

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

U.S. Fish and Wildlife Service
December 6, 2012

SEN. NATURAL RESOURCES

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Attachment # 1-1

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Acronyms

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

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Glossary

Assurances – Regulatory certainty that the U.S. Fish and Wildlife Service (USFWS) will not impose additional conservation measures and land, water, or resource use restrictions beyond those measures and restrictions described in the Agreement on landowners enrolled in a Safe Harbor Agreement as a result of their voluntary conservation actions to benefit covered species. These assurances are authorized by the permit issued under Section 10(a)(1)(A) of the ESA and apply to the covered species on the enrolled lands.

Baseline – Baseline is the number of black-footed ferrets that occur on the lands at the time of enrollment under the Safe Harbor Agreement as mutually agreed upon by the Cooperator and the U.S. Fish and Wildlife Service (USFWS).

Certificate of Inclusion – The document issued by the Permittee to the Cooperator that conveys the incidental take authorization and assurances of the enhancement of survival permit to the Cooperator.

Conservation Activity – A Conservation activity in the Safe Harbor Agreement refers to the actions that will be taken to provide a net conservation benefit to the black-footed ferret. Conservation activities may be carried out by the Permittee or Designee or the Cooperator as described in the document.

Conservation Zone – The Conservation Zone is the core area that will provide the necessary attributes to support 30 adult ferrets. Typically, it will be a minimum of 1,500 acres of black-tailed prairie dog habitat or 3,000 acres of white-tailed prairie dog or Gunnison's prairie dog habitat. It may be owned by one or more landowners. Activities consistent with ferret conservation will be allowed such as routine ranching and identified conservation activities. The Conservation Zone will be identified on a map of the enrolled lands and all conservation activities within the Conservation Zone will be described in an associated Reintroduction Plan.

Cooperator – The Cooperator is any non-Federal landowner (including private entities, 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).

Covered Species – Covered species are those species listed under the ESA for which the Safe Harbor Agreement is designed to provide a net conservation benefit. The covered species are also those for which the incidental take permit authorizes take. The black-footed ferret is the only covered species in this Agreement.

Downlist – The reclassification of a species from endangered to threatened. Usually downlisting is a result from successful recovery actions that have addressed some portion of the threats to the species.

Incidental Take – Incidental take is the accidental or inadvertent harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing or collecting a species listed as threatened or endangered under the Endangered Species Act (ESA) pursuant to carrying out otherwise legal activities.

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

Management Zone – The Management Zone is intended to provide a buffer to the Conservation Zone. It may or may not have occupied prairie dog habitat but will allow Cooperators to carry out activities beyond routine ranching and conservation activities, such as prairie dog management, if necessary. It will be identified on a map of the enrolled lands, and all conservation activities within the Management Zone will be described in the individual Reintroduction Plan.

Non-Federal lands - Lands that are owned by entities other than the Federal government, including private entities, tribes (see tribal lands below), states, municipalities and non-governmental organizations.

Parties – The Parties are collectively the Black-footed Ferret Recovery Coordinator and the Cooperator and any other Partners as described in Part 10.3 of the Safe Harbor Agreement and identified in the Reintroduction Plan.

Permit – The enhancement of survival permit is a legal document issued by the USFWS that authorizes incidental take associated with actions identified in the Safe Harbor Agreement, pursuant to Section 10(a)(1)(A) of the ESA. The enhancement of survival permit specifies the species for which incidental take is authorized, the level and type of take authorized, the covered lands, and any terms and conditions.

Permittee – The Permittee is the entity that holds the permit issued pursuant to the Safe Harbor Agreement. In this case, the Permittee is the Black-footed Ferret Recovery Coordinator of the U.S. Fish and Wildlife Service (USFWS).

Reintroduction Plan – The Reintroduction Plan is the document that describes conditions of the lands to be enrolled, boundaries of the Conservation and Management Zones and the conservation activities to be carried out in each zone. A Reintroduction Plan will be developed for each property volunteered for enrollment. The Cooperator, Recovery Coordinator, and potentially any partners, will collaboratively develop and sign the Reintroduction Plan before enrolling the property and a certificate of inclusion is issued.

Routine Livestock Grazing and Ranching Activities – Routine livestock grazing and ranching activities are those activities required to manage a livestock operation. It may or may not be

part of a traditional ranch. These include but are not limited to, grazing livestock, driving vehicles and equipment to and from the livestock operation; 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; and treating invasive plants.

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

Tribal Lands – For purposes of this Safe Harbor Agreement, 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 the Indian Tribe; held by an individual Indian or Indian Tribe; or held by a dependent Indian community.

10(a)(1)(A) Recovery Permit – Also referred to as enhancement of survival permit, research permit, or incidental take permit. This permit authorizes take that would otherwise be prohibited by Section 9 of the ESA when such take is a result of activities for scientific research or to enhance the propagation or survival of a listed species.

10(j) Experimental Population - Section 10 of the Endangered Species Act provides for exceptions to prohibitions under Section 9. Section 10(j) allows the Secretary of Interior to release experimental populations 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 more regulatory flexibility.

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 (ESA) in 1973 (USFWS2008b). It was twice considered extinct or nearly extinct before all known wild ferrets were captured for captive breeding on 1985. Secure in captivity, efforts to reintroduce the species back into the wild have been underway since 1990. Today there are 19 reintroduced populations within 8 of the 12 states where it historically occurred. The 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 recently 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 developed a comprehensive black-footed ferret recovery strategy on 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 draft programmatic safe harbor agreement has been developed under section 10(a)(1)(A) of the Endangered Species Act (ESA) and is under consideration. If approved, a section 10(a)(1)(A) Enhancement of Survival Permit (permit) will be issued to the Black-footed Ferret Recovery Coordinator (Recovery Coordinator) of the U.S. Fish and Wildlife Service (USFWS). The draft programmatic safe harbor agreement (Agreement) is incorporated herein by reference.

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 USFWS must ensure that the action complies with the requirements of NEPA. Therefore, the USFWS 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 Recovery Coordinator under the Safe Harbor Agreement program. The purpose of issuing the permit and approval of the proposed Agreement is to facilitate recovery of the black-footed ferret on non-federal and tribal lands within the historical range of this species. The permit and Agreement are intended

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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 500,000 acres within the 3 million acres of potential ferret habitat range wide (USFWS 2009, Interagency MOU 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 in 19 locations. To contribute to recovery of this species, the current Black-footed Ferret Recovery Plan (USFWS 1988, USFWS 2009) calls for the establishment of additional ferret populations throughout the species' historical range. Several populations throughout the range of the species are necessary to prevent further declines from demographic and environmental effects associated with local stochastic events such as plague, diseases and climate change. Reintroduction efforts to date have taken considerable coordination and cooperation by many State, Tribal, Federal and non-governmental partners. All past reintroduction actions have been carried out as ESA section 10(j) experimental populations and/or under section 10(a)(1)(A) recovery permits. These processes can be complex and time-consuming and have resulted in approximately 1 new reintroduction site per year for the last 20 years.

An additional challenge to the reintroduction of ferrets on non-federal and tribal lands is the concern that the presence of an endangered species will create additional regulatory burdens for the landowner. In order to engage many non-federal and tribal landowners to participate in the recovery of black-footed 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 and tribal lands across the entire historical range of the species. While only lands that have suitable prairie dog habitat adequate to support 30 adult breeding 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 occasionally disperse several miles. Therefore, the action area for this EA includes the entire historical range of the species.

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 ferrets were historically endemic to the range of three of the prairie dog species (Gunnison's, white-tailed and black-tailed) (Figure 1). Therefore, the historic range of the ferret and hence the action

area is the range of the three prairie dog species. These lands occur within portions of 12 states including Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah and Wyoming.

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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 from tribes are included in the table below.

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Date	Party Contacted	Type of Contact	General Comments
3/13/2012	National Association of Fish and Wildlife Agencies	Meeting	General support of the Agreement concept and the first draft SHA. No red flag concerns identified.
3/28/2012	All 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	Cattlemen's Assoc. and Stockgrowers Assoc.	Meeting	General support for the concept. Indicated that financial assistance to landowner is only part of the incentive package; 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

3.0 ALTERNATIVES

3.1 ALTERNATIVE A – NO ACTION

Under Alternative A, the USFWS would not issue a section 10(a)(1)(A) Enhancement of Survival Permit under a programmatic Safe Harbor Agreement. 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.

Section 10(j) of the ESA 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) ferret populations are designated as non-essential experimental populations. For purposes of section 7 of the ESA, these populations are treated as if they are a species listed as threatened on USFWS lands and National Park Service lands, and as if proposed for listing on all other lands. Since 1991, 11 ferret populations have been established within 7 experimental population areas.

Section 10(a)(1)(A) recovery permits provide authorization for take associated with reintroduction and management activities. The intra-Service consultation under section 7 of the ESA on the issuance of such permits covers incidental take for landowners of ferrets that disperse or expand onto their properties. The maximum term for these permits is five years, but they can be renewed. To date, five 10(a)(1)(A) recovery permits for black-footed ferret reintroduction on non-federal and tribal lands have been issued.

Additional conservation activities beneficial to ferret persistence, such as plague management and purposeful prairie dog management, may or may not occur through these 10(j) experimental population designations or recovery permits. If they do occur, it will likely be intermittent and infrequent. Plague management occasionally occurs as needed at existing reintroduction sites where plague outbreaks occur. Fleas, the main vector of plague transmission, are controlled with deltamethrin, an unrestricted use pesticide classified by the Environmental Protection Agency. Deltamethrin 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 deltamethrin 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 (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 19 reintroduction sites have been treated with deltamethrin for flea control.

Prairie dog management typically refers 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. 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. Lethal prairie dog management includes shooting, trapping, and the use of various fumigants and toxicants. Currently lethal prairie dog management is legal in all twelve states within the action area but regulated at various levels (USFWS , 2009). Lethal prairie dog management that currently occurs is done by various means, including shooting, and using a variety of poisons and toxicants. The most commonly used products today are zinc phosphide oats or other grain baits inserted into active burrows and fumigants inserted into active burrows (Luchsinger 2006).

Because any landowner can carry out prairie dog management in most situations, it is unknown exactly how much non-lethal and lethal prairie dog management is occurring on non-federal and tribal 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 was poisoned (USFWS 2009). In spite of this, increasing black-tailed prairie dog population trends across the range, indicate that poisoning is not a current threat to the species (USFWS 2009). Under the No Action Alternative, prairie dog management both lethal and nonlethal, are expected to remain unchanged. Prairie dog management would continue as it currently does with no monitoring of the occurrence of this activity or the potential associated impacts.

Livestock grazing and routine ranching are currently a predominant land use on suitable lands within the action area. Under Alternative A, 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 to occur. However, there are a number of factors that influence the economics of livestock grazing including weather, regulations (including ESA) and financial situations. In unknown 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 an Enhancement of Survival Permit under the Black-footed Ferret Range-Wide Programmatic Safe Harbor Agreement to promote additional ferret reintroductions through voluntary participation on non-federal and tribal lands throughout the species’ historical range. Below is a synopsis of the Draft Agreement. A complete copy of the Agreement is found in Appendix C.

The USFWS would issue an Enhancement of Survival permit to the Recovery Coordinator, who would then enroll eligible landowners (Cooperators) who volunteer their property for ferret reintroduction and to implement the conservation activities identified in the Agreement. Each Cooperator would be enrolled through a Certificate of Inclusion, which conveys incidental take authorization and assurances that the USFWS 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 40 years.

Lands eligible for enrollment in this Agreement include non-Federal and tribal 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 1,500 or more acres of black-tailed prairie dog habitat or 3,000 or more acres of white-tailed or Gunnison's prairie dog habitat, but these amounts may vary depending on site conditions. The Recovery Coordinator 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 can be combined to meet these eligibility criteria. 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.

Each participating landowner would work with the Recovery Coordinator 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 a Management Zone where the conservation activities would occur. The Reintroduction Plan also would describe the conservation activities to be implemented on the enrolled land. The conservation activities for the enrolled lands would include the reintroduction of black-footed ferrets, plague management, prairie dog management and livestock grazing.

Each Conservation Zone would be approximately 1,500 acres or more of occupied black-tailed prairie dog habitat or approximately 3,000 acres or more 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. Livestock grazing and routine ranching activities may continue within the Conservation Zone, including the installation and maintenance of fencing, installation and maintenance of watering facilities, livestock care and movement, and noxious and invasive weed management. Land uses and activities that could substantially alter ferret habitat suitability through the reduction of prairie dogs (e.g., energy development or conversion of grazing lands to croplands) would not occur within the Conservation Zone.

The Management Zone may or may not have occupied prairie dog habitat. It would consist of additional acres adjacent or in close proximity to the Conservation Zone, but would not exceed the number of acres in the Conservation Zone. Conservation Activities within the Management Zone may also include plague management if occupied by prairie dogs, and/or prairie dog management as defined in the Reintroduction Plan. Livestock grazing and routine ranching activities also may continue in the Management Zone, including the installation and maintenance of fencing, installation, and maintenance of watering facilities, livestock care and movement, noxious and invasive weed management, and other routine ranching activities.

Plague management may occur within the Conservation Zone and or the Management Zone. Cooperators enrolled in this Agreement will allow for the treatment of plague as appropriate and necessary on their enrolled lands for the protection of ferrets and prairie dogs. Plague management activities will be coordinated and carried out by the Permittee or designee.

Currently there are effective vaccines that will protect 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.

Application of deltamethrin for plague management would be conducted in the same manner as described in Alternative A, but would be coordinated by the Recovery Coordinator or designee to be carried out in a strategic manner in cooperation with a number of recovery partners, including Wildlife Services, State wildlife agencies and non-governmental organizations.

An alternative to deltamethrin for plague management 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 critical plague antigens to target animals through the use of baits (USGS 2012). If effective, this vaccine could be used on lands enrolled under this Agreement. The oral vaccine is placed in baits that are distributed from ATVs or possibly aurally onto a prairie dog colony once per year or possibly less, depending upon research results. Prairie dogs consume the bait and become vaccinated thereby preventing 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. The oral vaccine may negate the need to live-trap ferret kits for vaccination as described in Alternative A. This plague abatement technique is expected to be less labor intensive. However, it may require limiting access of livestock to treated areas for a couple of days after application to avoid livestock consumption of the bait.

Each Reintroduction Plan would outline any necessary prairie dog management that can be carried out on enrolled lands to address landowner concerns of unwanted expansion of prairie dogs onto non-participating or neighboring lands, according to each Reintroduction Plan. Only non-lethal prairie dog management would be allowed in Conservation Zones. 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 would include live trapping and relocation to other appropriate locations where local and State ordinances and laws permit such activities. Non-lethal methods would also include the use of structural or vegetative barriers to discourage prairie dog movement. Non-lethal or lethal methods may be conducted in Management Zones. Implementation of lethal prairie dog management will likely be carried out by Wildlife Services and/or other local entities such as weed and pest boards. Lethal activities would be limited to shooting and applying zinc phosphide by licensed applicator, as directed by the Recovery Coordinator or designee, according to the Reintroduction Plan.

As indicated in the Agreement, each Reintroduction Plan will describe the monitoring to occur on enrolled lands. Monitoring will inform the USFWS of the status of implementation of the conservation activities, track incidental take of ferrets, and determine success of ferret reintroductions on the enrolled properties. Annual reports must 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 provides incidental take coverage and assurances to the Cooperator, would extend 5 years beyond the term of the Reintroduction Plan. This extended period permit term would cover incidental take of ferrets that may occur if the Cooperator chooses to return the enrolled lands to baseline upon expiration of the Reintroduction Plan. The Cooperator may choose to terminate the Reintroduction Plan prior to expiration, but would forfeit the certificate of inclusion along with take coverage and assurances.

Non-participating landowners whose land-use activities may incidentally take ferrets dispersing or expanding onto their lands would receive authorization of such take through the intra-Service ESA Section 7 biological opinion that the USFWS must complete for the issuance of the permit. If such landowners desire the assurances we provide with the permit and certificates of inclusion, they may sign an accompanying statement that provides such assurances (Appendix F of the Agreement) without further obligations.

3.3 ALTERNATIVE C – INDIVIDUAL SAFE HARBOR AGREEMENTS

Under Alternative C, we would work with each willing individual non-federal or tribal landowners to develop separate safe harbor agreements for ferret reintroductions. Each landowner with an approved Agreement would receive their own permit, which would likely

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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 ESA 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 unaffected 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' ESA listing status is indicated in parentheses in the headings.

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

Species	Status	Location	Impact
black-footed ferret	E EXP	AZ, CO, KS, MT, NM, OK, UT, WY	PI
California condor	E EXP	AZ, NM, UT, CO	PI
greater sage-grouse	C	WY, MT, SD, ND, CO, UT	PI
Gunnison prairie dog	C	CO, UT, NM, AZ	
Gunnison sage-grouse	C	CO, UT	PI
lesser prairie chicken	C	CO, KS, OK, TX	
Sprague Sapsucker	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 (Anderson et al. 1986), we assume that ferrets were historically endemic to the range of three prairie dog species (Gunnison's, white-tailed and black-tailed).

Today, 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, USFWS 2010). These same factors that have impacted prairie dogs have also impacted ferrets. While poisoning of prairie dogs is regarded as a major factor in the historical decline of prairie dogs and black-footed 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 (USFWS 2009). However, sylvatic plague, caused 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 (Abbot and Roche 2012).

These factors cumulatively lead to declines in ferret populations. By 1987, the last remaining wild black-footed 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 across 6 facilities, which provide surplus animals for release. After successful captive breeding efforts, the first captive bred black-footed 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 800 ferrets exist at 19 reintroduction sites across their historical range (USFWS, 2012). 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)

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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 10 kilograms (22 pounds) with wing spans up to 2.9 meters (9.5 feet) (USFWS 1996; 61 FR 54043). Condors reach sexual maturity by 5 to 6 years of age and breeding occurs between 6 and 8 years of age. Condors are strict scavengers. Unlike turkey vultures, condors do not have an exceptional sense of smell (National Park Service 2005). They 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 (61 FR 54045). Without the guidance of their parents, young, inexperienced juvenile condors may also investigate the activity of humans. As young condors learn and mature, this human directed curiosity diminishes (National Park Service 2005).

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 USFWS 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 ESA (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 Vermilion Cliffs, Arizona.

Most California condor deaths are directly or indirectly related to human activity. Shootings, poisoning, lead poisoning, and collisions with power lines are the condors' 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 birds more vulnerable to these threats.

4.1.3 Greater Sage Grouse (Candidate)

Greater sage-grouse (*Centrocercus urophasianus*) are the largest grouse in North America. Males often weigh in excess of 2 to 3 kilograms (4-7 pounds) and hens weigh 1 to 2 kilograms (2-4 pounds) (USFWS 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 USFWS's March 2010 status review (75 FR 13915). 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.

4.1.4 Gunnison Prairie Dog (Candidate)

The Gunnison's prairie dog (*Cynomys gunnisoni*) is a member of the Sciruidae family which includes squirrels, chipmunks, marmots, and prairie dogs. Adult Gunnison's prairie dogs vary in length from 12 to 15 inches and weight 23 to 42 ounces, with males averaging slightly larger than females. They are yellowish buff 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 to 12,000 feet. Gunnison prairie dog occurs in Arizona, Colorado, New Mexico and Utah.

In 2008, the USFWS 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 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 (USFWS 2008). 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 (USFWS 2008). Of all the factors affecting Gunnison's prairie dog populations, sylvatic plague is the most significant. While both white-tailed and black-tailed prairie dogs have been reported to recover following population 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

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