CO, UT	NI	Habitats do not overlap
Humpback chub *(Gila cypha)*	E	AZ, CO, UT, WY	NI	Habitats do not overlap
Kendall warm spring dace *(Rhinichthys osculus thermalis)*	E	WY	NI	Habitats do not overlap
Little Colorado spinedace *(Lepidomeda vittata)*	T	AZ	NI	Habitats do not overlap
Loach minnow *(Tiaroga cobitis)*	T	AZ, NM	NI	Habitats do not overlap
Pallid sturgeon *(Scaphrihynchys albus)*	E	CO, MT, NE, ND, SD, WY	NI	Habitats do not overlap
Pecos bluntnose shiner *(Notropsis simus pecosensis)*	T	NM	NI	Habitats do not overlap
Pecos gambusia *(Gambusia nobilis)*	E	NM	NI	Habitats do not overlap
Razorback sucker *(Xyranchen texanus)*	E	AZ, CO, NM, UT, WY	NI	Habitats do not overlap

Rio Grande cutthroat trout ***(Oncorhynchus clarki viginalis)***	C	CO, NM	NI	Habitats do not overlap
Rio Grande silvery minnow ***(Hyboganthus amarus)***	E	NM	NI	Habitats do not overlap
Roundtail chub ***(Gila robusta)***	C	AZ	NI	Habitats do not overlap
Spikedace ***(Meda fulgida)***	T	NM	NI	Habitats do not overlap
Topeka shiner ***(Notropsis topeka)***	E	KS, NE, SD	NI	Habitats do not overlap
Zuni bluehead sucker ***(Catostomus discobolus yarrowi)***	C	NM	NI	Habitats do not overlap
Flowering Plants				
Brady's pincushion cactus ***(Pediocactus bradyi)***	E	AZ	NI	Habitats do not overlap
Clay-loving wild buckwheat ***(Eriogonum pelinophilum)***	E	CO, NE, WY	NI	Restricted range; habitats unlikely to overlap
Clay reed-mustard **(*Schoenocrambe agrillacea)***	T	UT	NI	Habitats do not overlap
Colorado butterfly plant **(*Gaura neomexicana var. coloradensis*)**	T	CO, NE, WY	NI	Habitats do not overlap
Colorado hookless cactus **(*Sclerocactus glaucus*)**	T	CO	NI	Habitats do not overlap
Debeque phacelia **(*Phacelia submutica*)**	T	CO	NI	Habitats do not overlap
Desert yellowhead **(*Yermo xanthocephalus*)**	T	WY	NI	Habitats do not overlap
Dudley Bluffs bladderpod **(*Lesquerella cogesta*)**	T	CO	NI	Habitats do not overlap
Dudley Bluffs twinpod **(*Physaria obcordata*)**	T	CO	NI	Habitats do not overlap
Fickeisen plains cactus **(*Pediocactus peeblesianus fickeiseniae*)**	C	AZ	NI	Habitats do not overlap
Fremont County rockcress **(*Boechera pussill)***	C	WY	NI	Habitats do not overlap
Grahm beard tongue	PT	CO, UT	NI	Habitats do not overlap
Gypsum wild-buckwheat **(*Eriogonum gypsophilum*)**	T	NM	NI	Habitats do not overlap
Holy Ghost ipomopsis **(*Ipomopsis sancti-spiritus*)**	E	NM	NI	Habitats do not overlap

Jones cyclandenia (*Cycladenia jonesii*)	T	UT	NI	Habitats do not overlap
Knowlton's cactus (*Pediocactus knowltonii*)	E	CO, NM	NI	Restricted range; habitats unlikely to overlap
Kuenzler hedgehog cactus (*Echinocereus fendleri var. kuenzleri*)	E	NM	NI	Habitats unlikely to overlap
Lee pincushion cactus (*Coryphantha sneedii var leei*)	T	NM	NI	Habitats do not overlap
Mancos milk-vetch (*Astragalus humillimus*)	E	CO, NM	NI	Habitats do not overlap
Mesa Verde cactus (*Sclerocactus masae-verdae*)	T	NM, UT	NI	Habitats do not overlap
Navajo sedge (*Carex specuicola*)	T	AZ	NI	Habitats do not overlap
North Park phacelia (*Pacelia formosula*)	E	CO	NI	Habitats unlikely to overlap
Osterhout milk-vetch (*Astragalus osterhoutii*)	E	CO	NI	Habitat unlikely to overlap
Pagosa skyrocket (*Ipomopsis polyantha*)	E	CO	NI	Habitat unlikely to overlap
Parachute beardtongue (*Penstemon debilis*)	T	CO	NI	Habitats do not overlap
Pecos sunflower (*Helanthus paradoxus*)	T	NM	NI	Habitats do not overlap
Peebles Navajo cactus (*Pediocactus peeblesianus peeblesianus*)	E	AZ	NI	Restricted range; habitats unlikely to overlap
Penland alpine fen mustard (*Eutrema penlandii*)	T	CO	NI	Habitats do not overlap
Penland beardtongue (*Penstemon penlandii*)	E	CO	NI	Habitats do not overlap
Sacramento Mountains thistle (Cirsium vinaceum)	T	NM	NI	Habitats do not overlap
Sacramento prickly poppy (*Argemone pleiacantha ssp. pinnatisecta*)	E	NM	NI	Habitats do not overlap
San Francisco Peaks groundsel (*Senecio franciscanus*)	T	AZ	NI	Habitats do not overlap
Schmoll milk-vetch (*Astragalus schmolliae)*	C	CO	NI	Habitats do not overlap

Sentry milk-vetch ***(Astragalus cremnophylax var. cremnophylax)***	E	AZ	NI	Habitats do not overlap
Shrubby reed-mustard (***Schoenocrambe suffrutenscens***)	E	UT	NI	Restricted range; habitats unlikely to overlap
Siler pincushion cactus ***(Pediocactus sileri)***	T	AZ	NI	Habitats do not overlap
Skiff milkvetch (***Astragalus microcymbus***)	C	CO	NI	Habitats do not overlap
Sleeping Ute milk-vetch (***Astragalus tortipes***)	C	CO	NI	Habitats do not overlap
Sneed pincushion cactus (***Coryphantha sneedii var. sneedii)***	E	NM	NI	Habitats do not overlap
Todsen's pennyroyal ***(Hedeoma todsenii)***	E	NM	NI	Habitats do not overlap
Uinta Basin hookless cactus (***Sclerocactus wetlandicus***)	T	UT	NI	Habitats do not overlap
Ute ladies-tresses (***Spiranthes diluvialis***)	T	CO, NE, UT	NI	Habitats do not overlap
Western prairie fringed orchid (***Plantanthera praeclara***)	T	CO, NE, SD, WY	NI	Habitats do not overlap
White River beardtongue (***Penstemon scariosus var. albifluvis)***	C	CO, UT	NI	Habitats unlikely to overlap
Zuni fleabane ***(Erigeron rhizomatus)***	T	NM	NI	Habitats do not overlap
Invertebrates				
Alamosa springsnail (***Tryonia alamosae)***	E	NM	NI	Habitats do not overlap
American burying beetle (***Nicrophorus americanus***)	E	NE, SD	NI	Restricted range; habitats unlikely to overlap
Chupadera springsnail ***(Pyrgulopsis chupaderae)***	C	NM	NI	Habitats do not overlap
Dakota skipper (***Hesperia dacotae***)	C	ND, SD	NI	Habitats unlikely to overlap
Gila springsnail (***Pyrgulopsis gilae)***	C	NM	NI	Habitats do not overlap
Kanab ambersnail (***Oxyloma haydeni kanabensis***)	E	AZ	NI	Habitats do not overlap
Koster's springsnail (***Jutumia kosferi***)	E	NM	NI	Habitats do not overlap

New Mexico springsnail (*Pyrgulopsis thermalis*)	C	NM	NI	Habitats do not overlap
Noel's amphipod (*Gammarus desperatus*)	E	NM	NI	Habitats do not overlap
Pawnee montane skipper (*Hesperia leonardus montana*)	T	CO	NI	Habitats do not overlap
Pecos assiminea snail (*Assiminea pecos*)	E	NM	NI	Habitats do not overlap
Roswell springsnail (*Pyrgulopsis roswellensis*)	E	NM	NI	Habitats do not overlap
Socorro isopod (*Thermosphaeroma thermophilus*)	E	NM	NI	Habitats do not overlap
Socorro springsnail (*Pyrgulopsis neomexicana*)	E	NM	NI	Habitats do not overlap
Texas hornshell (*Popenaias popei*)	C	TX	NI	Habitats do not overlap
Uncompahgre fritillary butterfly (*Boloria acronema*)	E	CO	NI	Habitats do not overlap
Mammals				
Black-footed ferret (*Mustela nigripes)*	NEP	AZ, CO, KS, MT, NE, NM, ND, OK, SD, TX, UT, WY	PI	Potential Impacts; see EA for more information
Canada lynx (*Lynx Canadensis*)	T	CO, MT, UT, WY	NI	Habitats do not overlap
Grizzly bear (*Ursus arctos horribilis*)	T	MT, WY	NI	Limited habitat overlap
Gunnison's prairie dog (Cynomys gunnisoni)	C	AZ, CO, NM, UT	PI	Potential Impacts; see EA for more information
Jaguar (*Panthera onca*)	E	AZ, NM, TX	NI	Habitats do not overlap
Lesser long-nosed bat (*Leptonycteris cerasoae yerbabuenae*)	E	NM	NI	Habitats do not overlap
Mexican long-nosed bat (*Leptonycteris nivalis*)	E	NM	NI	Habitats do not overlap
New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)	C	AZ, CO, NM	NI	Habitats do not overlap
Preble's meadow jumping mouse (*Zapus hudsonius preblei*)	T	CO, WY	NI	Habitats do not overlap

[1] T – threatened; E – endangered; C – candidate; PE - proposed endangered; PT - proposed threatened; E EXP - endangered, experimental non-essential; [2] NI - no impact; PI – potential impact

ATTACHMENT 3

Black-Footed Ferret

Programmatic Safe Harbor Agreement

October 23, 2013

U.S. Fish and Wildlife Service Black-footed Ferret Recovery Program

Appendices

Appendix A. Certificate of Inclusion

Appendix B. Historical Range of Prairie Dogs and Black-footed Ferrets.

Appendix C. Black-footed Ferret Site Specific Reintroduction Plan TEMPLATE

Appendix D. Black-footed Ferret Recovery Guidelines by State (U.S. Fish and Wildlife Service 2013)

Appendix E. Annual Report to Cooperator by Permittee TEMPLATE

Appendix F. Annual Report to Permittee by Cooperator (Questionnaire) TEMPLATE

Appendix G. Black-footed Ferret Recovery Team Members

Glossary

10(a)(1)(A) Enhancement of Survival Permit (Permit) – This Permit also may be referred to as an incidental take permit or a recovery permit. It authorizes incidental take of a threatened or endangered species that would otherwise be prohibited by section 9 of the Endangered Species Act (Act) when such take is a result of activities for scientific research or to enhance the propagation or survival of a listed species. Section 10 of the Act provides for exceptions to prohibited activities identified in section 9 of the Act. Section 10(a)(1)(A) allows the Secretary of Interior to issue permits to authorize incidental take of threatened and endangered species for scientific research or to enhance the propagation or survival of such species. The Safe Harbor policy (64 FR 32717) provides for the extension of this authority to non-federal landowners who volunteer to enroll in a Safe Harbor Agreement that provides a net conservation benefit to covered species.

10(j) Experimental Population – Section 10(j) of the Act allows the Secretary of Interior to introduce experimental populations of threatened or endangered species into the wild as long as they are wholly separate from non-experimental populations of the same species. This designation is accomplished through a rulemaking process and allows for regulatory flexibility within the section 10(j) designated areas.

Assurances – Regulatory certainty provided by the U.S. Fish and Wildlife Service (Service) pursuant to the Safe Harbor policy (64 FR 32717) that it will not impose additional conservation measures and restrictions on the use of land, water, or resources beyond those measures and restrictions agreed upon in the Safe Harbor Agreement as a result of voluntary conservation actions by participating landowner interests (Cooperator) that benefit covered threatened or endangered species. These assurances are conveyed to the Cooperator through certificates of inclusion issued under a 10(a)(1)(A) enhancement of survival permit.

Baseline – Population estimates and distribution (if available or determinable) of the covered threatened or endangered species and/or habitat characteristics of enrolled property at the time of enrollment under the Safe Harbor Agreement as mutually agreed upon by the Black-footed Ferret Recovery Coordinator (Permittee) and the Cooperator. Baseline for this Agreement will be zero black-footed ferrets for both existing and new reintroduction sites, because none will occur on any property until reintroduction of the species, and none will likely occur in the foreseeable future on any property that may have ferrets now without purposeful management of prairie dogs to protect both ferrets and prairie dogs from sylvatic plague—a recurring non-native disease that will likely result in any extant ferret population being reduced to zero without active management.

Biological Opinion – A document, pursuant to Section 7 of the Act, stating the opinion of the Service on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. In this instance, the Federal action is the

implementation of a Programmatic Safe Harbor Agreement and related permit for the black-footed ferret.

Bottleneck – A reduction of a population due to a natural or manmade cause, such that the surviving population is no longer self-sustaining.

Certificate of Inclusion – The document issued by the Permittee to a Cooperator that conveys the Permit's incidental take authorization for covered threatened and endangered species.

Changed Circumstances – Changes in circumstances affecting a threatened or endangered species or geographic area covered by a Safe Harbor Agreement that can be reasonably anticipated and planned for by the Service (e.g., the listing of a new species, or a fire or other natural catastrophic event in areas prone to such events).

Conservation Activities – The actions that will be taken or avoided under this Safe Harbor Agreement to provide a net conservation benefit to the black-footed ferret. Conservation activities may be carried out by the Permittee (or designee), the Cooperator, as described in the Reintroduction Plan for the enrolled property, or partners approved by the Permittee and Cooperator.

Conservation Zone – An area that can contribute to the necessary attributes to support at least 30 adult ferrets. Typically, it will be a minimum of 1,500 acres of black-tailed prairie dog occupied habitat or 3,000 acres of white-tailed prairie dog or Gunnison's prairie dog occupied habitat. It may be owned by one or more Cooperators. All otherwise legal activities may be conducted as appropriate, except those that are incompatible with ferret recovery. Inappropriate, prohibited activities will include any activity that reduces prairie dog numbers, including, but not limited to, poisoning, shooting, and major landscape alterations (e.g., tilling soil). The Conservation Zone will be identified on a map of the enrolled lands. All conservation activities within the Conservation Zone will be described in the Reintroduction Plan for the enrolled property. Prohibited activities will also be identified in the Reintroduction Plan.

Cooperator – Any non-federal landowner—including but not limited to private individuals, Tribes, States, counties, and municipalities—eligible for enrollment in the Safe Harbor Agreement who voluntarily chooses to assist in the development and implementation of a Reintroduction Plan for black-footed ferrets on their lands (or some portion of their lands). Under the Agreement, the Permittee issues each Cooperator a Certificate of Inclusion, which conveys the Permit's incidental take authorization.

Covered Species – The species listed under the Act for which the Safe Harbor Agreement is designed to provide a net conservation benefit and for which incidental take and Safe Harbor assurances are authorized. For this particular Agreement, the covered species is the black-footed ferret.

Delist – The removal of a species from a listed status under the Act. Usually delisting is a result of successful recovery actions that have increased a species' numbers and addressed threats to its viability. For the black-footed ferret, delisting is expected to require the establishment of at least 3,000 breeding

adult ferrets in 30 or more populations in at least nine states within the historical range of the species, with no fewer than 30 breeding adults in any population. Management efforts will continue to address threats to the species, especially from disease.

Downlist – The reclassification of a species from endangered to threatened. Usually downlisting is a result of successful recovery actions that have increased a species' numbers and addressed some portion of the threats to the species. For the black-footed ferret, downlisting is expected to require the establishment of at least 1,500 breeding adult ferrets in 10 or more populations in at least six states within the historical range of the species, with no fewer than 30 breeding adults in any population. Management efforts will continue to address threats to the species, especially from disease.

Endangered species – An animal or plant species in danger of extinction throughout all or a significant portion of its range.

Enrolled lands – Non-federal lands (see below) that are included in the Black-footed Ferret Programmatic Safe Harbor Agreement through the process of Cooperators signing and the Permittee issuing Certificates of Inclusion.

Experimental population – A population (including its offspring) of a listed species, designated by rule published in the Federal Register, that is wholly separate geographically from other populations of the same species. An experimental population may be subject to less stringent prohibitions than are applied to the remainder of the species to which it belongs.

Incidental Take – Incidental take is the accidental or inadvertent take of a species listed as threatened or endangered under the Act while carrying out otherwise legal activities.

Kit – A kit is the young of a black-footed ferret.

Landowner – Any entity with a legally recognized interest in a parcel of land including, but not limited to, surface, mineral, mortgage, and/or lease rights.

Management Zone – An area adjacent to or near a Conservation Zone. It may or may not have occupied prairie dog habitat. All otherwise legal activities may be conducted as appropriate, including lethal control of prairie dogs—except for the use of anticoagulant toxicants such as chlorophacinone (Rozol®) or diphacinone (Kaput®). The Management Zone will be identified on a map of the enrolled lands. The precise characteristics and size of a Management Zone, including the associated conservation activities, may vary for each enrolled property, depending on the physical and biological attributes of a particular property, the needs of the Cooperator, and the potential concerns of non-participating neighboring landowners. Consequently, site-specific details will be described in each individual Reintroduction Plan.

Net conservation benefit – Improved status of the covered species or population as a result of a Safe Harbor Agreement's conservation actions minus the impacts from any incidental take of the species.

Non-essential experimental population – An experimental population whose loss would not appreciably reduce the prospect of survival of the species in the wild.

Non-federal lands – Lands owned by entities other than the Federal government, including Tribes (see tribal lands below), States, counties, municipalities, private individuals, and non-governmental organizations.

Non-participating landowner – Any landowner within the vicinity of a black-footed ferret reintroduction site developed under the Black-footed Ferret Programmatic Safe Harbor Agreement—including private individuals, Tribes, States, and municipalities—who does not participate. Under this Agreement, non-participating neighboring landowners will be covered for incidental take, via an associated Biological Opinion, of any black-footed ferrets that may disperse onto their lands.

Parties – The Permittee, the Cooperator, and others as described in Part 10.3 of this Safe Harbor Agreement and identified in the Reintroduction Plan.

Permittee – The entity who holds the 10(a)(1)(A) Enhancement of Survival Permit issued under the Safe Harbor Agreement. Under this Agreement, the Permittee is the Service's Black-footed Ferret Recovery Coordinator.

Programmatic Safe Harbor Agreement (Agreement) – The parent document, prepared by the Service, that describes the conservation strategy and activities that will be carried out to provide a net conservation benefit for the covered species, in this case the black-footed ferret. It also describes the process and requirements for developing the site-specific Reintroduction Plans for lands to be voluntarily enrolled in the Agreement.

Reintroduction Plan – The document that describes site-specific characteristics of any lands enrolled in this Agreement. It will include: (1) a description of the ownership interest; (2) a map of the enrolled land, identifying boundaries of any nearby Conservation and Management Zones; (3) a description of the conservation activities to be carried out in any Conservation and Management Zones on the enrolled lands; and (4) a description of any activities that may be prohibited within the Conservation or Management Zone. The Permittee and the Cooperator will develop a Reintroduction Plan prior to enrollment of any property and prior to issuing any Certificate of Inclusion. Upon completion, it will be signed by the Permittee and the Cooperator. Information provided in a Reintroduction Plan could be made public as a result of a Freedom of Information Act request. A template for the Reintroduction Plan is in Appendix B of this Safe Harbor Agreement.

Routine Livestock Grazing and Ranching Activities – Those activities required to manage a livestock operation. For the purposes of this Safe Harbor Agreement, any livestock grazing or ranching practice that does not reduce prairie dog occupied habitat to a degree that the viability of a ferret population occupying the same lands would be impacted would be appropriate. Prohibited activities within any Conservation Zone would include lethal control of prairie dogs and/or major landscape alterations, except in unusual circumstances as agreed to by both the Permittee and Cooperator.

Split Estate – For purposes of this Safe Harbor Agreement, a split estate refers to any property where the management of wildlife habitat may be diminished by other ownership interests (e.g., mineral rights, mineral leases, hunting agreements, etc.).

Take – Defined by the Act as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Take may include significant habitat modification or degradation if it kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

Threatened species – An animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

Tribal Lands – Tribal lands refer to those lands within the boundaries of an Indian reservation or land outside of an Indian reservation that are held in trust by the United States for the benefit of an individual Indian or Indian Tribe, held by an individual Indian or Indian Tribe, or held by a dependent Indian community.

Unforeseen Circumstances – Circumstances affecting a species or geographic area covered by a conservation plan or agreement that could not reasonably have been anticipated by the Service at the time of development of the Safe Harbor Agreement, and that result in a substantial and adverse change in the status of the covered species.

1.0 Introduction

The U.S. Fish and Wildlife Service (Service) Safe Harbor Program (64 FR 32717) is a program that provides regulatory flexibility to non-federal landowners who voluntarily commit to implementing or avoiding specific activities over a defined timeframe that are reasonably expected to provide a net conservation benefit to species listed under the Endangered Species Act (Act). In exchange for this commitment, enrolled landowners (Cooperator) receive assurances from the Service that no additional future regulatory restrictions will be imposed or commitments required for species covered under a Safe Harbor Agreement. The purpose of this Black-Footed Ferret Programmatic Safe Harbor Agreement (Agreement) is to encourage non-federal landowners to voluntarily engage in conservation activities to benefit and advance recovery of the endangered black-footed ferret *(Mustela nigripes*). The primary conservation activity under this Agreement will be reintroductions of ferrets on properties of willing landowners. Cooperators who enroll in this Agreement may withdraw at any time without penalty, providing they give the Service an opportunity to retrieve any ferrets on their lands.

Based on this Agreement and compliance with all other associated regulations and laws, the Service will issue a section 10(a)(1)(A) Enhancement of Survival Permit (Permit) to the Service's Black-Footed Ferret Recovery Coordinator (Permittee) for a term of 50 years. Under the Permit, the Permittee may enroll eligible and willing non-federal landowners through Certificates of Inclusion for a minimum term of 10 years under this Agreement. The Certificates of Inclusion will convey the Permit's incidental take authorization and the Safe Harbor assurances to Cooperators. An attendant Biological Opinion will be developed as a result of an intra-Service section 7 consultation, under the Act, on the effects of the issuance of the Permit and implementation of the Agreement. This Biological Opinion will provide incidental take of black-footed ferrets to non-participating landowners (i.e., nearby non-enrolled landowners) where dispersing ferrets from a reintroduction effort under this Agreement may affect their ownership interests. Cooperators who withdraw from the Agreement become non-participating landowners and will also be covered for future incidental take of ferrets through the Biological Opinion. Split estate owners of severed mineral interests are covered for any incidental take of ferrets related to otherwise lawful activities as non-participating landowners.

The Permittee has the capability and commitment to administer the Permit and the terms of the Agreement. The Permittee oversees the recovery efforts of the black-footed ferret with the assistance of the Black-footed Ferret Recovery Implementation Team (BFFRIT). The BFFRIT was established in 1996 and reaffirmed with a revised charter in 2012. The BFFRIT is guided by an Executive Committee made up of various State and Federal agencies, Tribes, and non-governmental organizations with a purpose of recovering the ferret through coordinated efforts of many interested entities (Appendix F). All of these partners have been instrumental in the implementation of ferret recovery efforts to date. The Permittee will work closely with the BFFRIT on the implementation and monitoring of this Agreement. To date, the Permittee, with the

assistance of the BFFRIT, has established a successful captive breeding program, initiated 20 reintroduction sites, and coordinated the release of more than 2,700 ferrets since 1987.

This Agreement is programmatic in nature and applicable across the 12-state historical range of the black-footed ferret, which includes portions of Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming. However, the Service expects that the Agreement will be implemented in only a small portion of this area because only 0.08 percent of the ferret's historical range will be needed to recover (delist) the species (U.S. Fish and Wildlife Service 2013). This historical range includes a wide variety of landscapes, habitat types, and potential partners. This broad diversity in landscapes necessitates site-specific black-footed ferret Reintroduction Plans (Reintroduction Plan) for the enrolled lands. Reintroduction Plans will describe the specific conservation and management details of each site within identified Conservation and/or Management Zones on each enrolled property. Each Reintroduction Plan will be developed by the Permittee and the Cooperator, with technical input from other partners as appropriate. Partners may include State wildlife agencies, Tribes, the Natural Resources Conservation Service, Animal Plant Health Inspection Service/Wildlife Services, and others as appropriate. The Permittee will issue a Certificate of Inclusion to each Cooperator after a Reintroduction Plan is approved and signed by the Permittee and the Cooperator. Collectively, the Permittee and the Cooperator are hereafter called the Parties. The programmatic nature of this Agreement provides Cooperators with a streamlined process for obtaining assurances that actions taken to benefit black-footed ferrets on their land will not restrict current land use or result in additional regulatory obligations associated with the species under the Act.

Prior to enrollment of any landowner as a Cooperator to the Agreement, inquiries will occur to determine if any split estate ownership may exist that could limit management of wildlife habitat. If these split estate ownership interests occur, the Service will either attempt to enroll all the interests as Cooperators or evaluate if the exercise of any activities pursuant to these ownership interests could materially limit any potential net conservation benefit for the black-footed ferret. For example, if the ownership of subsurface mineral rights was severed from surface ownership, the likelihood and extent of any development of those minerals would be evaluated. Enrollment of partial ownership interests for a property may or may not be determined to be appropriate based on this evaluation.

2.0 Background

The black-footed ferret is an endangered carnivore with a black face mask, black legs, and a black-tipped tail. It is approximately 18 to 24 inches long and weighs up to 2.5 pounds. It is the only ferret species native to North America. The ferret is mainly solitary, except when breeding and when mother and young are together (Forrest et al. 1985). In the wild, it first breeds at 1 year of age, usually from mid-March through early April with litter sizes averaging 3.5 individuals (Wilson

and Ruff 1999). The mean life expectancy of wild ferrets in the last known free-ranging population in Meeteetse, Wyoming was 0.9 years (Biggins et al. 2006).

Black-footed ferrets are specialists that prey primarily on prairie dogs (*Cynomys spp*.) and use their burrows for shelter and denning (Henderson et al. 1969, Hillman and Linder 1973, Forrest et al. 1985, Biggins 2006). Since ferrets depend almost exclusively on prairie dogs for food and shelter, and the ferret range directly overlaps that of certain prairie dog species (Anderson et al. 1986) with no documentation of ferrets breeding outside of prairie dog colonies, we believe that ferrets were historically endemic to the range of three of the prairie dog species (Gunnison's, white-tailed, and black-tailed). The historical range of these prairie dog species collectively occupied approximately 100 million acres of intermountain and prairie grasslands within a potential range of an estimated 562 million acres extending from Canada to Mexico (Anderson et al. 1986, Biggins et al. 1997, Ernst 2008). Today, largely due to a number of anthropogenic factors including land conversion, poisoning, and the non-native disease sylvatic plague, most prairie dogs occur in highly fragmented subpopulations (Luce 2003, U.S. Fish and Wildlife Service 2010). Significantly reduced and fragmented prairie dog populations that fluctuated spatially and temporally created bottlenecks for ferret populations. The ferret population declined precipitously as a result (Fagerstone and Biggins 1986, Cully 1993, Biggins 2006, Lockhart et al. 2006). Nevertheless, prairie dogs appear able to persist in smaller, more fragmented populations than were common historically. However, ferrets require relatively large, stable prairie dog complexes to maintain a viable population. Accordingly, management efforts to successfully recover the ferret must coordinate with landowners to provide appropriate stable prairie dog habitat for the species.

The same historical factors that have impacted prairie dog numbers have also impacted black-footed ferrets. By 1987, the last remaining wild ferrets were taken into captivity for captive breeding purposes (Hutchins et al. 1996, Garelle et al. 2006). Approximately 280 animals currently make up the captive population at six facilities. Multiple facilities ensure redundancy, reducing the risk of a single or even multiple catastrophic events eliminating the entire captive ferret population. A Species Survival Plan ensures their genetic fitness and provides surplus animals for release. After successful captive breeding efforts, the first captive bred ferrets were released back into the wild at Shirley Basin in Wyoming in 1991. Today, in addition to the six captive breeding facilities, a minimum of approximately 274–448 adult ferrets exist at 20 managed reintroduction sites across their historical range (U.S. Fish and Wildlife Service 2013). Captive breeding and the release of surplus ferrets continues, in efforts to augment existing sites and establish more ferret populations throughout their range. Reintroduction efforts have met draft recovery goals at four sites. Ferret populations at many reintroduction sites are challenged by disease (U.S. Fish and Wildlife Service 2013). Considerable effort has been undertaken to identify additional suitable reintroduction sites to advance recovery of the species.

Previous studies suggest that a minimum of approximately 75 acres of occupied black-tailed prairie dog habitat or 100–150 acres of occupied white-tailed or Gunnison's prairie dog habitat are needed

to support one female black-footed ferret (Biggins et al. 2006). However, conservative field observations suggest the prairie dog acreage required to support a female ferret may be as much as 225–375 acres depending on prairie dog densities, which vary by species, and other factors including disease and climactic conditions (U.S. Fish and Wildlife Service 2013). Male ferrets have overlapping ranges with female ferrets and do not require additional prairie dog habitat beyond that considered for females (Biggins et al. 2006). These conservative estimates of 225 acres of black-tailed prairie dog occupied habitat and 375 acres of Gunnison's or white-tailed prairie dog occupied habitat to support one female ferret were used to determine the amount of habitat needed for downlisting and delisting criteria (U.S. Fish and Wildlife Service 2013).

The amount of habitat needed by a black-footed ferret population is directly related to the amount of occupied prairie dog habitat and the density of prairie dogs on that habitat (Biggins et al. 1993). Therefore, prairie dog management can be crucial to ferrets. However, landowner attitudes toward prairie dogs vary greatly and prairie dogs have long been a focus of conflict with agricultural producers (Miller et al. 2007). The principal conflict centers on competition between livestock and prairie dogs for forage, but also includes concern for livestock safety.

Competition for forage between prairie dogs and livestock in some instances—depending on factors such as prairie dog density, rainfall, temperature, and stocking rates—may be a threat to the economic viability of livestock producers. However, competition among herbivores is a complex interaction that varies by livestock operation size, geographic location, vegetation type, biomass productivity, season, and year (Derner et al. 2006, Detling 2006). The complexity associated with this interaction and related ranching concerns have led to ongoing control of prairie dogs in some areas. Successful reintroductions of black-footed ferrets, which depend on healthy prairie dog populations, cannot be sustained without addressing this concern. Judicious and targeted management of prairie dog colonies is necessary to maintain support for the conservation of the ferret from landowners whose ranches provide suitable ferret habitat and from their neighbors.

Prairie dog management can involve either lethal or non-lethal methods. Lethal control of prairie dogs typically includes poisoning or shooting, both of which can limit the number of black-footed ferrets that a site can support (Pauli 2005, Reeve and Vosburgh 2006). Poisoning of prairie dogs is regarded as a major factor in the historical decline of prairie dogs and ferrets (Forrest et al. 1985, Cully 1993, Forest and Luchsinger 2005). Currently, most poisoning is more limited in nature and undertaken by landowners at very localized locations (U.S. Fish and Wildlife Service 2009). Toxicant use on or adjacent to ferret reintroduction sites is of particular concern due to the potential use of toxicants with secondary impacts to non-target wildlife, including ferrets that consume prairie dogs. However, carefully managed and implemented use of specific toxicants with identified management objectives has been important to address prairie dog encroachment issues at ferret reintroduction sites (Gober pers. comm. 2012a, Griebel 2010). At one reintroduction site in Kansas, management of prairie dogs by Animal Plant Health Inspection Service/Wildlife Services at the property boundary has been conducted to minimize the expansion of prairie dog colonies onto adjacent properties.

Purposeful management of prairie dogs can help alleviate conflicts associated with prairie dog expansion and impacts to livestock forage. Flexibility in prairie dog management may generate more support from landowners to participate in this program and conserve ferrets. The ability to collaborate to purposefully manage prairie dogs in some areas, while limiting their expansion in other areas, can help build a strong private land conservation model for the ferret.
Shooting of prairie dogs often focuses on the most vulnerable segment of the population, i.e., naïve young of the year (pups). These animals are smaller than adult prairie dogs, and as a result more available to hunting black-footed ferrets. Pup availability to adult female ferrets providing for their young (kits) is an important factor in kit survival at ferret reintroduction sites. Prairie dog shooting on any ferret reintroduction site likely reduces the value of the area for recovery of the ferret. However, this impact may be ameliorated by the size of the ferret reintroduction area and the species of prairie dog present. Shooting of prairie dogs occurs on very large successful reintroduction sites at Aubrey Valley in Arizona, where Gunnison's prairie dogs occur, and at Shirley Basin in Wyoming, where white-tailed prairie dogs occur. At smaller successful ferret reintroduction sites such as Conata Basin, South Dakota, shooting has significantly reduced black-tailed prairie dog populations, with likely disproportionate impacts on pups. Accordingly, shooting has been limited at Conata Basin to better support ferret recovery.

There are several diseases, both native and nonnative, that impact black-footed ferrets. Of particular concern is nonnative sylvatic plague, which can be lethal to ferrets and prairie dogs—their main prey source (Barnes 1993, Gage and Kosoy 2006). Sylvatic plague is caused by the bacterium *Yersinia pestis* and is transmitted via fleas, through consumption of infected animals, or through breathing in tiny droplets containing the bacterium (Godbey et al. 2006). Since 2005, plague has been detected in prairie dogs in all 12 states throughout the historical range of the ferret (Abbott and Rocke 2012). The potential significance of plague on ferret populations underscores the value of establishing multiple reintroduction sites across the widest possible distribution of the species' historical range; more populations can significantly minimize the chances that plague outbreaks will cause widespread decline in the species (Gage and Kosoy 2006, U.S. Fish and Wildlife Service 2008). The establishment and, more importantly, the management of multiple reintroduction sites is a risk management strategy to promote recovery of the species.

The original recovery plan for the black-footed ferret was completed in 1978 and revised in 1988 (U.S. Fish and Wildlife Service 1988). The revised recovery plan identified downlisting criteria that included at least 1,500 adult ferrets in 10 wild populations, with no fewer than 30 breeding adults in any population. The widest possible distribution of those 1,500 adult ferrets across the landscape was encouraged.

Since 1988, knowledge about the black-footed ferret and the threats it faces has grown. Many reviews of the 1988 recovery plan and subsequent recovery progress have been undertaken including reviews by the Conservation Breeding Specialist Group (CBSG) (1992), Hutchins et al. (1996), CBSG (2004), Ray (2006), and U.S. Fish and Wildlife Service (2008). These reviews were used

in the preparation of a Draft revised recovery plan that will direct ferret recovery in the future (U.S. Fish and Wildlife Service 2013). The overall strategy to recover this species will rely on engaging multiple partners including States, Tribes, Federal land management agencies, non-governmental organizations, and private landowners. Recovery criteria will provide guidance to establish multiple free-ranging populations in an effort to minimize impacts to the stability of ferret populations from localized stochastic events. Recovery goals define downlisting criteria to include the establishment of at least 1,500 free-ranging breeding adult ferrets in 10 or more populations, with at least 1 population in each of at least 6 of 12 States within the species' historical range. Delisting criteria include the establishment of at least 3,000 free-ranging breeding adult ferrets in 30 or more populations, with at least 1 population in each of at least 9 of 12 States within the historical range of the species, with no fewer than 30 breeding adults in any population and at least 10 populations with 100 or more breeding adults (U.S. Fish and Wildlife Service 2013). The table below identifies the status of reintroduction efforts through 2012 (U.S. Fish and Wildlife Service 2013). Estimates of breeding adults can vary from year to year for a recovery site based on a number of factors including kit production and survival, predation, the presence of plague, the management efforts implemented, and the amount of monitoring conducted. Therefore, we provide a range of estimates.

Table 1. Approximate number of black-footed ferrets released and extant in the wild, 1991-2012, at white-tailed (Wtpd), black-tailed (Btpd), and Gunnison's (Gpd) prairie dog colonies[1].

Site (year initiated)	Prairie dog spp.	Ferrets released	Minimum fall population[2] 2008	Estimated breeding adults[3] 2009	Minimum fall population 2011 (approximate)	Estimated breeding adults[3] 2012	Average estimate of breeding adults
Shirley Basin, WY (1991)	Wtpd	534	196	98	203 (in 2010; partial survey)	102 (in 2011)	100
UL Bend NWR, MT (1994)	Btpd	242	13	7	20	10	9
Badlands NP, SD (1994)	Btpd	225	20	10	33	17	14
Aubrey Valley, AZ (1996)	Gpd	354	66	33	75	123[4]	78
Conata Basin, SD (1996)	Btpd	161	292	146	72	36	91
Ft. Belknap, MT (1997)	Btpd	102	No data	No data	0	0	0
Coyote Basin, UT (1999)	Wtpd	424	25	13	3	1	7
Cheyenne River, SD (2000)	Btpd	351	150	75	25 (partial survey)	>13	44
BLM 40 Complex, MT (2001)	Btpd	95	3	3	No data	No data	0
Wolf Creek, CO (2001)	Wtpd	254	16	8	No data	No data	4
Janos, Mexico (2001)	Btpd	299	13	7	No data	No data	4
Rosebud, SD (2003)	Btpd	162	30	15	No data	No data	8
Lower Brule, SD (2006)	Btpd	107	26	13	12	6	10

[1] Source: unpublished data from USFWS National Black-footed Ferret Conservation Center.
[2] Minimum fall population counts are derived from spotlight surveys and trapping efforts except in Shirley Basin, WY, where a model was used to estimate fall population.
[3] Breeding adult figures are estimated to be one-half minimum fall population counts from the previous year.
[4] Actual count.

Wind Cave NP, SD (2007)	Btpd	61	26	13	46	23	18
Espee Ranch, AZ (2007)	Gpd	77	Recent release	No data	No data	No data	No data
Smoky Hill, KS (2007)	Btpd	125	66	19	38	22	26
N. Cheyenne, MT (2008)	Btpd	88	Recent release	No data	No data	No data	No data
Vermejo Ranch, NM (2008)	Btpd	167	Recent release	8[4]	5	3	2
Grasslands NP, Canada (2009)	Btpd	75	Recent release	No data	12	6	3
Vermejo Ranch, NM (2012)	Gpd	20	Recent release	No data	No data	No data	No data
Total		**3923**	**942**	**468**	**544**	**362**	**418**

Since the last non-reintroduced black-footed ferret population was discovered at Meeteetse, Wyoming in 1981, significant progress has occurred toward the recovery of this species. Early efforts concentrated on immediate survival of the species through the establishment of a captive breeding population by Wyoming Game and Fish Department, the Service, and the Association of Zoos and Aquariums (AZA). These efforts led to the establishment of the Service's recovery program for the species, which coordinates all recovery actions and houses a majority of all captive ferrets. The Service coordinates efforts to breed ferrets for reintroduction in the wild with the AZA and several other partners. With the success of the captive breeding program, recovery efforts now include other tasks such as establishing a wide distribution of reintroduction sites with sufficient quantity and quality of prairie dog habitat as well as addressing the impacts of disease and assuring the adequacy of management actions. The accomplishments to date have involved an active BFFRIT. These efforts demonstrate a long term commitment by the Service to coordinate with the diverse members of the BFFRIT to cooperatively advance recovery of the ferret.

3.0 Authorities

This Agreement has been developed under section 10 the Act, the Service's Safe Harbor Policy (64 FR 32717) and final regulations (64 FR 32706), and revisions to the regulations (69 FR 24084). This Agreement supports the intent of the Parties to follow the procedural and substantive requirements of section 10(a)(1)(A) of the Act. The Safe Harbor Policy was developed to encourage private and other non-federal landowners to voluntarily undertake conservation activities on their properties to enhance restore or maintain habitat to benefit federally listed species.

4.0 Covered Species

Covered species are those federally listed species that are subject to a Safe Harbor Agreement and accompanying 10(a)(1)(A) Enhancement of Survival Permit, as defined in the Service's final Safe Harbor Policy (64 FR 32717). This Agreement's covered species is the black-footed ferret, federally listed as endangered.

5.0 Eligible Lands

The geographical lands eligible for enrollment in this Agreement include non-federal lands (including tribal lands) within the historical range of the black-footed ferret. This includes portions of Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming (Appendix A) that have adequate acres of occupied prairie dog habitat to support a population of at least 30 breeding adult ferrets. The acreage necessary to support 30 breeding adults can vary depending on the species of prairie dogs present. Typically, this would be approximately 1,500 acres or more in black-tailed prairie dog habitat or 3,000 acres or more of white-tailed or Gunnison's prairie dog habitat. Eligible land need not be provided by a single Cooperator. Adjacent landowners can collectively enroll lands together under the Agreement such that sufficient acreage to support 30 breeding adult ferrets is enrolled. Potential suitable lands will be evaluated by the Permittee based on available site information and site visits. The number of acres required for enrollment will be determined on a site-specific basis and will be identified in the Reintroduction Plan.

While a minimum of 1,500–3,000 acres of active prairie dog habitat may support 30 breeding adult black-footed ferrets, we would encourage and prioritize larger enrollments to maximize the ability to contribute to the recovery goals of the ferret. Factors such as total size of occupied prairie dog habitat, densities of prairie dogs, documented presence of plague, total size of the grazing/ranching operation, proximity to incompatible land uses such as urban areas, the number of adjacent landowners who have concerns about prairie dog expansion, and the land uses of those neighbors will also be considered in the enrollment of eligible lands. By considering the concerns of the Cooperator and their neighbors, a logistically sound and sustainable ferret reintroduction effort will be possible.

Efforts to distribute black-footed ferret populations throughout their historical range stem from the need to maximize the redundancy of populations, which will minimize the risk of a catastrophic event eliminating the species in the wild. A potential approach would be to distribute ferret populations in proportion to the amount of historical habitat in each State (Appendix C). For example, North Dakota has a much smaller portion of the historical range than Colorado. Consequently, Colorado would be encouraged to enroll more acres occupied by prairie dogs and establish more ferret populations to achieve recovery. Therefore, should enrollment resources become limited, the Service would consider the historical ferret presence along with the above factors for prioritizing enrollments.

6.0 Baseline Determination

Baseline is a measure of the conditions associated with the covered species or its habitat that occur on eligible lands at the time of enrollment in the Agreement. Measuring prairie dog population numbers and spatial extent is time-consuming and expensive. These parameters can also fluctuate greatly over time. Therefore, the most reasonable and practical approach for determining baseline under this Agreement would be the number of black-footed ferrets present at the time of

enrollment. Since the last remaining wild ferrets were taken into captivity for captive breeding purposes, extensive efforts to find additional wild ferrets have been unsuccessful (Hanebury and Biggins 2006). Therefore, the baseline on eligible lands for this Agreement will be zero ferrets. Some black-footed ferret reintroductions onto private lands have already occurred under sections 10(j) and 10(a)(1)(A) of the Act since 1991. Ferrets were reintroduced in seven locations under section 10(j) of the Act in Arizona (1), Montana (1), South Dakota (3), Utah and Colorado (1), and Wyoming (1). Section 10(j) authorizes the Service to designate experimental populations for the purposes of reintroduction of threatened and endangered species. Under section 10(j), non-essential experimental populations are considered threatened for all purposes of the Act other than section 7 (such populations are considered as proposed for listing for the purposes of section 7). The Service may issue special rules that provide flexibility in management of these populations. The 10(j) rulemaking process for each of the designated non-essential experimental populations of ferrets uses that flexibility to ensure the continued existing use of all lands within the defined area, include ranching and associated activities. Although non-federal landowners within these 10(j) areas do not need additional incidental take coverage, they may desire the higher level of regulatory assurances provided under this Agreement. Furthermore, reintroductions in the 10(j) areas did not always include the conservation activities provided by this Agreement that would benefit the species, such as disease management, targeted prairie dog management, and monitoring.
Section 10(a)(1)(A) authorizes the Service to issue permits for research and the enhancement of survival of listed species. Six section 10(a)(1)(A) permits for black-footed ferret reintroductions have been issued in Arizona (1), Kansas (1), New Mexico (1), Montana (1), and South Dakota (2). These permits and the Service's accompanying section 7 biological opinions provided incidental take coverage to the landowners whose lands supported these reintroductions, as well as their neighbors. However, these mechanisms do not provide the same regulatory assurances as the Safe Harbor program that no further restrictions or commitments would be imposed on landowners. Additionally, these permits did not always include conservation activities that would benefit the species, such as disease management, targeted prairie dog management, and monitoring. Finally, these permits did not provide an extended period of coverage or baseline condition to which cooperating landowners could return, as provide by the Safe Harbor policy (62 FR 32178).
There have been 20 reintroduction sites initiated for black-footed ferrets as of 2012. Some neighboring reintroduction sites were covered by one 10(j) rule. The sites in Canada and Mexico are regulated by their respective governments. In both 10(j) and 10(a)(1)(A) reintroductions, landowners have allowed the Service to test the effectiveness of release, management, and monitoring methods, as well as attempt to establish new populations. This participation in reintroduction efforts was the foundation of the development of successful techniques that are allowing the Service to expand reintroduction efforts rangewide through this Agreement. However, these "early adopters" under section 10(a)(1)(A) permits and section 10(j) designations do not enjoy the same level of regulatory assurances as participants in this Agreement would. For these reasons, such non-federal landowners may be eligible to participate in the Agreement and receive Safe Harbor assurances for reintroductions that have already occurred. Furthermore, if this Agreement had existed at the time of those reintroductions, the baseline conditions for those landowners

would have been zero ferrets. Therefore, the ferret baseline will be considered zero for all landowners who volunteer to participate in the Agreement.

The goal of the conservation activities in this Agreement is to increase the number of black-footed ferrets on enrolled properties above the baseline to provide a net conservation benefit to the species through establishment of additional populations (see Section 8.0). The Cooperator may opt to return to baseline upon completion of the Reintroduction Plan (Section 7.0 and Appendix B). The Cooperator may also opt to return to baseline prior to completion of the Reintroduction Plan by withdrawing from the Agreement. Incidental take coverage would be retained, provided the Cooperator notifies the Permittee and allows the Service access to recapture ferrets during the following fall, prior to a return to baseline. A Cooperator who returns to baseline without notifying the Permittee and providing access, will not receive coverage for incidental take. A Cooperator who withdraws from the Agreement with proper notification will be regarded as a non-participating landowner and will receive incidental take coverage via the Biological Opinion associated with the Agreement. The landowner will not be held responsible for events beyond their control (e.g., drought, fire, or plague) that may result in a decrease of the number of ferrets.

7.0 Conservation Activities

Conservation activities are those actions that would be implemented on enrolled lands and which are intended to provide a net conservation benefit to black-footed ferrets. Conservation activities that will provide a net conservation benefit on an individual piece of land may vary by location but at a minimum will include the reintroduction of ferrets. Conservation activities are discussed below and will be identified for each site as necessary and defined within a Reintroduction Plan developed for each enrolled property (Appendix B). Within the enrolled lands, a Conservation Zone and/or a Management Zone will be defined.

The Conservation Zone should be a minimum of approximately 1,500 acres of occupied black-tailed prairie dog habitat or a minimum of 3,000 acres of white-tailed or Gunnison prairie dog habitat in order to provide adequate habitat to support a population of at least 30 adult black-footed ferrets. Conservation activities within the Conservation Zone will include ferret reintroduction and disease management as discussed below. Routine livestock grazing and ranching activities are largely compatible with maintaining occupied prairie dog habitat capable of supporting ferrets. All activities of Cooperators that are compatible with ferret recovery will continue in the Conservation Zone, including but not limited to, routine livestock grazing and ranching activities. Land uses and activities of Cooperators that could reduce prairie dog occupied habitat to a degree that the viability of the ferret population would be impacted would be prohibited. Incompatible activities in the Conservation Zone would include lethal control of prairie dogs and major landscape alterations such as plowing, unless approved by both the Permittee and Cooperator. The Cooperator and/or the Permittee should withdraw enrolled lands from the Agreement if incompatible activities are planned and/or conducted.

Conservation activities within the Management Zone are intended to provide benefits to the black-footed ferret while providing flexibility in prairie dog management to Cooperators, including the option for lethal control. The Management Zone will consist of additional acres adjacent to or in close proximity to the Conservation Zone, and may or may not exceed the number of acres in the Conservation Zone. It may or may not have occupied prairie dog habitat. Conservation activities within the Management Zone may include disease management and/or prairie dog management as discussed below and as defined in the Reintroduction Plan. It is expected that any lawful ownership activities, including but not limited to routine ranching activities, will occur in the Management Zone.

All of the following conservation activities are important in that they support the reintroduction of black-footed ferrets. It will require coordinated efforts of multiple partners to implement these conservation activities. The Permittee and any Cooperators will determine what partners may participate in conservation activities. Likely partners in the implementation of the conservation activities include but are not limited to State Wildlife Agencies, Tribes, U.S. Fish and Wildlife Service Ecological Services Field Offices, Animal Plant Health Inspection Service/Wildlife Services, Natural Resources Conservation Service, U. S. Geological Survey, the National Association of Conservation Districts, and other non-governmental organizations. Partners will vary depending on factors such as the state in which the eligible lands are located, budgets, logistics, and work efficiencies. This Agreement provides a mechanism for the coordinated efforts of multiple partners to contribute to recovery of this species.

7.1 BLACK-FOOTED FERRET REINTRODUCTION AND MANAGEMENT

Lands enrolled under this Agreement will provide an opportunity to increase the number of wild black-footed ferret populations. Once a Cooperator has a signed Reintroduction Plan and is enrolled under the Agreement, ferrets will be reintroduced to the site as described therein. All ferret reintroduction and management actions will be coordinated and carried out by the Permittee (or designee) and all funding for such actions will be provided by the Permittee and/or others, to the extent funds are available. State wildlife agencies will be instrumental in these activities. Typically, a minimum of 20 juvenile black-footed ferrets will be reintroduced during one release event in the fall. Depending on the size of the site and quality of the habitat, additional animals may be released during this timeframe or in subsequent years. In the latter case, the baseline of zero ferrets will remain. Release events typically occur near dusk and involve a minimum of two biologists. Depending on topography, most animals can be distributed across the site via existing roads or on foot, minimizing impact to the landscape. All reintroduction efforts will utilize techniques outlined in Roelle et al. (2006). The Permittee will work with each Cooperator to coordinate these activities to minimize disruptions to the Cooperator's use of land during reintroduction activities.

Once black-footed ferrets are released, efforts will be undertaken as necessary to determine the success of reintroduction activities. These efforts are described in Section 9.0 (Monitoring) of this

Agreement and would require access to the property. This monitoring may occur in subsequent years, as necessary, in coordination with the Cooperator, to determine if excess wild kit production on specific enrolled lands could be removed to support other approved reintroduction sites.

7.2 DISEASE MANAGEMENT

There are a number of diseases that can affect both captive raised and wild black-footed ferrets. However, sylvatic plague presents the greatest threat to wild ferret populations. In order to address this threat, Cooperators enrolled in this Agreement will allow for the treatment of disease, as appropriate and necessary, on their enrolled lands for the protection of ferrets and prairie dogs. Disease management activities will be coordinated and carried out by the Permittee at no cost to the Cooperator.

Currently there is an effective vaccine that will protect black-footed ferrets from plague. All animals at the captive breeding facilities are vaccinated for plague and other diseases as necessary, including those intended for reintroduction. However, if reintroductions are successful and reproduction occurs, it may be necessary to live trap any kits that are produced on a reintroduction site in order to vaccinate them. These efforts would likely occur during the fall concurrent with monitoring efforts, but could occur during the spring in some cases (Section 9.0 of this Agreement).

Fleas are considered a primary vector of plague transmission. Currently, the most effective control of fleas (and thereby plague) is the application of deltamethrin, the active ingredient in the insecticide DeltaDust (dusting). DeltaDust is an unrestricted-use pesticide classified by the Environmental Protection Agency (EPA), and is considered safe for many applications including use in and around homes. Product transport, mixing, application, storage, cleanup, and use of protective gear will be consistent with label instructions. DeltaDust may be applied according to the EPA label requirements once per year, generally between March and August, and would involve placement of approximately 5 grams of DeltaDust directly into each prairie dog burrow. The insecticide is typically applied by a spray device mounted on ATVs or by hand while walking depending on topography (Seery et al. 2003, Matchett et al. 2010). Applications take several days to two weeks depending on the acreage treated and the size of work crews.

An alternative to the use of insecticides is currently under investigation that involves a sylvatic plague oral bait vaccine for prairie dogs. The vaccine is a genetically modified viral vaccine, using attenuated raccoon pox virus as a vector for orally delivering plague antigens to target animals through the use of baits (Abbott and Rocke 2012). If effective, this vaccine could be used on lands enrolled under this Agreement. The oral bait vaccine would be placed in baits that are distributed from ATVs or aerially onto a prairie dog colony once per year or possibly less often, depending upon research results. Prairie dogs would consume the bait and become vaccinated, thereby limiting plague outbreaks on treated lands. Administration of oral plague vaccine is expected to occur no more than once per year after emergence of prairie dog pups and might occur from late May through October. This plague abatement technique is expected to be less labor intensive than

dusting. However, it may require limiting access of livestock to treated areas for a few days after application to avoid livestock consumption of the bait. The bait will not adversely affect livestock, but could decrease the amount available for prairie dogs and therefore decrease the vaccine's effectiveness.

Regardless of the method used, the Permittee (or designee) will work with each Cooperator to coordinate these activities to minimize disruptions to the Cooperator's use of the lands during plague management activities. The science of disease management within wildlife populations is evolving. New techniques and protocol may be considered in the future. Any changes in disease management on lands covered by this Agreement will be agreed to by both Parties prior to implementation.

7.3 PRAIRIE DOG MANAGEMENT

Sustainable black-footed ferret populations are not possible without purposeful management of prairie dog populations to address disease and conflicts with human activities (U.S. Fish and Wildlife Service 2008). Prairie dog management within the Management Zone may include both lethal and non-lethal activities. Lethal activities may include the use of zinc phosphide, shooting, and other activities as approved by the Permittee. Anticoagulant pesticides such as Rozol® and Kaput® will not be allowed on enrolled properties due to the risks of secondary poisoning to other non-target wildlife species that consume prairie dogs, including ferrets, and the resultant impact on the establishment of a ferret population that could contribute to species recovery. Lethal control within the Management Zone will be addressed for each enrolled property and defined in the property's Reintroduction Plan. Responsibility for implementing management of prairie dogs will be defined in the Reintroduction Plan. Lethal prairie dog management may be carried out by Animal Plant Health Inspection Service/Wildlife Services and/or other local entities, such as weed and pest boards, following discussions with these entities regarding management options.

Non-lethal management activities may occur in both the Management and Conservation Zones and include, but are not limited to, barriers and translocation. Lethal prairie dog management will not be allowed within the Conservation Zone of the enrolled lands, except in unusual circumstances agreed to by both the Permittee and Cooperator. The Reintroduction Plan can be modified as necessary to address changing prairie dog management needs with concurrence by both the Permittee and the Cooperator. Non-lethal prairie dog management may be carried out by Animal Plant Health Inspection Service/Wildlife Services, other partners, the Permittee, or the Cooperator as agreed to and identified in the Reintroduction Plan. Management to maintain sufficient quantity and quality of prairie dog habitat on lands covered by the Agreement will be critical to its success.

7.4 LIVESTOCK GRAZING

Most, if not all, of the private land that supports adequate numbers of prairie dogs essential to maintaining black-footed ferret populations is agricultural in nature and predominantly used for livestock grazing. It is expected that any management decisions regarding grazing practices on

enrolled properties will continue to be determined by the Cooperator and will be described in the property's Reintroduction Plan. Grazing practices on lands enrolled under this Agreement should provide habitat for the ferret and be economically viable for the Cooperator. It is understood that certain practices such as, but not limited to, grazing livestock, driving vehicles and equipment to and from the livestock operations, driving vehicles to and between pastures to move and/or feed livestock or administer medical attention to animals, building and maintaining fences and watering facilities, treating invasive plants, prescribed fire, reseeding, fertilization, and brush management, may be necessary to facilitate sustainable grazing. Grazing and related activities will be further described in the Reintroduction Plan. Implementation of all grazing activities will be the responsibility of the Cooperator. It is not the intent of this Agreement to limit any land use that does not materially reduce the viability of any reintroduced ferret population.

8.0 INCIDENTAL TAKE AND NET CONSERVATION BENEFITS

8.1 INCIDENTAL TAKE AND RETURN TO BASELINE

Implementation of this Agreement and any related Reintroduction Plans could result in the incidental take of black-footed ferrets. The regulatory take assurances provided in the Certificate of Inclusions apply only to ferrets.

Incidental take of black-footed ferrets could occur through reintroduction and monitoring of ferrets while handling or transporting to the reintroduction site. Ferret deaths have occurred while anesthetizing animals for health care purposes. In addition, release sites have experienced occasional ferret deaths during transportation due to heat stress when air conditioning equipment failed; however, less than one half of one percent of more than 2,700 ferrets reintroduced have perished from handling and transportation (Gober pers. comm. 2012b). While equipment failures could occur during ferret reintroductions under this Agreement, the precautions contained in the protocol for handling and monitoring reintroduced ferrets outlined in Roelle et al. (2006) will minimize this possibility.

Incidental take of black-footed ferrets may also occur in carrying out other conservation activities, including implementing plague management, prairie dog management, and routine ownership interest activities including, but not limited to, livestock grazing and ranching activities. The most likely means of incidental take associated with these activities would occur through vehicle or equipment collisions. While such incidental take has been documented, the risk of vehicle collisions is low due to the nocturnal habits of ferrets. Other than potential collisions with vehicles or equipment, plague management is unlikely to result in incidental take of ferrets.

Incidental take of black-footed ferrets from non-lethal prairie dog management is not expected in either Conservation or Management Zones. Incidental take from lethal prairie dog management authorized in Management Zones could occur if ferrets are present. Such take may occur through accidental shooting or non-target exposure of ferrets to toxicants meant for prairie dogs, or

potential collisions with vehicles or equipment. Such take is not expected in Conservation Zones because shooting and the use of toxicants will not occur within Conservation Zones, except in unusual circumstances agreed to by both the Permittee and Cooperator.

The provisions of this Agreement allow any Cooperator to return the enrolled lands back to a baseline of zero black-footed ferrets at any time through any legal means. Such means cannot include deliberate killing of ferrets. A return to baseline may result in incidental take of all ferrets released onto the enrolled lands. Should the Cooperator choose to return to baseline, the most likely means to do so will be through the absence of plague management, through extensive lethal prairie dog control on all enrolled lands including the Conservation Zone to the point where the prairie dog population is no longer adequate to support a ferret population, or through conversion of enrolled lands from grazing lands to other land uses such as cultivated agriculture or intensive energy development. Before carrying out any activities that would result in a return to baseline, Cooperators are required to notify the Service in sufficient time to allow relocation of the ferrets. September and October are the most suitable months for trapping ferrets. Therefore, this Agreement requires that Cooperators notify the Permittee by July 1 of any given year to allow logistical planning for the recapture of ferrets from the enrolled lands during the following months of September and/or October, or as otherwise mutually determined by the Permittee and Cooperator. If the Permittee is not notified and/or access is not granted, the Cooperator would lose coverage for incidental take.

In the absence of plague management, it is likely that a plague event will occur that decreases prairie dog populations to a level that will no longer support black-footed ferrets. While prairie dogs have the reproductive potential to increase their numbers after such an event, it is unlikely that ferret populations would recover without additional reintroductions. Likewise, extensive lethal prairie dog management across all enrolled lands would likely result in considerable decreases in prairie dog populations such that they would not support ferrets. The reproductive potential of prairie dogs could allow them to return after extensive lethal control, but it is unlikely that ferrets populations would return without additional reintroductions.

While conversion of rangeland to cultivated agriculture in the past resulted in the loss of considerable black-footed ferret habitat, much of the most suitable land has already been converted. Therefore, present and future conversion to cropland is less likely (U.S. Fish and Wildlife Service 2009). However, changes in demands for various crops such as corn for ethanol could influence rate and location of conversion to cropland, which is difficult to predict. Unlike conversion to cropland, energy production does not result in a complete loss of habitat. It reduces the total amount of habitat by converting portions of it to an impermeable surface, i.e., roads and well or turbine pads, but it does not preclude burrows and occupation of prairie dogs and hence ferrets. However, it may increase the potential for incidental take via vehicle collisions during construction and operations and maintenance. Structures associated with energy development may also increase predation by providing additional perches for raptors. The likelihood of the conversion of

enrolled lands to energy production is unknown and difficult to predict, but will be influenced by energy prices and energy policy. While suburban and commercial development is also possible, given the rural and relatively remote locations of many of the eligible lands, it is less likely than conversion to cultivated agriculture or energy development.

By whatever means, a change in land use could make the enrolled lands unsuitable for prairie dog habitat or, more likely, impair the quality of prairie dog habitat. Without adequate prairie dogs, sustainable black-footed ferret populations will not be maintained and the enrolled lands will return to their baseline of zero ferrets.

The extent of the incidental take associated with the implementation of conservation activities is difficult to quantify as we do not know how many eligible landowners will enroll. Incidental take associated with the return to baseline is also difficult to anticipate. However, a qualitative review of the Service's Safe Harbor Program indicates that most participants remain committed to these programs and very few choose to return to baseline. Given that livestock grazing and ranching is the primary use for these lands, we anticipate that most Cooperators will not return these lands to baseline.

8.2 NET CONSERVATION BENEFITS

Net conservation benefits are the cumulative benefits to the black-footed ferret minus the impacts of any incidental take allowed by the Permit. Net conservation benefits must be sufficient to contribute, either directly or indirectly, to recovery of the ferret. The conservation activities identified in this Agreement support recovery efforts identified in the current Recovery Plan by reestablishing the ferret on the enrolled lands and by addressing the most significant threats. The net conservation benefits of each conservation activity are discussed below.

Black-Footed Ferret Reintroduction – The principal conservation benefit provided by this Agreement is the opportunity to establish additional free-ranging populations of ferrets throughout their range on non-federal lands. Recovery efforts to date demonstrate that reintroduction of ferrets can be successful, such as those at Conata Basin, South Dakota; Aubrey Valley, Arizona; Cheyenne River Sioux Tribe, South Dakota; and Shirley Basin, Wyoming. Additional reintroduction sites throughout the species' historical range will provide more ecologically diverse release sites. Release sites that vary in site-specific habitat characteristics will increase options to address uncertainty associated with local stochastic events such as plague, other diseases, and potential effects of climate change. If successful, reproduction at these sites could also contribute surplus, wild born kits to reintroduction sites elsewhere. This could foster better survival on site as well as at future reintroduction sites.

Disease Management – Currently, the most destructive disease impacting black-footed ferrets is sylvatic plague. Plague will be addressed as described in Section 7.2 above and may be managed on all lands enrolled under this Agreement as necessary. Engaging in plague management within the Conservation Zones of enrolled lands will reduce or eliminate this lethal threat to ferrets. Plague

management within the Management Zones could also provide a conservation benefit by creating a buffer to plague on adjacent lands. Plague management will also benefit ferrets by limiting large fluctuations in prairie dog numbers, thus stabilizing their prey base.

Prairie Dog Management – Adequate numbers of prairie dogs are essential for black-footed ferret survival and population stability. However, prairie dogs may be in conflict with landowner interests. Since the early 1900s, considerable efforts have been undertaken to poison prairie dogs as a means of reducing competition with domestic livestock for forage (Forrest and Luchsinger 2005). Lands enrolled under this Agreement will be subject to purposeful prairie dog management. This means that prairie dogs will be conserved in any Conservation Zone, as defined in the Reintroduction Plan, but may be actively controlled in any Management Zone as necessary. Overall, this will likely result in a substantial increase in suitable ferret habitat available on non-federal lands throughout the species' historical range inasmuch as control of prairie dogs is not often purposefully limited on any significant area of private lands at present.

Purposeful management of black-footed ferrets and prairie dogs, with different activities supported for different outcomes in the Conservation Zone and Management Zone as defined in this Agreement, will demonstrate how a balance of tolerance and control of prairie dogs can benefit both ferret recovery and Cooperator interests. The benefits of allowing purposeful management of prairie dogs in conjunction with ferret reintroduction is critical to minimize impacts of prairie dog encroachment onto neighboring properties and to create an environment in which landowners will allow the release of ferrets. The positive value of establishing new reintroduction sites will exceed the minor negative impacts of any potential incidental take of ferrets associated with prairie dog management.

Livestock Grazing – Most lands eligible for enrollment under this Agreement will be non-federal grazing lands. As members of grassland/shrub steppe ecosystems, prairie dogs have evolved with grazing. While there is much debate regarding competition between ungulates and prairie dogs, grazing can benefit prairie dogs by reducing vegetation height, which can improve visibility, thereby reducing predation on prairie dogs. Enrollment of these lands will allow for their continued use as grazing lands, as determined by the landowner, during the term of the Reintroduction Plan. It will also help to ensure that there will not be substantial conversion to other uses such as cropland or other development during the term of the Reintroduction Plan.

Conservation activities collectively provide a net conservation benefit at each site by balancing prairie dog habitat with livestock grazing, purposefully managing the prairie dogs present, and controlling the diseases that can devastate both prairie dogs and black-footed ferrets. This approach makes it possible to carry out the primary goal of the Agreement—to establish additional free-ranging populations of ferrets throughout their range on non-federal lands. Long-term benefits include demonstration of the compatibility of livestock grazing and endangered species

conservation, which could lead to additional ferret populations on non-federal lands throughout their range beyond the term of this Agreement.

As one of the most highly endangered mammals in North America, the black-footed ferret has made great strides toward recovery. It has gone from being extirpated to approximately 274-448 animals in the wild at 20 sites. This progress has been achieved through the efforts of many people. However, many more people will need to become engaged in order to recover this iconic species. In addition to the conservation activities described above, this Agreement will allow the Service to engage a broad spectrum of conservation partners including additional private landowners, Tribes, States, non-governmental organizations, and others to advance recovery of this species.

9.0 MONITORING

The purposes of this Agreement's monitoring program are to: (1) inform the Service of the status of implementation of the conservation activities, (2) track incidental take of black-footed ferrets, and (3) determine success of ferret reintroductions on enrolled properties. The Permittee will coordinate all monitoring efforts. Cooperators will provide information and participate where appropriate with the Permittee to monitor actions described in each Reintroduction Plan. The monitoring on each enrolled property will vary based on the conservation activities taken and the situation at each site.

In a coordinated effort with the Cooperator, the Permittee will track implementation of conservation activities on the Cooperator's property and provide an annual report to the appropriate Service Regional Offices and to each Cooperator (Appendix D). This report will include the state and county in which the Reintroduction Plan and Certificate of Inclusionwere issued, the conservation activities implemented—including the number of acres treated for plague and/or poisoned, the methods used, the dates of black-footed ferret releases, and any incidental take. The Service's appropriate Regional Offices will review these reports to ensure that the terms of the Permit, conditions of the Agreement, and purposes of the monitoring program are being met. Grazing practices carried out by the Cooperator, as well as incidental take, will be tracked through a self-reporting process in an annual questionnaire completed by the Cooperator and returned to the Permittee (Appendix E).

In addition to the implementation of monitoring described above, the Permittee may use aerial imagery, such as the National Agriculture Imagery Program, to assess presence and expansion or contraction of prairie dog colonies to determine if adequate black-footed ferret habitat exists on enrolled properties. Based on the aerial imagery, as well as the Cooperator survey information, the Permittee may coordinate periodic site visits when necessary to confirm the continued presence of reintroduced ferrets. This may include nocturnal spotlight surveys within a fourteen day period in the fall, preferably around the full moon, carried out in accordance with appropriate notification to the landowner and using methods described in Roelle et al. (2006).

While methods for successful reintroduction of black-footed ferrets to their native habitat are generally well understood and will be described for each enrolled property in the Reintroduction Plan, it is possible that with time and experience in developing Reintroduction Plans in varied landscapes, knowledge and skills will evolve. Therefore, every five years (or more frequently if necessary), the Permittee will consolidate information and reports from all enrolled properties to date for the purposes of assessing the implementation and administration of the Agreement. All Cooperators and additional partners will be invited to discuss and provide input. Any necessary changes identified from the information provided will be addressed pursuant to Section 15.0 (Modifications) of this Agreement.

10.0 ROLES AND RESPONSIBILITIES OF THE PARTIES

10.1 THE PERMITTEE (BLACK-FOOTED FERRET RECOVERY COORDINATOR)

The Permittee agrees to:

A. Upon consideration of all other applicable legal requirements, obtain and hold a Permit issued by the U.S. Fish and Wildlife Service Region 6, in accordance with section 10(a)(1)(A) of the Act, authorizing incidental take of black-footed ferrets as a result of lawful activities on the enrolled property in accordance with the provision of such Permit. The term of the Permit will be 50 years.
B. Develop and sign Reintroduction Plans in coordination with each Cooperator for lands proposed for enrollment in the Agreement, thereby ensuring consistency with the provisions of this Agreement.
C. Upon signature of a Reintroduction Plan developed in coordination with the Cooperator, issue a Certificate of Inclusion to convey incidental take to the Cooperator pursuant to section 10.1 A hereof.
D. Coordinate all ferret reintroduction efforts with Cooperators and any other appropriate partners.
E. Coordinate all plague management actions with Cooperators and any other appropriate partners.
F. Coordinate all prairie dog management activities as defined in the Reintroduction Plans with Cooperators and any other appropriate partners.
G. Support private landowner enrollment and participation in the Agreement.
H. Provide Cooperators with technical assistance in implementing conservation activities and monitoring to the maximum extent practicable as needed.
I. Ensure that any impacts to cultural and historic resources due to activities to be carried out under this Agreement are avoided or otherwise in compliance with Section 106 of the National Historic Preservation Act.
J. Coordinate monitoring described in the Section 9 of the Agreement and in Reintroduction Plans as applicable.
K. Provide annual monitoring report to the U.S. Fish and Wildlife Service Region 2 and Region 6 offices.
L. Address concerns of non-participating neighboring landowners by providing incidental take authorization equivalent to that provided to Cooperators.

10.2 COOPERATOR

A Cooperator agrees to:

A. Work cooperatively with the Permittee to develop a Reintroduction Plan acceptable to both Parties that includes all provisions identified in Appendix B.
B. Sign the Reintroduction Plan and Certificate of Inclusion enrolling the identified land under this Agreement and managing the land pursuant to the Reintroduction Plan. This will include cooperating with the reintroduction and management of black-footed ferrets, including disease management as described in the Reintroduction Plan, implementing any grazing activities as described in the Reintroduction Plan, and implementing and/or cooperating with the management of prairie dogs as described in the Reintroduction Plan.
C. Except as identified in 10.2 F and as required by law, allow access to the enrolled property with 30 days notice by the Permittee (or designee) for purposes related to this Agreement and associated Reintroduction Plan including, but not limited, to ferret reintroduction and monitoring, disease management, and prairie dog management, as described in the Reintroduction Plan.
D. Promptly report to the Permittee any dead, injured, or ill specimens of ferrets observed on the enrolled property. Notifications may be by letter, e-mail, or phone.
E. Complete annual questionnaire surveys provided by the Permittee (or designee) for information related to implementation of the Reintroduction Plan.
F. Notify the Permittee of any planned activity that the Cooperator reasonably anticipates may result in take of ferrets on the enrolled lands so that efforts to recapture any animals can occur in the fall to the extent possible, when trapping success can be maximized.
G. Promptly notify the Permittee of any unexpected incidental take on the enrolled lands. This includes take that may result from conservation activities or other activities such as emergency maintenance. Notifications may be by letter, e-mail, or phone.
H. Notify the Permittee within 30 days of any transfer of ownership so that the Permittee can attempt to contact the new owner, explain the Agreement and related Certificate of Inclusion applicable to the enrolled lands, and invite the new owner to continue the existing Certificate of Inclusion or enter into a new one that would benefit listed species on the enrolled lands (enrollment of lands shall not constitute an encumbrance if the Cooperator sells or transfers these same lands, since the Cooperator may withdraw from the Agreement at any time).

10.3 ADDITIONAL PARTNERS

Additional partners may be necessary and beneficial to implementing the conservation activities identified in this Agreement. These partners may vary for each Reintroduction Plan developed including, but not limited to, any of the following: State wildlife agencies, Tribes, U.S. Fish and Wildlife Service Ecological Services Field Offices, Animal Plant Health Inspection Service/Wildlife Services, Natural Resources Conservation Service, U. S. Geological Survey, and various non-governmental organizations. The Permittee and Cooperator will mutually agree as to the participation of additional parties.

11.0 CHANGED CIRCUMSTANCES

Changed circumstances are changes affecting black-footed ferrets within the enrolled lands that can reasonably be anticipated and for which contingency plans can be made. These circumstances

include, but are not limited to, drought, fire, disease, land use changes, and new species' listings under the Act within the Agreement plan area. These changes could impact the habitat and prairie dogs necessary for ferrets. Should alterations to the habitat occur, the following actions may be undertaken as necessary as described in Table 2. Should any of these circumstances occur, the Permittee will work with the Cooperator to address any issues that may have resulted in the loss of ferrets.

Table 2. Changed Circumstances

Changed Circumstance	Potential Effect to Black-Footed Ferrets	Proposed Response
Drought	Drought can limit forage quantity available for prairie dogs and livestock. Competition for this forage could limit prairie dog reproduction. Limited prairie dog reproduction could lead to limited food availability for ferrets.	Upon identification of a D2 or higher by the Drought Monitor and declaration by State Authorities, the Permittee will determine if adequate habitat is available on the enrolled lands for ferrets. If not, the Permittee may elect to trap any remaining ferrets for reintroduction elsewhere with adequate habitat. Landowner grazing activities will not be limited by the Permittee. Additional ferrets may be reintroduced to the enrolled lands after drought conditions have improved.
Fire	Direct effects of fire to ferrets or prairie dogs are unlikely as they can seek refuge within their burrows. However, fire can have short term impacts to the availability of forage for prairie dogs and therefore ferrets as discussed above.	Should a fire impact a significant portion of the enrolled lands, the Permittee will determine if adequate habitat is available on the enrolled lands for ferrets. If not, the Permittee may elect to trap any remaining ferrets for reintroduction elsewhere with adequate habitat. Additional ferrets may be reintroduced to the enrolled lands after enrolled lands have recovered from the fire.
Disease	There are a number of native and non-native diseases that can impact ferrets. Impacts occur both directly (death of ferret) or indirectly through the loss of their food source, prairie dogs.	In the case where disease other than plague is suspected to have impacted ferrets, the Permittee will coordinate efforts to identify the disease with U.S. Geological Survey's National Wildlife Health Lab and the appropriate State Agency that oversee wildlife disease outbreaks. Potential response to the disease could include trapping and relocating ferrets if adequate habitat exists elsewhere. If disease causes loss of all ferrets at a reintroduction site, additional ferrets may be reintroduced, if adequate habitat exists that is not impacted by disease.
Additional Land Uses	Changes in land use include, but are not limited to utility development (e.g., waterlines, power lines), energy development, and associated infrastructure. These changes could result in the incidental take of ferrets through vehicle collision and/or decreased availability of prairie dog habitat and prairie dogs for ferrets.	Any additional land uses proposed within the enrolled lands during the term of the Reintroduction Plan will be identified and reviewed by the parties to determine if the proposed use will decrease prairie dogs or ferret habitat. Any significant decreases in prairie dog habitat could be offset by adding prairie dog habitat contiguous with the Conservation Zone to achieve no net loss of adequate prairie dog habitat. If sufficient additional habitat does not exist, the Permittee may elect to trap any remaining ferrets for reintroduction elsewhere with adequate habitat.
Changed Circumstance	**Potential Effect to Black-Footed Ferrets**	**Proposed Response**
New Species Listings on	Conservation activities to benefit the black-footed ferret may have potential impacts to	If a non-covered species that occurs within the Agreement area becomes a federally listed species, the Service will assess whether

Enrolled Lands	the newly listed species.	the implementation of the Agreement may affect such species. If implementation may result in incidental take of such species, the Service will work with the enrolled landowners to determine appropriate modifications to the Agreement's conservation activities to either avoid or minimize incidental take. If take cannot be avoided, the Service will determine whether amending the Agreement and permit would be necessary to cover such additional species through the Section 7 process. If the landowner wishes to conserve the species and receive assurances for that species, the Service and landowner would mutually amend the Reintroduction Plan to document the baseline conditions for the species; potentially modify or add conservation measures; and the Service would amend the Agreement, Biological Opinion, and any relevant National Environmental Policy Act documents while providing for required public comment. Any Cooperator may withdraw for the Agreement at any time.
Change in Ownership Interest	Withdrawal of Cooperator from Agreement and termination of Reintroduction Plan may result in loss of site, if the new landowner elects not to enroll in the Agreement	Coverage for incidental take for a new non-participating landowner will be maintained via the Biological Opinion, provided the former Cooperator notifies the Permittee and allows access to trap any remaining ferrets for reintroduction elsewhere.

12.0 AGREEMENT DURATION

The duration of this Agreement must be of sufficient time to realize a net conservation benefit to the black-footed ferret. As identified above, the principal conservation benefit of this Agreement will be the establishment of additional free-ranging ferret populations throughout their historical range. Successful reintroduction of ferrets can vary based on a number of factors that are not fully understood. Sometimes it may take several ferret releases over multiple years for a site to be considered successful such as occurred at Shirley Basin, Wyoming and Aubrey Valley, Arizona. Experience from past reintroduction efforts suggests that 10 years is sufficient time to accommodate several ferret releases, if necessary, as well as document reproduction and recruitment. Additional time beyond 10 years will extend these benefits by providing additional ferret generations exposure to wild conditions. In the event that offspring from these animals are translocated to other sites, it could increase the probability of survival of several separate populations. It will also provide additional protection against catastrophic events elsewhere throughout the range. We view a single release as a net conservation benefit inasmuch as history demonstrates that Parties to previous reintroduction sites have continued with their recovery efforts for several years after the initial reintroduction effort, and the presence of additional reintroduction sites throughout the range of the ferret provides redundancy and additional opportunities for the translocation of wild-born individuals to other suitable sites.

This Agreement and the Permit, described in section 10.0 A of this Agreement, become effective for 50 years from the date of signature of the Agreement by all relevant Parties and permit issuance by the Service. Reintroduction Plans developed pursuant to the Agreement will be for a term of at least 10 years and up to 40 years within the 50-year term of the Permit. A Certificate of Inclusion

issued by the Permittee will extend incidental take coverage and assurances to the Cooperator for as long as the terms of the Agreement and Cooperator's Reintroduction Plan are upheld. Upon full implementation of the Reintroduction Plan, the Reintroduction Plan and Certificate of Inclusion may be extended or renewed with agreement by both Parties while maintaining the original agreed upon baseline. Non-participating landowners receive permanent incidental take coverage via the Biological Opinion developed in conjunction with issuance of the Permit. Cooperators become non-participating landowners if they withdraw from the Agreement.

13.0 ASSURANCES TO A COOPERATOR

Through each Certificate of Inclusion, the Service provides Cooperators with assurances that no additional conservation measures or restrictions on land, water, or resource use, beyond those agreed to in the Agreement and Reintroduction Plan, will be required of the Cooperator for the black-footed ferret. These assurances apply only where the Agreement and associated Certificate of Inclusion and Reintroduction Plan are being properly implemented. If additional conservation and mitigation measures are deemed necessary, the Service may request additional measures of the Cooperator, as applicable, but only if such measures are limited to modifications within the Conservation and Management Zones, if any, for the ferret and maintain the original terms of the Agreement. However, where additional conservation measures might need to be implemented by Cooperators, the parties to this Agreement also recognize, in the spirit of the Agreement, that any such measures would be developed jointly and cooperatively by the Cooperator and the Service. Additional conservation measures will not involve the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources otherwise available for development or use under the original terms of the Agreement without the consent of Cooperators, as applicable.

Each Certificate of Inclusion will convey authorization of incidental take of black-footed ferrets consistent with maintaining the baseline condition of zero ferrets as described in Section 6.0 and identified in a Reintroduction Plan with the following conditions:

A. When a Cooperator is implementing the conservation activities identified in Section 7.0 hereof and further defined in a Reintroduction Plan.
B. When a Cooperator is carrying out any legal activity, including but not limited to routine ranching and grazing, on or adjacent to the enrolled lands in concert with conservation activities identified in section 7.0 hereof and further defined in a Reintroduction Plan.
C. When a Cooperator is making any lawful use of Cooperator-owned non-enrolled lands that are adjacent to or in proximity of enrolled lands.
D. When a Cooperator is returning the lands to baseline at any time through otherwise lawful means.

14.0 NON-PARTICIPATING NEIGHBORING LANDOWNERS

The Service recognizes that some landowners may be reluctant to participate in the Agreement due to concerns regarding non-participating neighbors' fear of liability under the Act should black-footed ferrets disperse onto their lands. Therefore, Safe Harbor Policy (64 FR 32717) provides for incidental take assurances to neighbors, whether or not they choose to participate in the

Agreement. For the purposes of this Agreement, non-participating neighboring landowners are defined as any landowner, or any landowner interest (severed mineral estates associated with a Cooperator interest), within the vicinity of enrolled lands upon whose land ferrets may disperse and/or occupy as a result of ferret reintroductions. The Service will not enter into an Agreement with a willing landowner as a Cooperator without first considering the concerns of non-participating neighboring landowners.

Voluntary enrollment of Cooperators in the Agreement and implementation of conservation activities will result in the establishment of additional black-footed ferret populations on non-federal lands. Reintroduction of ferrets and subsequent successful breeding of reintroduced ferrets on the enrolled lands may result in an increase of these populations that would exceed the carrying capacity of the enrolled lands. As a result, ferrets could disperse onto non-participating neighboring properties in search of appropriate habitat. Because landowners of non-participating properties likely would not be implementing the conservation activities, particularly disease management, sufficient suitable habitat to support ferrets may not be available; in which case, ferrets are unlikely to persist and establish additional populations on such lands. Therefore, loss of such individuals through incidental take would not result in adverse effects to any existing or reintroduced populations of the ferret.

Flexible regulatory assurances for non-participating neighboring landowners could contribute to increased enrollment by other landowners and ultimately increased conservation for the black-footed ferret by helping to maintain good relations with neighbors and by demonstrating that ferret reintroductions will not limit land use, except as agreed to by Cooperators. The Biological Opinion, pursuant to the intra-Service section 7 consultation under the Act on the issuance of the 10(a)(1)(A) Enhancement of Survival permit under this Agreement, will provide incidental take coverage to non-participating landowners should ferrets disperse to their lands. Non-participating neighboring landowners will not be subject to any land use restrictions. Except as authorized through a separate Enhancement of Survival permit or section 7 Biological Opinion for other activities with a Federal nexus, deliberate take of ferrets not related to an otherwise lawful activity would be prohibited.

15.0 MODIFICATIONS

15.1 MODIFICATIONS OF THE AGREEMENT OR REINTRODUCTION PLAN

Any party to this Agreement or associated Reintroduction Plans may propose modifications by providing written notice to the other parties explaining the proposed modification and the reasons for the modification. Approval of a modification will require the written consent of the Permittee and Cooperator and must be consistent with the assurances described in Section 13.0 of the Agreement. Any proposed modification to the Agreement or associated Reintroduction Plan will be considered effective as of the date that all affected Parties have agreed in writing to the modification.

15.2 AMENDMENT OF THE PERMIT OR CERTIFICATE OF INCLUSION

The 10(a)(1)(A) Enhancement of Survival Permit or any Certificate of Inclusion may be amended in accordance with all applicable legal requirements in force at the time of the amendment, including, but not limited to, the Act, National Environmental Policy Act, and Service permit regulations (50 CFR, Parts 13 and 17). A request for an amendment of the Permit or Certificate of Inclusion would require, at a minimum: a written explanation of why the amendment is needed; and an explanation of what, if any, effects the amendment would have on the black-footed ferret. An amendment to the Permit would require the Service to publish a notice in the *Federal Register* of a 30-day public comment period for the proposed amendment.

15.3 EARLY TERMINATION OF THE AGREEMENT

As provided for in Part 12 of the Service's Safe Harbor Policy (64 FR 32717), the Permittee may terminate the Agreement or an associated Reintroduction Plan, prior to its expiration date. In such circumstances, the Cooperator may return the enrolled lands to baseline conditions even if the conservation activities identified in the Reintroduction Plan for the enrolled lands have not been fully implemented. Similarly, the Cooperator may terminate the Reintroduction Plan early. A Cooperator who withdraws from the Agreement would subsequently be regarded as a non-participating landowner interest who receives incidental take via the associated Biological Opinion, provided the Cooperator notifies the Permittee and allows the Service access to recapture ferrets during the following fall, prior to carrying out any otherwise lawful activity that may result in take of ferrets on enrolled lands, including a return to baseline. If a Cooperator fails to notify the Permittee regarding possible take or fails to provide access, coverage for incidental take will not be granted.

16.0 PERMIT SUSPENSION OR REVOCATION

The Service may suspend the privileges of exercising some or all of the permit authority at any time if the Permittee is not in compliance with the conditions of the permit, or with any applicable laws or regulations governing the conduct of the permitted activity. Such suspension shall remain in effect until the issuing officer determines that the Permittee has corrected the deficiencies.

The Service may not revoke the permit except as follows:

- The Service may revoke the permit for any reason set forth in 50 CFR 13.28(a)(1) through (4). This regulation authorizes revocation if:

  (1) the Permittee willfully violates any Federal or State statute or regulation, or any Indian tribal law or regulation, or any law or regulation of any foreign country, which involves a violation of the conditions of the permit or of the laws or regulations governing the permitted activity; or
  (2) the Permittee fails within 60 days to correct deficiencies that were the cause of a permit suspension; or
  (3) the Permittee becomes disqualified; or
  (4) a change occurs in the statute or regulation authorizing the permit that prohibits the continuation of a permit issued by the Service.

- The Service may also revoke the permit if continuation of the permitted activity would either:

  (1) appreciably reduce the likelihood of survival and recovery in the wild of any listed species; or
  (2) directly or indirectly alter designated critical habitat of any listed species such that it appreciably diminishes the value of that critical habitat for both the survival and recovery of that listed species. Critical habitat has not been designated for the black-footed ferret.

Before revoking a permit for either of the last two reasons, the Service, in coordination with the Permittee, will pursue all appropriate options to avoid permit revocation. These options may include, but are not limited to: extending or modifying the existing Permit, capturing and relocating the species, or in unusual cases compensating the landowner to forgo the activity, purchasing an easement or fee simple interest in the property, or arranging for a third party acquisition of an interest in the property.

17.0 OTHER MEASURES

A. Remedies. No party shall be liable in monetary damages for any breach of this Agreement, any performance or failure to perform an obligation under this Agreement, or any other cause of action arising from this Agreement.

B. Dispute Resolution. The Parties agree to work together in good faith to resolve any disputes using dispute resolution procedures agreed upon by all Parties.

C. Succession and Transfer. As provided in 50 CFR 13.25, if a Cooperator transfers his or her interest in the enrolled lands to another non-federal entity, the new owner has the option to accept the original Cooperator's responsibilities and assurances. If the new owner chooses to accept the original Cooperator's responsibilities and assurances, the Service will regard the new owner or manager as having the same rights and responsibilities with respect to the enrolled lands as the original Cooperator for the remainder of the term of the Agreement. If the new owner chooses not to participate in the Agreement and the activities described in the property's Reintroduction Plan, he or she will retain authorization for incidental take due to otherwise lawful activities via the Biological Opinion as a non-participating landowner, provided the Service is given an opportunity to trap ferrets currently on the property.

D. Availability of Funds. Implementation of this Agreement is subject to the requirement of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this Agreement will be construed by any Party to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. The Parties acknowledge that the Service will not be required under the Agreement to expend any Federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

E. No Third-Party Beneficiaries. This Agreement does not create any new right or interest in any member of the public as third-party beneficiary, nor shall it authorize anyone not a party to this Agreement to maintain a suit for personal injuries or damages pursuant to the provisions of this

Agreement. The duties, obligations, and responsibilities of the Parties to this Agreement with respect to any third-Party shall remain as imposed under existing law.

F. Notices and Reports

Any notices and reports, including monitoring and annual reports required by this Agreement shall be delivered to the persons listed below, as appropriate:

Black-footed Recovery Coordinator
U.S. Fish and Wildlife Service
P.O. Box 190
Wellington, CO 80549
(970) 897-2730

Regional Director, Region 6
U.S. Fish and Wildlife Service
134 Union Blvd
Lakewood, Colorado 80228

Regional Director, Region 2
U.S. Fish and Wildlife Service
PO Box 1306
Albuquerque, New Mexico 87103-1306

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19.0 SIGNATURES

In witness whereof, the Service hereto has executed this Safe Harbor Agreement to be in effect as of the date that the permit referenced in 8.0 above is issued.

10/23/13

Assistant Regional Director, Ecological Services **DATE**

Region 6, Denver

U.S. Fish and Wildlife Service

10-23-13

Black-Footed Ferret Recovery Coordinator, **DATE**

U.S. Fish and Wildlife Service

APPENDIX A

Certificate of Inclusion

Black-footed Ferret Programmatic Safe Harbor Agreement

[ ]

This certifies that the lands described as follows [description of enrolled lands covered by the Safe Harbor permit] owned by [name of Cooperator] is included within the scope of Permit Number [TE000000], held by the U.S. Fish and Wildlife Service, Black-Footed Ferret Recovery Coordinator (Permittee), issued on [date] and expiring on [date] under the authority of section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended, 16 U.S.C. 1539(a)(1)(A). The Permit authorizes incidental take of black-footed ferrets from all lawful activities by participating landowners (Cooperators) as part of the Black-footed Ferret Programmatic Safe Harbor Agreement (Agreement) to reintroduce and establish new populations of the black-footed ferret. Pursuant to the Permit, this Certificate of Inclusion authorizes incidental take of the black-footed ferret that may result from any otherwise lawful activity on the above described lands, subject to the terms and conditions of the Permit, the Reintroduction Plan, and the Agreement. This Certificate of Inclusion becomes binding upon the Cooperator upon the date of the last signature below and continues for as long as the terms of this Agreement and the Reintroduction Plan are met. The attached Reintroduction Plan is incorporated as part of this Certificate of Inclusion for the enrolled lands.

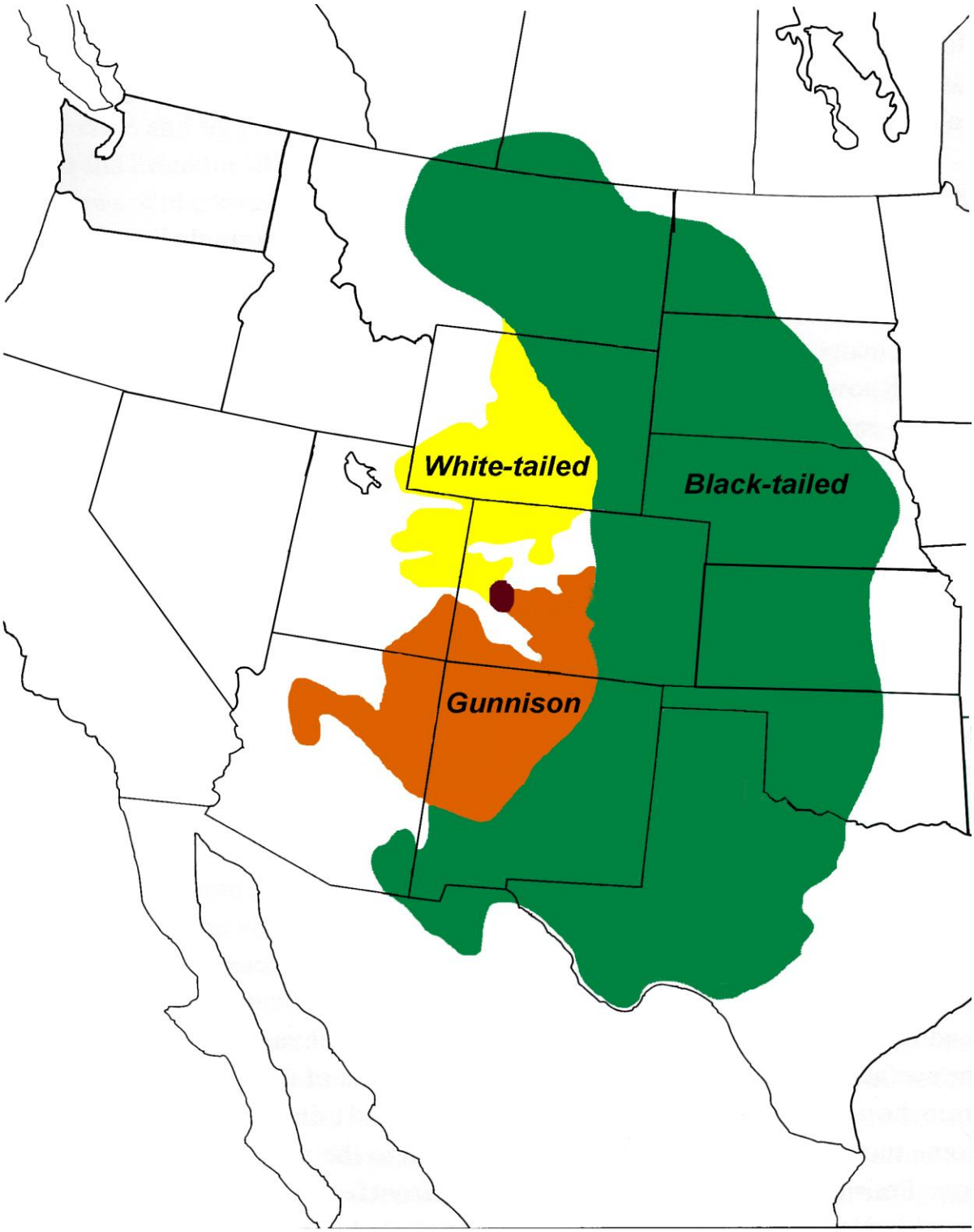
It is understood that any ownership interest in these lands that is not addressed via an appropriate signature below (e.g., mineral interest) is not constrained by this agreement and will not be limited in any way from the exercise of such interests, except when related to the deliberate take of a listed species and any already extant legal obligations.

COOPERATOR **DATE**

BLACK-FOOTED FERRET RECOVERY COORDINATOR **DATE**

APPENDIX B

Historical Range of Prairie Dogs and Black-footed Ferrets



APPENDIX C

Black-footed Ferret
Site-Specific Reintroduction Plan
TEMPLATE

Cooperators Name:

Insert Cooperator Name

Insert COI #

1.0 Legal description and map of enrolled lands: *Include a written legal description and a map showing the Conservation Zone and the Management Zone as discussed in section 7.0 of the Safe Harbor Agreement.*

2.0 Baseline for the Covered Species: *Include the number of black-footed ferrets on the lands at time of enrollment (for the purposes of regulatory assurances, baseline is considered to be zero).*

3.0 Current land use: *Include a description of current grazing practices on the land such as what types of livestock, approximate stocking rates, and timing of grazing.*

4.0 Conservation Activities:

A. Black-footed Ferret Reintroduction and Management: Upon signature by all Parties, the enrolled lands will be eligible to receive black-footed ferrets. Reintroduction and management activities will be carried out by the Permittee (Black-footed Ferret Recovery Coordinator) or designee. Approximately 20 ferrets may be released annually within the Conservation Zone identified on the enrolled lands in the fall. This process will be undertaken over the course of 3 days. ***[Include additional specific information as necessary]*** You will be notified 30 days prior to release activities.*

B. Disease Management: Upon signature by all Parties, the enrolled lands will be eligible for disease management activities. These activities will be carried out by the Permittee or designee. Disease management activities may include applying approximately 5 grams of DeltaDust™ (MSDS attached) into prairie dog burrows within the Conservation Zone and the Management Zone. Dust is typically applied using ATVs or by foot depending on topography. Applications can take several days to several weeks depending on acreage treated and size of work crews. Alternatively, oral vaccine baits could be distributed from ATVs or possibly aerially onto a prairie dog colony no more than once per year after emergence of the young. ***[Include additional specific information as necessary]*** The Cooperator will be notified 30 day prior to any disease management activities.*

C. Prairie Dog Management: Upon signature by all Parties, the enrolled lands may be eligible to receive assistance in prairie dog management. This will be facilitated by the Permittee or designee and carried out by Wildlife Services or other designated party. Prairie dog management may include lethal control of prairie dogs only outside of the Conservation Zone where identified on the Reintroduction Plan map to keep specific lands free of prairie dogs. ***[Include additional specific information as necessary]*** The Cooperator will be notified 30 days prior to any prairie dog management activities.*

**All conservation activities will be coordinated with the Cooperator. Every effort will be made to minimize conflicts with Cooperator's use of the lands. Only in emergency situations will the Permittee request access in less than 30 days.*

5.0 Monitoring: Each Cooperator will be expected to respond to a questionnaire (Appendix E of the Agreement) provided to them by the Permittee on an annual basis regarding status of ferrets on the enrolled land and ongoing routine grazing and ranching activities. Spotlight surveys for black-footed ferrets will be coordinated by the Permittee (or designee) to determine the success of the ferret reintroduction. ***[Include a description of anticipated surveys to be conducted]***

6.0 Changed Circumstances:

Changed Circumstance	Potential Effect to Black-Footed Ferrets	Proposed Response
Drought	Drought can limit forage quantity available for prairie dogs and livestock. Competition for this forage could limit prairie dog reproduction. Limited prairie dog reproduction could lead to limited food availability for ferrets.	Upon identification of a D2 or higher by the Drought Monitor and declaration by State Authorities, the Permittee will determine if adequate habitat is available on the enrolled lands for ferrets. If not, the Permittee may elect to trap any remaining ferrets for reintroduction elsewhere with adequate habitat. Landowner grazing activities will not be limited by the Permittee. Additional ferrets may be reintroduced to the enrolled lands after drought conditions have improved.
Fire	Direct effects of fire to ferrets or prairie dogs are unlikely as they can seek refuge within their burrows. However, fire can have short term impacts to the availability of forage for prairie dogs and therefore ferrets as discussed above.	Should a fire impact greater than 50% of the enrolled lands, the Permittee will determine if adequate habitat is available on the enrolled lands for ferrets. If not, the Permittee may elect to trap any remaining ferrets for reintroduction elsewhere with adequate habitat. Additional ferrets may be reintroduced to the enrolled lands after enrolled lands have recovered from the fire.
Disease	There are a number of native and non-native diseases that can impact ferrets. Impacts occur both directly (death of ferret) or indirectly through the loss of their food source, prairie dogs.	In the case where disease other than plague is suspected to have impacted ferrets, the Permittee will coordinate efforts to identify the disease with U.S. Geological Survey's National Wildlife Health Lab and the appropriate State Agency that oversee wildlife disease outbreaks. Potential response to the disease could include trapping and relocating ferrets if adequate habitat exists elsewhere. If disease causes loss of all ferrets at a reintroduction site, additional ferrets may be reintroduced if adequate habitat exists that is not impacted by disease.
Additional Land Uses	Changes in land use include, but are not limited to utility development (e.g., waterlines, power lines), energy development, and associated infrastructure. These changes could result in the incidental take ferrets through vehicle collision and/or decrease available prairie dog habitat and prairie dogs available for ferrets.	Any additional land uses proposed within the enrolled lands during the term of the Reintroduction Plan will be identified and reviewed by the parties to determine if the proposed use will decrease prairie dogs or ferret habitat. Any significant decreases in prairie dog habitat could be offset by including additional prairie dog habitat contiguous with the Conservation Zone resulting in no net loss of adequate prairie dog habitat. If sufficient additional habitat does not exist, the Permittee may elect to trap any remaining ferrets for reintroduction elsewhere with adequate habitat.
New Species Listing on Enrolled Lands	Conservation activities to benefit the black-footed ferret may have potential impacts to the new species.	If a non-covered species that occurs within the Agreement area becomes a federally listed species, the Service will assess whether the implementation of the Agreement may affect such species. If implementation may result in incidental take of such species, the Service will work with the enrolled landowners to determine appropriate modifications to the Agreement's conservation activities to either avoid or minimize incidental take. If take cannot be avoided, the Service will determine whether amending the

		Agreement and permit would be necessary to cover such additional species through the Section 7 process. If the landowner wishes to conserve the species and receive assurances for that species, the Service and landowner would mutually amend the Reintroduction Plan to document the baseline conditions for the species; potentially modify or add conservation measures; and the Service would amend the Agreement, Biological Opinion, and any relevant National Environmental Policy Act documents while providing for required public comment. Any Cooperator may withdraw for the Agreement at any time.
Change in Ownership Interest	Withdrawal of Cooperator from Agreement and termination of Reintroduction Plan may result in loss of site.	Coverage for incidental take will be maintained via the Biological Opinion, provided the former Cooperator notifies the Permittee and allows access to trap any remaining ferrets for reintroduction elsewhere.

7.0 **Reintroduction Plan Duration:** The duration of this plan will be **[number]** years from the date of signature. The Certificate of Inclusion will be in effect for as long as the terms of this Agreement and the Reintroduction Plan are met.

8.0 **Assurances to the Cooperator:**

Provided that the Cooperator complies with the provisions outlined in the Reintroduction Plan developed for the enrolled lands, the Service assures that it will not impose conservation measures and restrictions for the ferret on the use of the Cooperator's land, water, or resources additional to those already agreed upon in the Safe Harbor Agreement and the Reintroduction Plan throughout the term of the Certificate of Inclusion. Furthermore, the Certificate of Inclusion will provide the Cooperator with incidental take coverage of the ferret consistent with maintaining the baseline conditions as described in Section 2.0 of this Reintroduction Plan with the following conditions:

A. When a Cooperator is implementing the conservation activities identified in Section 4.0 of this Reintroduction Plan.
B. When a Cooperator is carrying out any legal activity, including routine ranching and grazing, on or adjacent to the enrolled lands in concert with conservation activities identified in section 4.0 of this Reintroduction Plan.
C. When a Cooperator is making any lawful use of Cooperator-owned non-enrolled lands that are adjacent to or in proximity of enrolled lands.
D. When a Cooperator is returning the enrolled lands to baseline at any time through otherwise lawful means.

9.0 **Modifications:**

a. Reintroduction Plan: Any party to this Reintroduction Plan may propose modifications by providing written notice to the other parties explaining the proposed modification and the reasons for the modification. Approval of a modification will require the written consent of the Permittee and Cooperator and must be consistent with the assurances described in Section 8.0 of the Reintroduction Plan. Any proposed modification to the Reintroduction

Plan will be considered effective as of the date that all affected parties have agreed in writing to the modification.

b. Certificate of Inclusion: The Certificate of Inclusion may be amended by the Cooperator and/or the Permittee in accordance with all applicable legal requirements in force at the time of the amendment, including, but not limited to, the Act, National Environmental Policy Act, and Service permit regulations (50 CFR, Parts 13 and 17). A request for an amendment of the Permit or Certificate of Inclusion would require, at a minimum: a written explanation of why the amendment is needed; and an explanation of what, if any, effects the amendment would have on the black-footed ferret. An amendment to the Permit would require the Service to publish a notice in the *Federal Register* of a 30-day public comment period for the proposed amendment.

c. Early Termination of the Reintroduction Plan: As provided for in Part 12 of the Service's Safe Harbor Policy (64 FR 32717), the Permittee may terminate the Reintroduction Plan prior to the expiration date. In such circumstances, the Cooperator may return the enrolled lands to baseline conditions even if the conservation activities identified in the Reintroduction Plan for the enrolled lands have not been fully implemented. Similarly, the Cooperator may terminate the Reintroduction Plan early. A Cooperator who withdraws from the Agreement would subsequently be regarded as a non-participating landowner interest who receives incidental take via the associated Biological Opinion, provided the Cooperator notifies the Permittee and allows the Service access to recapture ferrets during the following fall, prior to carrying out any otherwise lawful activity that may result in take of ferrets on enrolled lands, including a return to baseline. If a Cooperator fails to notify the Permittee regarding possible take or fails to provide access, coverage for incidental take will not be granted.

10.0 Other Measures:

A. Remedies. No party shall be liable in monetary damages for any breach of this Reintroduction Plan (Plan), any performance or failure to perform an obligation under this Reintroduction Plan or any other cause of action arising from this Plan.

B. Dispute Resolution. The Parties agree to work together in good faith to resolve any disputes using dispute resolution procedures agreed upon by all Parties.

C. Succession and Transfer. As provided in 50 CFR 13.25, if a Cooperator transfers his or her interest in the enrolled lands to another non-federal entity, the new owner has the option to accept the original Cooperators responsibilities and assurances. If the new owner chooses to accept the original Cooperator's responsibilities and assurances, the Service will regard the new owner or manager as having the same rights and responsibilities with respect to the enrolled lands as the original Cooperator for the remainder of the term of the agreement. If the new owner chooses not to participate in the Agreement and the activities described in the Reintroduction Plan, he or she will retain authorization for incidental take due to otherwise lawful activities via the Biological Opinion, provided the Service is given an opportunity to trap ferrets currently on the property.

D. Availability of Funds. Implementation of this Plan is subject to the requirement of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this Plan will be construed by the Parties to require the obligation, appropriation, or expenditure of any funds from the U.S. Treasury. The Parties acknowledge that the Service will not be required under the Plan to expend any federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

E. No Third-Party Beneficiaries. This Plan does not create any new right or interest in any member of the public as third-party beneficiary, nor shall it authorize anyone not a party to this Plan to maintain a suit for personal injuries or damages pursuant to the provisions of this Plan. The duties, obligations, and responsibilities of the parties to this Plan with respect to any third-party shall remain as imposed under existing law.

F. Notices and Reports
Any notices and reports, including monitoring and annual reports required by this Agreement shall be delivered to the persons listed below, as appropriate:

Black-footed Recovery Coordinator

U.S. Fish and Wildlife Service

P.O. Box 190
Wellington, CO 80549
(970) 897-2730

11.0 Signatures:

_____

COOPERATOR **DATE**

_____

BLACK-FOOTED FERRET RECOVERY COORDINATOR **DATE**

APPENDIX D

Black-footed Ferret Recovery Guidelines by State (U.S. Fish and Wildlife Service 2013)

State	# Breeding adults established to date	# Adults/# acres to downlist	# Adults/# acres to delist
Arizona	33-38	74 adults/17,000 ac	148 adults/34,000 ac
Colorado	8	149 adults/29,000 ac	288 adults/58,000 ac
Kansas	7-19	123 adults/18,500 ac	246 adults/37,000 ac
Montana	7-10	147 adults/22,000 ac	294 adults/44,000 ac
Nebraska	0	134 adults/20,000 ac	268 adults/44,000 ac
New Mexico	3	220 adults/39,000 ac	440 adults/78,000 ac
North Dakota	0	38 adults/6,000 ac	76 adults/12,000 ac
Oklahoma	0	70 adults/10,500 ac	140 adults/21,000 ac
South Dakota	110-272	102 adults/15,000 ac	204 adults/30,000 ac
Texas	0	254 adults/38,000 ac	508 adults/76,000 ac
Utah	1-13	25 adults/6,000 ac	50 adults/12,000 ac
Wyoming	98-102	171 adults/35,000 ac	341 adults/70,000 ac
TOTAL	274-488	1,507 adults/256,000 ac	3,004 adults/512,000 ac

APPENDIX E

Annual Report to Cooperator by Permittee

Certificate of Inclusion #:	
Name:	
State:	
County:	
Date (covering past year):	

Conservation Activities

Date:	# Released		Black-footed Ferret Reintroductions *
Date:	# Acres Treated	Method	Disease Management
Date:	# Acres Treated	Method	Prairie Dog Management

***Note number of animals released and pertinent conditions at release**

APPENDIX F

Annual Report to Permittee by Cooperator

Questionnaire

Certificate of Inclusion #:	
Name:	
State:	
County:	
Date (covering past year):	
Ferrets	
1.	Have you seen ferrets or any sign of live ferrets? If so, give approximate location.
2.	Have you seen any dead ferrets? If so, how many? Please provide approximate location.
3.	Please describe what circumstances resulted in the dead ferret, if known.
Prairie Dogs	
4.	What changes have you noticed in prairie dog densities? Die-offs? If any, describe the extent of the die-off.

Grazing	
5.	Are you actively grazing the enrolled lands?
6.	Please describe any changes in your grazing practices in the past 12 months.

General

7.	Has the reintroduction of ferrets caused any hardship to your operation? If so, please describe.
8.	Other comments or suggestions

APPENDIX G

Black-footed Ferret Recovery Implementation Team – Executive Committee as of 2012.	
Position	**Agency**
Chair	Texas Parks and Wildlife Department
Vice Chair	U.S. Fish and Wildlife Service
Past Chair	Wyoming Game and Fish Department
Coordinator	U.S. Fish and Wildlife Service
Member – State	Arizona Game and Fish Department
Member – State	Colorado Parks and Wildlife Department
Member – State	Kansas Department of Wildlife, Parks, and Tourism
Member – State	Montana Department of Fish, Wildlife and Parks
Member – State	Nebraska Game and Parks Commission
Member – State	New Mexico Department of Game and Fish
Member – State	North Dakota Game and Fish Department
Member – State	Oklahoma Department of Wildlife Conservation
Member – State	South Dakota Department of Game Fish & Parks
Member – State	Utah Division of Wildlife Resources
Member – Federal	U.S. APHIS - WS
Member – Federal	U.S. Bureau of Indian Affairs
Member – Federal	U.S. Bureau of Land Management

Member – Federal	U.S. Forest Service
Member – Federal	U.S. Geological Survey
Member – Federal	National Park Service
Member – Federal	Natural Resources Conservation Service
Member – Tribe	Cheyenne River Sioux Tribe
Member – Tribe	Gros Ventre & Assiniboine Tribe
Member – Tribe	Lower Brule Sioux Tribe
Member – Tribe	Northern Cheyenne Tribe
Member – Tribe	Rosebud Sioux Tribe
Member – Tribe	Navajo Nation
Member – International	Grasslands National Park of Canada
Member – International	Universidad Autonoma Matropolitana Mexico
Member – NGO	Audubon of Kansas
Member – NGO	American Zoo & Aquarium Association
Position	Agency
Member – NGO	Defenders of Wildlife
Member – NGO	National Wildlife Federation
Member – NGO	Prairie Wildlife Research
Member – NGO	The Nature Conservancy
Member – NGO	Turner Endangered Species Fund

Member – NGO	**World Wildlife Fund**
Member – NGO	**National Fish and Wildlife Foundation**

ATTACHMENT 4

List of Native American Tribes with Lands within the Action Area

Tribe	State or City
Assiniboine and Sioux Tribes of Ft. Peck	Montana
Cheyenne River Sioux	South Dakota
Chippewa-Cree of Rocky Boys	Montana
Crow	Montana
Crow Creek Sioux	South Dakota
Gros Ventre and Assiniboine Tribes of Ft. Belknap	Montana
Lower Brule Sioux	South Dakota
Northern Cheyenne	Montana
Oglala Sioux	South Dakota
Rosebud Sioux	South Dakota
Southern Ute Indian Tribe	Colorado
Spirit Lake Sioux Tribe	North Dakota
Standing Rock Sioux	North Dakota
Three Affiliated Tribes	North Dakota
Uintah and Ouray Tribes	Utah
Ute Mountain Ute	Colorado
Winnebago Tribe of Nebraska	Nebraska
Yankton Sioux	South Dakota
Ak-Chin Indian Community	Maricopa
Chemehuevi Tribe	Havasu Lake
Cocopah Indian Tribe	Somerton
Colorado River Indian Tribes	Parker
Fort McDowell Yavapai Nation	Fountain Hills
Fort Mojave Indian Tribe	Needles
Gila River Indian Community	Sacaton
Havasupai Tribe	Supai
Hopi Tribe	Kykotsmovi
Hualapai Tribe	Peach Springs
Kaibab Band of Paiute Indians	Kiabab
Navajo Nation	Window Rock

Pascua Yaqui Tribe	Tuscan
Quechan Tribe	Yuma
Salt River Pima-Maricopa Indian Community	Scottsdale
San Carlos Apache Tribe	San Carlos
San Juan Southern Paiute Tribe	Tonalea
Tohono O'odham Nation	Sells
Tonto Apache Tribe	Pason
White Mountain Apache Tribe	White River
Yavapai Apache Nation	Camp Verde
Yavapai-Prescott Tribe	Prescott
Pueblo of Acoma	Acomita
Pueblo of Cochiti	Cochiti
Pueblo of Isleta	Isleta
Pueblo of Jemez	Jemez
Jicarilla Apache Nation	Dulce
Pueblo of Laguna	Laguna
Mescalero Apache Tribe	Mescalero
Pueblo of Nambe	Santa Fe
Pueblo of Picuris	Penasco
Pueblo of Pojoaque	Santa Fe
Pueblo of Sandia	Bernalillo
Pueblo of San Felipe	San Filipe
Pueblo of San Ildefonso	Santa Fe
Ohkay Owingeh	San Juna Pueblo
Pueblo of Santa Ana	Santa Ana Pueblo
Pueblo of Santa Clara	Espanola
Kewa Pueblo - *formally Pueblo of Santo Domingo*	Santo Domingo
Pueblo of Taos	Taos
Pueblo of Tesuque	Santa Fe
Pueblo of Zia	Zia Pueblo
Pueblo of Zuni	Zuni
Ramah Navajo Chapter	Ramah
Absentee-Shawnee Tribe	Shawnee

Alabama-Quassarte Tribal Town	Wetumka
Apache Tribe of Oklahoma	Anadarko
Caddo Nation	Binger
Cherokee Nation	Tahlequah
Cheyenne-Arapaho Tribes	Concho
Chickasaw Nation	Ada
Choctaw Nation of Oklahoma	Durant
Citizen Potawatomi Nation	Shawnee
Comanche Nation of Oklahoma	Lawton
Delaware Nation	Anadarko
Eastern Shawnee Tribe	Seneca
Fort Sill Apache Tribe	Apache
Iowa Tribe of Oklahoma	Perkins
Kaw Nation	Kaw City
Kialegee Tribal Town	Wetumka
Kickapoo Tribe of Oklahoma	McLoud
Kiowa Tribe of Oklahoma	Carnegie
Miami Tribe	Miami
Modoc Tribe	Miami
Muscogee (Creek) Nation	Okmulgee
Osage Nation	Pawhuska
Otoe-Missouria Tribe	Red Rock
Ottawa Tribe	Miami
Pawnee Nation	Pawnee
Peoria Tribe of Indians of Oklahoma	Miami
Ponca Tribe	Ponco City
Quapaw Tribe	Quapaw
Sac and Fox Nation	Stroud
Seminole Nation of Oklahoma	Wewoka
Seneca-Cayuga Tribe	Miami
Shawnee Tribe	Miami
Thlopthlocco Tribal Town	Okemah
Tonkawa Tribe of Oklahoma	Tonkawa

United Keetoowah Band of Cherokee Indians	Tahlequah
Wichita and Affiliated Tribes	Anadarko
Wyandotte Nation	Wyandotte
Alabama-Coushatta Tribe Of Texas	Livingston
Kickapoo Traditional Tribe of Texas	Eagle Pass
Ysleta Del Sur Pueblo	El Paso