



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

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**SEP 28 2015**

### Memorandum

To: Assistant Regional Director, Ecological Services, U.S. Fish and Wildlife Service, Region 6, Lakewood, Colorado

From: Field Supervisor, U.S. Fish and Wildlife Service, Wyoming Field Office, Cheyenne, Wyoming 

Subject: Final Intraservice Biological Opinion on the Issuance of a New Federal Rule to Designate the Black-footed Ferret as a Non-Essential Experimental Population in the State of Wyoming in Accordance with Section 10(j) of the Endangered Species Act of 1973, as Amended

This document transmits the U.S. Fish and Wildlife Service's (Service) final Biological Opinion (BO) on the issuance of a new federal rule to designate the black-footed ferret (*Mustela nigripes*) as a non-essential experimental population in the State of Wyoming in accordance with section 10(j) of the Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq. (ESA). Importantly, the overall effect of the proposed action will likely enhance the conservation and recovery of the species.

This BO is based on the information provided in the Establishment of a Statewide Non-essential Experimental Population of Black-footed Ferrets in Wyoming (80 FR 19263, April 10, 2015), the Environmental Assessment for the Black-footed Ferret Wyoming Statewide 10(j) Rule, and the June 2009 Block Clearance Document "Reevaluation of the Block Clearance Process for the Black-footed Ferret in Wyoming with Recommendations to the U.S. Fish and Wildlife Service (WGFD 2009), and Black-footed Ferret Recovery Plan (USFWS 2013a)."

On March 23, 2010, the Service determined that the greater sage-grouse (*Centrocercus urophasianus*; sage-grouse) warranted the protections of the ESA, but that adding it to the List of Endangered and Threatened Wildlife under the ESA was precluded by higher priority listing actions (75 FR 13910). However, as of September 22, 2015, the sage-grouse is no longer warranted for listing under the ESA and does not require analysis in Section 7. Thus, the sage-grouse is not a candidate species and further analysis in a conference opinion is not required.

A complete administrative record of this consultation is on file at the Service's Wyoming Ecological Services Field Office in Cheyenne, Wyoming. If you have any questions regarding this BO, please contact Lynn Gemlo of my office at the letterhead address or phone (307) 772-2374.

Attachments (1)

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**Final Intra-service Biological Opinion on the Issuance of a New Federal Rule to Designate the Black-Footed Ferret (*Mustela nigripes*) as a Non-Essential Experimental Population in the State of Wyoming in Accordance with Section 10(j) of the Endangered Species Act of 1973, as Amended**

Consultation # 06E13000-2015-F-0154



Photo Credit: U.S. Fish and Wildlife Service

**Prepared by:**

**U.S. Fish and Wildlife Service  
Wyoming Ecological Services, Region 6  
September 28, 2015**

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# BIOLOGICAL OPINION

## INTRODUCTION

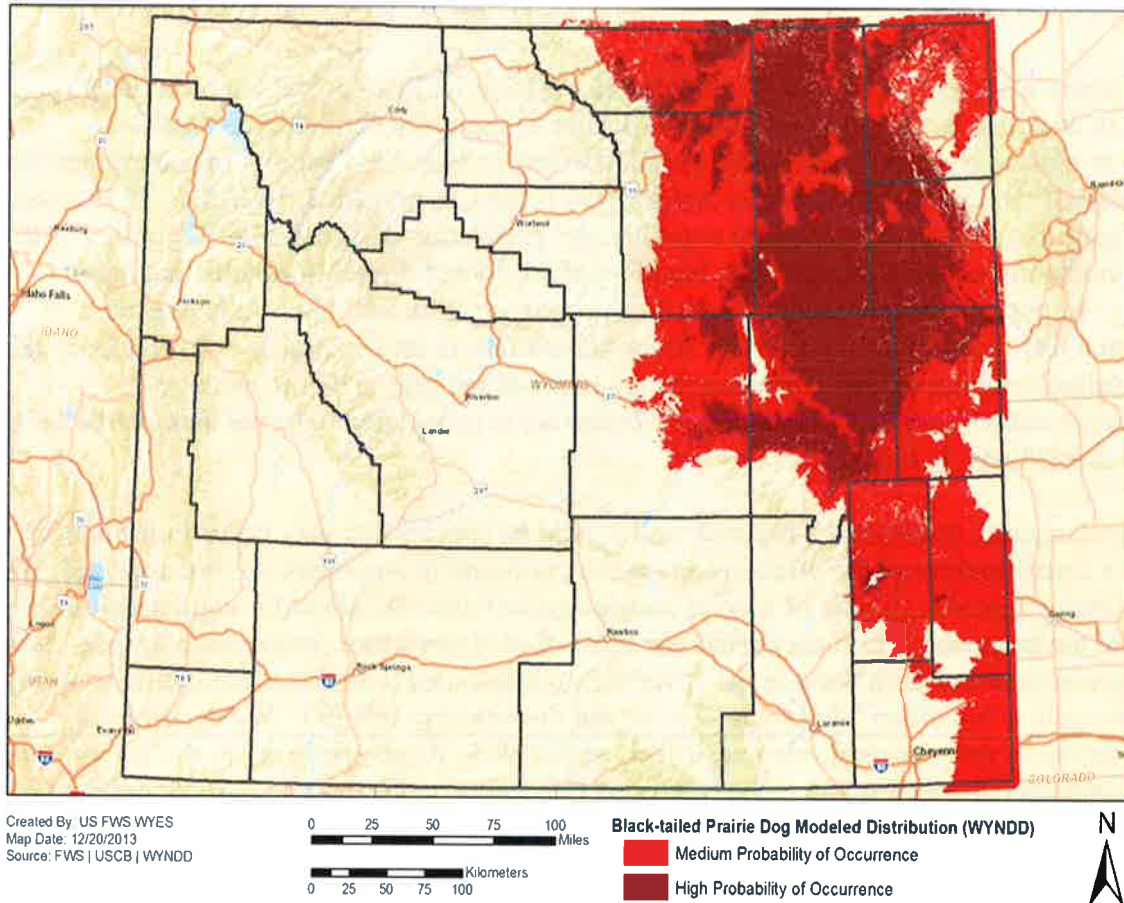
This document is the U.S. Fish and Wildlife Service's (Service) Biological Opinion (BO) prepared in response to the proposed action to designate the black-footed ferret (*Mustela nigripes*) as a non-essential experimental population in the State of Wyoming in accordance with section 10(j) of the Endangered Species Act of 1973 (ESA), as amended, 16 U.S.C. 1531 *et. seq.* We anticipate a statewide non-essential experimental population designation in Wyoming will facilitate reestablishment of successfully breeding black-footed ferrets to suitable habitat in Wyoming. Importantly, the overall effect of the proposed action will likely enhance the conservation and recovery of the species. Black-footed ferrets rely on prairie dogs for food and shelter. Suitable habitat within Wyoming for the black-tailed prairie dog (*Cynomys ludovicianus*) and white-tailed prairie dog (*C. leucurus*) is considered to be the action area for the proposed rule (Figure 1; Figure 2).

A list of endangered, threatened, proposed, and candidate species that may occur in the action area, and a determination of the effects of the action, is found in Appendix A. We analyzed the effects of the proposed action to 24 species and designated critical habitat for eight species. We determined the proposed action may affect the black-footed ferret and greater sage-grouse. The greater sage-grouse was addressed in the cover memo associated with this consultation package, and species with a "no effect" determination are not discussed in this BO. We determined implementation of the proposed rule may affect, and is likely to adversely affect the black-footed ferret, an endangered species, and is the subject of this formal consultation. Direct, indirect and cumulative effects to the black-footed ferret are addressed in this BO.

This BO is based on information provided in the final rule establishing a statewide non-essential experimental population of black-footed ferrets in Wyoming (USFWS 2015a), the Environmental Assessment (EA) for the Black-footed Ferret Wyoming Statewide 10(j) Rule (USFWS 2015b), and the Block Clearance Document "Reevaluation of the Block Clearance Process for the Black-footed Ferret in Wyoming with Recommendations to the U.S. Fish and Wildlife Service" (Wyoming Game and Fish Department (WGFD) 2009), and Black-footed Ferret Recovery Plan (USFWS 2013a). A complete administrative record of this consultation is on file at the Service's Wyoming Ecological Services Field Office in Cheyenne, Wyoming. This BO was prepared in accordance with Section 7 of the ESA and the Interagency Cooperation Regulations (50 CFR 402). It is our biological opinion that the issuance of a new federal rule to designate non-essential experimental population status for the black-footed ferret in the State of Wyoming in accordance with section 10(j) of the ESA, is not likely to jeopardize the continued existence of the black-footed ferret.



### Black-tailed Prairie Dog Modeled Distribution in Wyoming

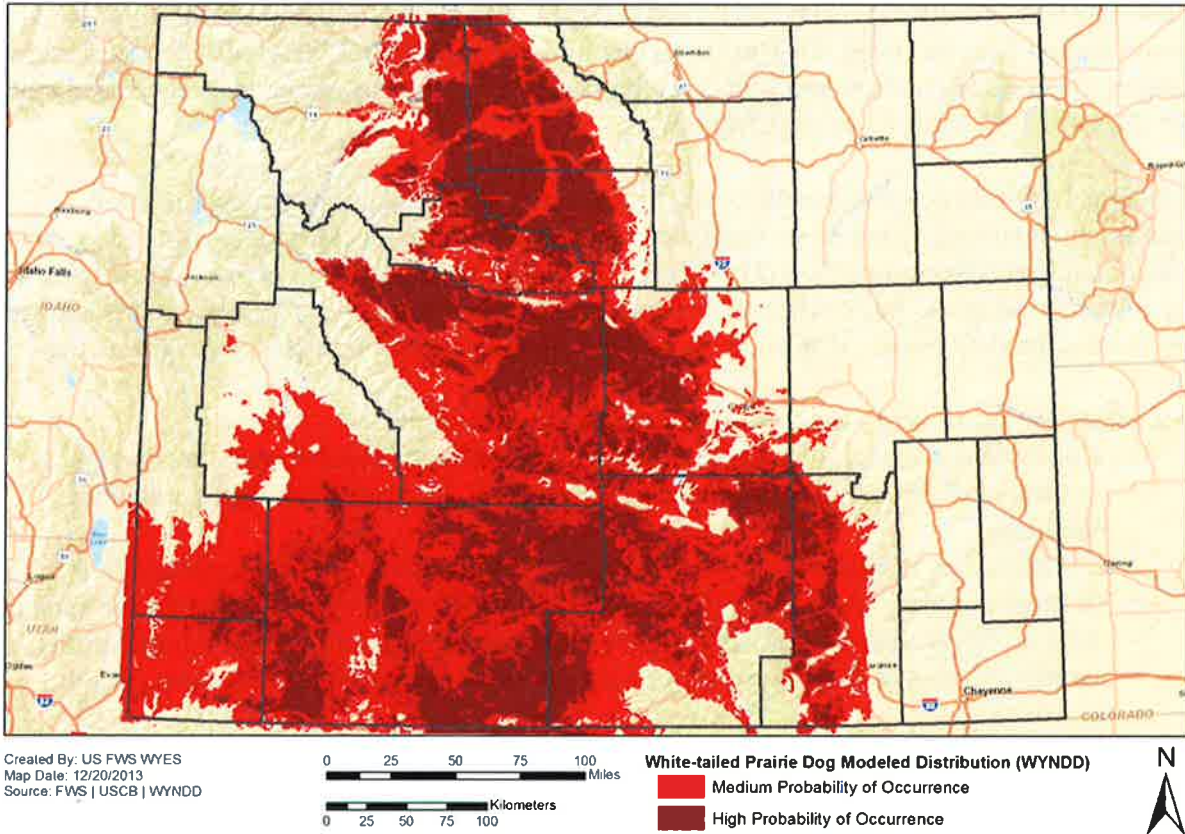


**Figure 1. Modeled distribution of the black-tailed prairie dog (*Cynomys ludovicianus*) in the State of Wyoming. Data from Keinath et al. (2010).**





### White-tailed Prairie Dog Modeled Distribution in Wyoming



**Figure 2 Modeled distribution of the white-tailed prairie dog (*Cynomys leucurus*) in the State of Wyoming. Data from Keinath et al. (2010).**

## CONSULTATION HISTORY

On March 6, 2013, the Service issued a ‘block clearance’ letter for the black-footed ferret in the State of Wyoming (USFWS 2013c). The block clearance document provides an acknowledgement that, given the history of past poisoning, presence of sylvatic plague (plague) and reductions in the size of prairie dog complexes, the likelihood of locating black-footed ferret populations in Wyoming, outside of those resulting from reintroductions, is unlikely.

The draft statewide 10(j) rule and draft EA was published in the Federal Register on April 10, 2015. The 60-day public comment period closed on June 9, 2015. The Service received 31 written comments on the draft rule and draft EA during the public comment period and are available along with the Service’s findings in the Administrative Record at the Service’s Wyoming Ecological Services Field Office.

## BACKGROUND

Historically, the black-footed ferret once occurred throughout Wyoming within suitable prairie dog habitat (USFWS 2013a). The black-footed ferret was listed as endangered throughout its range on March 11, 1967 (USDOJ 1967) and again on June 2, 1970 (USDOJ 1970) under early endangered species legislation and was “grandfathered” onto the current endangered species list under the 1973 ESA without critical habitat.

The federal 10(j) rule designating the black-footed ferret as a non-essential experimental population in Wyoming is meant to facilitate achievement of the recovery goals outlined in the Black-footed Ferret Recovery Plan (USFWS 2013a). The Recovery Plan goal is to recover the black-footed ferret to the point where the species can be reclassified to threatened status (down listing) and ultimately removed from the list of threatened and endangered species (delisting).

Down listing can occur when the following criteria have been met:

- Conserve and manage a captive breeding population of black-footed ferrets with a minimum of 280 adults (105 males, 175 females) distributed among at least three facilities.
- Establish free-ranging black-footed ferrets totaling at least 1,500 breeding adults, in 10 or more populations, in at least 6 of 12 states within the historical range of the species, with no fewer than 30 breeding adults in any population, and at least 3 populations within colonies of Gunnison’s prairie dog (*Cynomys gunnisoni*) and white-tailed prairie dog.
- Maintain these population objectives for at least three years prior to downlisting.
- Maintain approximately 247,000 acres of prairie dog occupied habitat at reintroduction sites by planning and implementing actions to manage plague and conserve prairie dog populations (USFWS 2013a).

Delisting may occur when the following recovery criteria are met:

- Conserve and manage a captive breeding population of black-footed ferrets with a minimum of 280 adults (105 males, 175 females) distributed among at least three facilities.
- Establish free-ranging black-footed ferrets totaling at least 3,000 breeding adults, in 30 or more populations, with at least one 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, and at least 5 populations within colonies of Gunnison’s prairie dog and white-tailed prairie dog.
- Maintain these population objectives for at least three years prior to delisting.
- Maintain a total of approximately 494,000 acres of prairie dog occupied habitat at reintroduction sites by planning and implementing actions to manage plague and conserve prairie dogs.
- Complete and implement a post-delisting monitoring and management plan, in cooperation with the states and tribes, to ensure recovery goals are maintained (USFWS 2013a).



Post delisting:

- In addition to the above outlined criteria, conserve and manage a reduced captive breeding population of black-footed ferrets in order to maintain knowledge, incorporate developing technologies, and address potential population extirpations (USFWS 2013a).
- For delistings that result from recovery, the ESA requires the Service to monitor species for 5 years to assess their ability to sustain themselves.

It is important to note that in order to achieve recovery of the species, participation by all states is essential. Establishment of black-footed ferret populations in Wyoming, which ranks third for the amount of potential habitat of the 12 states in the species' historical range, is especially crucial to recovery (USFWS 2013a).

In the Recovery Plan (USFWS 2013a), we recommend population targets for the states that are proportional to the amount of prairie dog habitat historically present. A proportional share for Wyoming would include approximately 171 free-ranging breeding adult black-footed ferrets and 35,000 acres of prairie dog habitat to meet downlisting guidelines and 341 breeding adults and 70,000 acres of prairie dog habitat to meet delisting guidelines. Black-footed ferrets cannot be counted toward downlisting or delisting unless they are in a population of at least 30 breeding adults (USFWS 2013a). Currently, there are approximately 100 breeding adult black-footed ferrets at Shirley Basin, Wyoming, one of four apparently successful ferret reintroduction sites (USFWS 2013a, Table 8). Other successful sites include two in South Dakota and one in Arizona (USFWS 2013a). We are confident that Wyoming can support additional successful reintroduction sites, based on the amount of available habitat and a history of successful black-footed ferret management at Shirley Basin since 1991.

Under section 10(j) of the ESA and Service regulations at 50 CFR 17.81, the Service may designate as nonessential experimental any population of endangered or threatened species that has been or will be released into suitable habitat outside the species' current range (but within its probable historical range, absent a finding by the Director of the Service in the extreme case that the primary habitat of the species is unsuitable and has been irreversibly altered or destroyed). Section 10(j) of the ESA further requires that when an experimental population is designated, the Service must determine whether that population is essential or non-essential to the continued existence of the species based on the best available scientific information. Regulations (50 CFR 17.80(b)) state that an experimental population is considered essential if its loss would be likely to appreciably reduce the likelihood of survival of that species in the wild. All other populations are considered non-essential.

A non-essential experimental population designation allows the Service flexibility in managing reintroduced populations of endangered species. The ESA provides for treating experimental populations as threatened species, affording us greater discretion in devising management programs and special regulations for listed species. These regulations are usually less restrictive than those established for endangered species and can allow for greater compatibility with established human activities in the reintroduction area (USFWS 1998).

## **DESCRIPTION OF THE PROPOSED ACTION**

The proposed action is the issuance of a new federal 10(j) rule to designate the black-footed ferret as a non-essential experimental population throughout the State of Wyoming in accordance with section 10(j) of the ESA. The proposed 10(j) rule provides a plan for establishing a statewide non-essential experimental population and exempts all incidental take, resulting from the establishment, of the black-footed ferret throughout the State of Wyoming. Any black-footed ferret found in Wyoming outside of the existing Shirley Basin and Little Snake Management Area 10(j) designations will be considered part of the statewide non-essential experimental population.

Under the statewide 10(j), we expect additional black-footed ferret reintroductions will likely occur in Wyoming. The Wyoming Game and Fish Department (WGFD), in cooperation with the Service, will lead efforts to identify, establish, and monitor new reintroduction sites. Future reintroduction sites will be identified in collaboration with private landowners, local governments and other stake holders including, but not limited to USDA-Department of Agriculture Animal Plant Health Inspection Service (APHIS), Bureau of Land Management (BLM), Forest Service (FS), Natural Resources Conservation Service (NRCS), and Wyoming Department of Agriculture, pending availability of funding and staff resources. Participation in black-footed ferret recovery by private landowners will be entirely voluntary.

Lands eligible for possible black-footed ferret reintroduction include public, private and tribal lands in Wyoming that have suitable acres of occupied prairie dog habitat to support a population of at least 30 breeding adult black-footed ferrets. The acreage necessary to support 30 breeding adults can vary depending on the species of prairie dog present. Typically, this will be a minimum of approximately 1,500 acres of black-tailed prairie dog habitat or approximately 3,000 acres of white-tailed prairie dog habitat, but these amounts may vary depending on site conditions. Properties owned by more than one adjacent landowner can be combined to meet the acreage eligibility criteria.

The proposed non-essential experimental black-footed ferret population for Wyoming is statewide; however, suitable habitat for black-footed ferret reintroduction will likely be limited to prairie dog habitat in Albany, Big Horn, Campbell, Carbon, Converse, Crook, Fremont, Goshen, Hot Springs, Johnson, Laramie, Lincoln, Natrona, Niobrara, Park, Platte, Sheridan, Sublette, Sweetwater, Uinta, Washakie, and Weston Counties. Teton County does not have suitable habitat for the black-tailed or white-tailed prairie dog, nonetheless, should black-footed ferrets be introduced in adjacent counties, they could disperse and occur in this county.

Development of a reintroduction plan after reintroduction sites are identified will serve as a steering document for black-footed ferret recovery in each reintroduction site. Each reintroduction plan may include, but is not limited to, all aspects of black-footed ferret management, conservation activities to be implemented, prairie dog management, and monitoring of black-footed ferrets and prairie dogs. Under the proposed rule, each reintroduction plan will allow any landowner to return the enrolled lands back to a baseline of zero black-footed ferrets at any time. Such means cannot include deliberate killing of black-footed ferrets. Should

a landowner choose to return to baseline, the most likely means to do so will be through the elimination of plague management, through extensive lethal prairie dog control on enrolled lands to the point where the prairie dog population is no longer adequate to support black-footed ferret populations, 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 will return an enrolled property to baseline, landowners will be required to notify the Service with sufficient advance notice to allow for the capture and relocation of black-footed ferrets. September and October are the most suitable months for trapping black-footed ferrets. Therefore, any reintroduction plan for each reintroduction site will require landowners notify the WGFD and Service by July 1 of any given year to allow logistical planning for the recapture of black-footed ferrets from the reintroduction site during the following months of September and October, or as otherwise mutually determined by the WGFD, Service and landowner. If the WGFD and Service are not notified and/or access is not granted, the landowner will no longer be exempt from the section 9 prohibition of take.

Under the proposed 10(j) rule, black-footed ferret status and management in the State of Wyoming will change in the following ways:

1. For purposes of section 7 consultation, a non-essential experimental population is treated as a threatened species under the ESA when the non-essential experimental population is located within a National Wildlife Refuge or National Park Service unit.
2. For purposes of section 7 consultation, a non-essential experimental population is treated as proposed species under the ESA when the non-essential experimental population is located outside a National Wildlife Refuge or National Park Service unit.
3. Unintentional take of a black-footed ferret will not be considered a violation of section 9 of the ESA, provided such take is not negligent and is incidental to an otherwise lawful activity.
4. The Service will not designate critical habitat for a non-essential experimental population as required in the ESA; therefore, no critical habitat will be designated for the black-footed ferret in Wyoming.
5. Landowners with enrolled lands in a reintroduction plan will be able to return those lands back to a baseline of zero black-footed ferrets at any time under the terms of their site-specific reintroduction plan.

The changes in status under the proposed action are meant to provide flexible management of the species and facilitate future reintroductions and accelerated recovery. Best available data and the recovery plan indicate black-footed ferret reintroduction into occupied prairie dog habitats in Wyoming is biologically feasible and will promote recovery of the species.

### **Conservation Measures**

Conservation measures are commitments incorporated into the proposed action to avoid or minimize adverse effects.

- CM 1. To minimize potential black-footed ferret deaths during reintroductions and monitoring all reintroduction efforts will follow the handling protocol described in Roelle et al. (2006) or subsequent updates to the handling protocols.
- CM 2. Any person handling ferrets will have received training by the Service's black-footed ferret Recovery Program Office and have the appropriate Service permits.
- CM 3. Speeds will not exceed 10 miles per hour while conducting reintroductions, monitoring, plague management and prairie dog management in prairie dog towns and complexes.

## STATUS OF THE SPECIES<sup>1</sup>

The black-footed ferret is a medium-sized member of the Mustelidae family typically weighing 1.4 to 2.5 pounds and measuring 19 to 24 inches in total length. Upper body parts are yellowish buff, occasionally whitish with the feet and tail tip black and a black face "mask" across the eyes. It is the only ferret species native to North America (USFWS 2008a). There are no recognized subspecies. Other ferret species in the genus include the Siberian polecat (*M. eversmanni*) and European ferret (*M. putorius*) (Hillman and Clark 1980, Anderson et al. 1986). J.J. Audubon and J. Bachman first formally described the black-footed ferret in 1851 from a specimen collected near Fort Laramie, Wyoming (Anderson et al. 1986). Contrary to early natural history accounts, it was probably common however; its secretive habits (primarily nocturnal and semi-fossorial) made it difficult to observe (Forrest et al. 1985, Anderson et al. 1986, Clark 1989).

Black-footed ferrets prey primarily on prairie dogs and use their burrows for shelter and denning (Henderson et al. 1969, Hillman and Linder 1973, Forrest et al. 1985, Biggins 2006). Black-footed ferrets depend almost exclusively on prairie dogs for food and shelter, and historic records document black-footed ferrets from the ranges of three of the five species of prairie dogs (Anderson et al. 1986, Campbell et al. 1987). Lacking any documentation of black-footed ferrets breeding outside of prairie dog colonies, the Service has confidence that black-footed ferrets were historically endemic to the range of the black-tailed prairie dog, white-tailed prairie dog and Gunnison's prairie dog. The historical range of the species once occupied approximately 100 million acres of inter-montane and prairie grasslands across 12 States (Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming) and the Canadian provinces of Alberta and Saskatchewan (Anderson et al. 1986, Biggins et al. 1997, Clark et al. 1986, Ernst et al. 2006). This occupied habitat is considered to have existed within an estimated 562 million acres of potential habitat (Ernst 2008). Based on the past distribution of prairie dog habitat across the United States, historically, 85 percent of all black-footed ferrets likely occurred in black-tailed prairie dog habitat, 8 percent

<sup>1</sup> Unless otherwise noted, the information provided in this section is taken from the Final Biological and Conference Opinion on the Issuance of a Section 10 (a)(1)(A) Enhancement of Survival Permit to the U.S. Fish and Wildlife Service Black-Footed Ferret Recovery Coordinator, for the Black-Footed Ferret Programmatic Safe Harbor Agreement (U.S. Fish and Wildlife Service. 2013b. Black-footed ferret Programmatic Safe Harbor Agreement. October 23, 2013. U.S. Fish and Wildlife Service Black-footed Ferret Recovery Program, Denver, Carr, Colorado. 43 pp).

in Gunnison's prairie dog habitat and 7 percent in white-tailed prairie dog habitat (Ernst 2008). Based on these assumptions, most black-footed ferrets occurred in black-tailed prairie dog habitat.

Black-footed ferrets breed at approximately 1 year of age, from mid-March through early April, and gestation is approximately 42 to 45 days. Litters average about 3.5 kits (Wilson and Ruff 1999). Juveniles disperse in late summer to early fall. Black-footed ferrets are primarily solitary except during the breeding season and when young are dependent on their mothers (Forrest et al. 1985). As a "searcher" predator, black-footed ferrets actively search prairie dog burrows for prey, mostly at night, appearing above ground at irregular intervals and at irregular durations (Clark et al. 1986).

The black-footed ferrets close association with prairie dogs was an important factor in its decline. From the late 1800s to approximately 1960, both prairie dog habitat and numbers were dramatically reduced by the combined effects of habitat loss from conversion of native prairie to agricultural cultivation, poisoning of prairie dogs, and disease, particularly sylvatic plague (USFWS 2008a). Sylvatic plague, caused by a non-native bacterium, can be devastating to both prairie dogs and black-footed ferrets. By 2005, plague had been detected in prairie dogs in all 12 states throughout the historical range of the ferret (Abbott and Rocke 2012). Other factors attributable to the decline in black-footed ferrets include secondary poisoning from prairie dog toxicants and susceptibility to canine distemper.

The black-footed ferret had been considered extinct or nearly extinct until a small population was located in Mellette County, South Dakota, in 1964 (Henderson *et al.* 1969). The species was listed as endangered throughout its range on March 11, 1967 (USDOJ 1967) and again on June 2, 1970 (USDOJ 1970) under early endangered species legislation. It was then "grandfathered" into the ESA in 1973, without critical habitat (USFWS 2008a). The last wild black-footed ferret observed at the Mellette County site was in 1974 (Clark 1989). Attempts at captive breeding of a few captured animals from the Mellette County population failed, and when the last captive animal died at Patuxent Wildlife Research Center in Laurel, Maryland, in 1979, the species was again presumed extinct (USFWS 1988).

In 1981, a second remnant population was discovered in Meeteetse, Wyoming (Clark et al. 1986, Lockhart et al. 2006). Following disease outbreaks at Meeteetse, all surviving wild black-footed ferrets (totaling 18 individuals) were removed from the wild between 1985 and 1987 to initiate a captive breeding program (USFWS 1988). Seven of the black-footed ferrets captured at Meeteetse successfully reared young, leading to a lineage of continuing captive reproduction that provides ferrets for reintroduction sites today (Hutchins et al. 1996, Garelle et al. 2006). Reintroductions began in 1991 (Table 1) and all extant populations, both captive and reintroduced, descend from these seven "founder" animals (Garelle *et al.* 2006).



**Table 1. Black-footed ferret reintroduction sites, year initiated, ESA authorization establishing the reintroduction site, and prairie dog species.**

<b>Reintroduction Site (Year Initiated)</b>	<b>ESA Authorization</b>	<b>Prairie Dog Species</b>
Shirley Basin, Wyoming (1991)	10(j) NEP	White-tailed
Badlands National Park, South Dakota (1994)	10(j) NEP	Black-tailed
UL Bend National Wildlife Refuge, Montana (1994)	10(j) NEP	Black-tailed
Conata Basin, South Dakota (1996)	10(j) NEP	Black-tailed
Aubrey Valley, Arizona (1996)	10(j) NEP	Gunnison's
Fort Belknap Indian Reservation, Montana (1997)	10(j) NEP	Black-tailed
Coyote Basin, Colorado and Utah (1999)	10(j) NEP	White-tailed
Cheyenne River Indian Reservation, South Dakota (2000)	10(j) NEP	Black-tailed
Wolf Creek, Colorado (2001)	10(j) NEP	White-tailed
Bureau of Land Management 40-Complex, Montana (2001)	10(j) NEP	Black-tailed
Janos, Chihuahua, Mexico (2001)	NOM-059-2010 <sup>1</sup>	Black-tailed
Rosebud Indian Reservation, South Dakota (2003)	10(j) NEP	Black-tailed
Lower Brule Indian Reservation, South Dakota (2006)	10(a)(1)(A) permit	Black-tailed
Wind Cave National Park, South Dakota (2007)	10(a)(1)(A) permit	Black-tailed
Espee Ranch, Arizona (2007)	Safe Harbor Agreement	Gunnison's
Logan County, Kansas (2007)	10(a)(1)(A) permit	Black-tailed
Northern Cheyenne Indian Reservation, Montana (2008)	10(a)(1)(A) permit	Black-tailed
Vermejo Park Ranch, New Mexico (2008)	10(a)(1)(A) permit	Black-tailed
Grasslands National Park, Saskatchewan (2009)	SARA <sup>2</sup>	Black-tailed
Vermejo Park Ranch, New Mexico (2012)	10(a)(1)(A) permit	Gunnison's
Walker Ranch, Colorado (2013)	Safe Harbor Agreement	Black-tailed
City of Fort Collins, Colorado (2014)	Safe Harbor Agreement	Black-tailed
Prowers County, Colorado (2014)	Safe Harbor Agreement	Black-tailed
Baca County, Colorado (2014)	Safe Harbor Agreement	Black-tailed

1. Official Mexican Norm (NOM-059-Secretariat of Environment and Natural Resources-2010) 2. Canada - Species at Risk Act.

No wild populations of black-footed ferrets have been found since the capture of the last Meeteetse black-footed ferrets, despite extensive and intensive range-wide searches. It is unlikely that any undiscovered wild populations remain (Lockhart et al. 2006). No known extant wild populations of black-footed ferrets exist, except those at reintroduction sites.

Section 10(j) of the ESA allows reintroduced populations to be designated non-essential experimental population to ease concerns about reintroductions of threatened and endangered species and facilitate species recovery efforts. To date, of the 22 black-footed ferret reintroductions in the United States, eleven, including Shirley Basin, have occurred through the

use of Section 10(j) designated non-essential experimental populations (Hughes pers. comm., 2014). Six of the 22 reintroductions used Section 10(a)(1)(A) recovery permits. Five reintroductions have occurred under the Safe Harbor Agreements. Additionally, there have been reintroductions in Chihuahua, Mexico, and in Saskatchewan, Canada, in compliance with those countries' statutes, for a total of 24 reintroduction attempts (USFWS 2008a; Fargey 2010; USFWS 2013a). The location and date of initiation of each of the black-footed ferret reintroduction sites can be found in Table 1.

## **ENVIRONMENTAL BASELINE**

Regulations implementing the ESA (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, state, or private actions and other human activities in the action area, the anticipated impacts of all proposed state or federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of state or private actions which are contemporaneous with the consultation process.

The action area is defined at 50 CFR 402 to mean "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the purposes of this consultation, to account for both potential reintroduction and dispersal of black-footed ferrets, the Service defines the action area as the entire State of Wyoming, outside of the existing Shirley Basin and Little Snake Management Area 10(j) designations .

### **Status of the Species in the Action Area**

There are numerous historical records of the black-footed ferret occurring throughout Wyoming within suitable prairie dog habitat (Anderson et al. 1986; USFWS 2013a). However, the species has been extirpated throughout the state since 1987, with the exception of a reintroduced black-footed ferret population in the Shirley Basin. A 10(j) designation already exists for the Shirley Basin black-footed ferret population in Albany County and those portions of Carbon and Natrona counties east of the North Platte River (USFWS 1991a). Another 10(j) designation exists in southern Sweetwater County, where approximately 356,238 acres (4.5 percent) of the Coyote Basin 10(j) black-footed ferret reintroduction site located in Colorado and Utah extends into Wyoming (USFWS 1998). Both existing non-essential experimental populations would be included in the proposed statewide non-essential experimental rule under 10(j) of the ESA.

On March 6, 2013, the Service issued a 'block clearance' letter for the black-footed ferret in the State of Wyoming (USFWS 2013c). The block clearance document provides an acknowledgement that, given the history of past poisoning, presence of sylvatic plague and reductions in the size of prairie dog complexes, the likelihood of locating black-footed ferret populations in Wyoming, outside of those resulting from reintroductions, is unlikely.

During the Environmental Protection Agency's (EPA) formal consultation process for Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) section 3 registration of both Rozol (registration no. 7173-286) and Kaput (registration no. 72500-22) the EPA committed to conservation measures which prohibit the application of Rozol and Kaput within current and future black-footed ferret reintroduction areas (USFWS 2012a, 2012b). For this reason this BO

does not include an analysis of the use of Rozol or Kaput for prairie dog management within the statewide 10(j) area.

## **EFFECTS OF THE ACTION**

Under section 7(a)(2) of the ESA, "effects of the action" refers to the direct and indirect effects of an action on the species or critical habitat, with the effects of other activities interrelated or interdependent with that action. Indirect effects are those caused by the proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). The effects of the action are added to the environmental baseline to determine the future baseline and to form the basis for the determination in this BO. The effects discussed below are the result of direct and indirect impacts of implementing the proposed project.

### **Direct and Indirect Effects**

#### **A. Reintroduction Activities**

Under the proposed action, harm in the form of death or injury to black-footed ferrets could occur through reintroduction and monitoring of black-footed ferrets while handling, transporting or conducting monitoring activities at reintroduction sites. Black-footed ferret deaths have occurred while anesthetizing animals for health care purposes. Release sites have experienced occasional black-footed 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 black-footed ferrets reintroduced perished from handling and transportation (USFWS 2013b). Marking and monitoring may also adversely affect black-footed ferrets through handling. To reduce adverse effects from handling, transporting and monitoring black-footed ferrets during reintroductions under the statewide 10(j) rule, the precautions contained in the protocol for handling and monitoring reintroduced ferrets outlined in Roelle et al. (2006) will minimize this possibility

Black-footed ferret survival rates 30 days after release range from 10 percent, for early reintroduction efforts, to 45 percent for more recent reintroduction efforts that included pre-conditioned black-footed ferrets (Biggins and Godbey 2003). Relatively low survival rates among reintroduced black-footed ferrets are principally due to predation, starvation and other natural causes. Captive-raised black-footed ferrets have not been exposed to the same environmental factors and therefore have not developed the same resiliency as wild black-footed ferrets. Furthermore, captive-raised black-footed ferrets may not have had sufficient experience in hunting for prey or avoiding predators. According to studies at Meeteetse, Wyoming in the 1980s, natural mortality of black-footed 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 ranged up to approximately 78 percent.

Some black-footed ferrets may move off the reintroduction site. However, experience with previous reintroductions indicates that the number of dispersing black-footed ferrets will be low (less than one per year). We anticipate black-footed ferrets that may leave the site will be lost to natural predation, starvation, exposure to plague, vehicle collisions or other routine ranching

activities, such as prairie dog management (*e.g.* plugging burrows, use of poison gas or anti-coagulants), or their fate will be unknown. Because the expected mortalities are likely to be dispersing black-footed ferrets that are unlikely to contribute to the success of the reintroduction site, such losses are not anticipated to compromise the survival and recovery of the species.

## **B. Plague Management**

### *Insecticide Use*

Sylvatic plague has been identified as a significant threat and stressor to all prairie dog species within the action area (USFWS 2009, USFWS 2010a). It is also considered a medium magnitude, imminent threat to black-footed ferrets (USFWS 2013a). Active management to control sylvatic plague for the protection of both black-footed ferrets and prairie dogs greatly enhances the reintroduced black-footed ferret population. Without such management, it is likely that many extant black-footed ferret populations would be reduced to zero due to this recurring non-native disease. Further, we do not expect black-footed ferrets will persist long term on most properties that may have black-footed ferrets now without purposeful management of prairie dogs to protect both black-footed ferrets and prairie dogs from sylvatic plague.

Deltamethrin, the active ingredient of DeltaDust<sup>®</sup>, 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 6 to 10 months (Biggins et al. 2010). Deltamethrin toxicity to birds is very low (LD50<sup>2</sup> range of 5,000–10,000 parts per million) and is practically nontoxic to mammals (LD50 range 6,500–22,000 parts per million) (Exttoxnet 1995). 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 bio accumulate in animal tissues and the chemical has been determined to be non-carcinogenic and have no deleterious effects (Exttoxnet 1995). Product transport, mixing, application, storage, cleanup, and use of protective gear will be consistent with the label specifications

The use of DeltaDust on reintroduction sites 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 will be available to re-inhabit prairie dog burrows when the effects of insecticide diminish 6 to 10 months following treatment, if treatment is not repeated. As stated above, sylvatic plague has been identified as a significant threat and stressor to prairie dogs and is considered a medium magnitude, imminent threat to black-footed ferrets (USFWS 2009; USFWS 2010a; USFWS 2013a). The positive consequence of using deltamethrin is the reduction or elimination of sylvatic plague mortalities in both black-footed ferrets and prairie dogs. Sylvatic plague control can also stabilize prairie dog populations, an essential characteristic of suitable black-footed ferret habitat. Insecticide use to control the

<sup>2</sup> LD50 is the dose that kills half of the individuals

spread of sylvatic plague is likely to have a beneficial effect and no direct or indirect adverse effects to black-footed ferrets.

### *Sylvatic Plague Vaccine (SPV) Application*

Should the SPV be approved by the U.S. Department of Agriculture, its application under the proposed action is unlikely to affect the black-footed ferret. The SPV is a genetically modified viral vaccine, using attenuated raccoon pox virus as a vector for oral delivery of critical plague antigens to target animals through the use of baits (U.S. Geological Survey (USGS) 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).

The USGS is currently refining how to incorporate the vaccine into bait, which must be ingested for 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 both black-tailed prairie dog and white-tailed prairie dogs. Bait ingestion by prairie dogs will benefit the black-footed ferret as it would reduce or eliminate sylvatic plague outbreaks in plague-susceptible habitats. In addition, the bait is not expected to persist more than several days after application, limiting the potential for exposure to any non-target species (Abbott and Rocke 2012). Use of SPV treated bait is likely to have a beneficial effect and no direct or indirect adverse effects to black-footed ferrets.

### **C. Vehicle Use**

During reintroduction, monitoring and application of DeltaDust or SPV treated bait, vehicle and all-terrain vehicle (ATV) use for plague management will typically not exceed two weeks per year. During that time, vehicle and equipment speed will be limited to 10 miles per hour given the rough terrain associated with most occupied prairie dog habitat. These factors will result in a very low likelihood of collisions with black-footed ferrets. Furthermore, all vehicle or ATV use associated with the application of either DeltaDust or the SPV will occur during daylight hours, when black-footed ferrets are not active, further minimizing the potential for collisions with black-footed ferrets. Vehicle use is not expected to exceed the level normally associated with livestock management activities, the predominant land use occurring in the habitats used by black-footed ferrets. Death or injury of reintroduced black-footed ferrets would most likely occur through vehicle or equipment collisions during plague management activities. Black-footed ferret deaths by vehicle collisions are documented occurring in South Dakota (1 black-footed ferret) (John Hughes, pers. comm.), Wyoming (1 black-footed ferret) (Clark *et al* 1981), and Nebraska (1 black-footed ferret) (Nebraska Game and Parks 2015). Potential collisions with vehicles or equipment during reintroduction, monitoring, plague management and prairie dog management have been minimized by limiting vehicle speeds to 10 miles per hour while in prairie dog colonies. While such rare incidents have been documented, the likelihood of vehicle collisions is low due to the nocturnal habits of black-footed ferrets.



## D. Prairie Dog Management

Previous experience with ferret reintroductions has shown wide differences in the need for prairie dog management to address prairie dog encroachment issues between prairie dog species. Black-footed ferret reintroductions occurring in black-tailed prairie dog colonies have demonstrated the need to have specific management measures in place, including lethal control, to address movement of prairie dogs into areas where adjacent landowners do not want them. Black-footed ferret reintroductions into white-tailed prairie dog colonies have not demonstrated that boundary management is as contentious. However, for the statewide 10(j) rule, we are keeping the prairie dog management options described below available for use with both prairie dog species should the need arise, even though we do not anticipate much if any need to use lethal control options for prairie dog management. Lethal prairie dog management under the proposed action, with the exception of anti-coagulants rodenticides, which are prohibited from use on black-footed ferret reintroduction sites, will be negotiated with participating landowners and identified in a reintroduction plan or agreement.

### *Live Trapping*

The likelihood of incidentally trapping non-target species is very unlikely. Box type live traps will be used for trapping and relocating prairie dogs. Black-footed ferrets are unlikely to be attracted to the bait used to live trap prairie dogs. Prairie dog trapping will occur only during the day, further minimizing the possibility of trapping black-footed ferrets, which are nocturnal. The trapping and handling protocol requires that traps be monitored several times each day. Thus, in the unlikely event that non target species were captured, the accidentally trapped animal would be released unharmed. Therefore, live trapping prairie dogs is not likely to have any direct or indirect adverse effect to black-footed ferrets.

### *Shooting*

Recreational shooting can have negative effects to local prairie dog populations, particularly at high intensities (Knowles 1988; Vosburgh and Irby 1998). Shooting of prairie dogs often focuses on the most vulnerable segment of the population (*i.e.*, young of the year). These animals are smaller than adult prairie dogs and as a result more desirable prey for black-footed ferrets (USFWS 2013b). These young prairie dogs are an important food resource, particularly for adult female black-footed ferrets feeding young and an important factor in juvenile black-footed ferret survival at reintroduction sites (USFWS 2013b). Prairie dog shooting on a black-footed ferret reintroduction site likely reduces the value of the area for the recovery of black-footed ferrets. However, this impact may be ameliorated by the size of the reintroduction site and the species of prairie dog present (USFWS 2013b). Prairie dog shooting is not expected to increase above what currently occurs under local and state laws by non-federal landowners. Loss of black-footed ferrets may occur as a result of unintentional shooting is likely to adversely affect the species.

The black-footed ferret is one of 19 species reported to scavenge dead prairie dogs (Hillman 1968; Hoogland 2003). Numerous scavengers have been documented with lead toxicosis after ingesting bullet fragments along with tissue from wildlife, including prairie dogs killed or

wounded with lead based bullets (Hunt et al. 2009; Pauli and Buskirk 2007). In one study, 87 percent of the prairie dog carcasses shot with expanding bullets (exposed lead core) contained traces of metallic lead, with the majority (73 percent) of fragments weighing less than 25 milligrams each (Pauli and Buskirk 2007). Prairie dog shooters normally do not retrieve or bury shot prairie dogs leaving the carcasses available for consumption (Hillman 1968; Hoogland 2003). Although no data exists regarding impacts of ingested lead on black-footed ferrets, ingestion of lead based bullet fragments is possible while feeding on prairie dogs and is likely to adversely affect black-footed ferrets. We anticipate a low likelihood that black-footed ferrets could be exposed to lead by ingesting lead bullet fragments while feeding on prairie dog carcasses shot with lead base ammunition. However, ingestion of lead may sicken or kill black-footed ferrets.

### *Poisoning*

Chlorophacinone (Rozol®), diphacinone (Kaput®-D) and zinc phosphide baits for prairie dog control are restricted use pesticides under FIFRA of 1947, as amended, U.S.C. § 136 *et seq.*, due to the hazard of injury or death to non-target birds and mammals, including wildlife. Under the FIFRA, use of a pesticide may be restricted by how it is registered and by its use label. A pesticide use label provides applicators with directions that consist of legal requirements that specify when, how and where a pesticide is to be applied. Rozol and Kaput are registered under Section 3 of FIFRA for use on black-tailed prairie dogs only (USFWS 2012a; 2012b).

Zinc phosphide is highly toxic to mammals and some birds (Witmer and Fagerstone 2003). Thus, it can only be applied by a certified pesticide applicator in accordance with the EPA label. Label restrictions require avoidance of areas occupied or used by non-target species or by threatened and endangered species, which should minimize the risk of exposure. While zinc phosphide applications have occasionally killed non-target wildlife, most of these incidents involved misuse of the product (*e.g.*, application rates and concentrations at higher than label recommendations) (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 action, zinc phosphide for prairie dog management will be applied primarily by USDA 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, the potential for misapplication and exposure to non-target species such as black-footed ferrets is anticipated to be extremely low.

Primary effects of toxicants refer to direct effects from consumption of, or exposure to toxicants. Secondary effects refer to the indirect effects to predators or scavengers from consuming prey that has consumed a toxicant. 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; Erickson and Urban 2004). Some predators may feed on prairie dogs with undigested grain tainted with zinc phosphide in cheek pouches or gastrointestinal tracts. However, many predators will not consume the gastrointestinal tract of prey items and many animals exhibit an emetic response to zinc phosphide consumption (Witmer and Fagerstone 2003; Krischke pers. comm. 2015). Erickson

and Urban (2004) summarize the results of three laboratory studies in which a total of 39 Siberian or European ferrets consumed rats or prairie dog organs or carcasses fed 2 percent zinc phosphide baits for up to ten days. While none of the ferrets died, 13 of the 16 exposed for 10 days did show signs of zinc phosphide toxicity. The EPA's (1998) Reregistration Eligibility Decision facts sheet for zinc phosphide states that, "predators or scavengers who eat a target animal that has been killed by zinc phosphide will not die, however, they may become ill, listless and regurgitate."

The Service has not documented any black-footed ferret harm from exposure to zinc phosphide. However, it is difficult to verify poisoning impacts to non-target species, such as the black-footed ferret due to their fossorial nature, vegetative cover and likely consumption of sick or dead black-footed ferrets by other predators (USFWS 2013a). Impacts from consumption of poisoned prairie dogs to black-footed ferrets may be possible but greatly reduced given the label restrictions, and that prairie dog management using zinc phosphide within or along the boundaries of a reintroduction site would be closely coordinated with adjoining landowners, the WGFD and Service. However, non-lethal adverse effects in the form of harm (temporary impairment of feeding due to the effects of sickening) are anticipated from ingestion of zinc phosphide. Therefore, use of zinc phosphide could sicken black-footed ferrets in reintroduction sites and is likely to adversely affect the species.

#### **E. Livestock Grazing**

Under the proposed action, we do not anticipate any changes to grazing management on reintroduction sites. The proposed action is not anticipated to impact black-footed ferrets from grazing activities. However, a landowner 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 black-footed ferrets.

Livestock grazing and associated ranch operations typically require the use of vehicles and equipment. Vehicle and equipment speed will be limited due to the rough terrain associated with most occupied prairie dog habitat. However, mortality to black-footed ferrets could occur due to vehicle collisions but is anticipated to be minimal.

#### **F. Return to Baseline**

The provisions of a reintroduction plan will allow any landowner to return the enrolled lands back to a baseline of zero black-footed ferrets at any time. Such means cannot include deliberate killing of black-footed ferrets. A return to baseline may result in mortality of all black-footed ferrets released onto the enrolled lands from elimination of plague management, through extensive lethal prairie dog control on enrolled lands to the point where the prairie dog population is no longer adequate to support a black-footed ferret population, or through conversion of suitable prairie dog habitat to other land uses such as cultivated agriculture or intensive energy development.

In the absence of plague management, it is likely a plague event will kill prairie dog populations and black-footed ferrets. While prairie dogs have the reproductive potential to increase their

numbers after such an event, it is unlikely that black-footed 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 no longer support black-footed ferrets. The reproductive potential of prairie dogs could allow them to return after extensive lethal control, but it is unlikely that black-footed ferret populations would return without additional reintroductions.

Before carrying out any activities that would result in a return to baseline, landowners will be required to provide the Service with sufficient time to capture and relocate black-footed ferrets. As with reintroductions, capture and relocation of black-footed ferrets has the potential for black-footed ferret mortality during handling and transportation due to stress. Equipment failures could also occur during ferret capture and relocation. However, the precautions contained in the protocol for handling and monitoring reintroduced ferrets outlined in Roelle et al. (2006) will minimize this possibility. Additionally, black-footed ferrets may be killed or injured through vehicle or equipment collisions during capture and relocation activities. However, despite the low survival rates for reintroduced black-footed ferrets, it only takes a few black-footed ferrets to establish a wild population as documented at successful ferret reintroduction sites.

## **CUMULATIVE EFFECTS**

Cumulative effects are “those effects of future state or private activities, not involving federal activities that are reasonably certain to occur with the actin are of the federal action subject to consultation.” (CFR 402.2) Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA.

Many other reasonably certain future actions are difficult to specifically identify or quantify for the State of Wyoming. Collectively, these activities had a substantial impact on the landscape from fragmentation of white-tailed and black-tailed prairie dog habitats. However, future actions could occur such as agricultural production and conversion, urban development, increased energy development (e.g. oil and gas development in the northeast and southwest in Wyoming are planned), infrastructure (e.g. wind farms in the west and transmission towers across Wyoming are planned), and use of rodenticide (Rozol, Kaput) adjacent to reintroduction sites. Future actions impact both black-tailed and white-tailed prairie dog habitat by fragmenting habitat, limiting the availability of large intact prairie dog complexes suitable for future black-footed ferret reintroduction sites, and from direct mortality (USFWS 2009; USFWS 2010a,).

## **CONCLUSION**

After reviewing the current status of the black-footed ferret, the environmental baseline for the species within the action area, the effects of the proposed action, and the cumulative effects, it is the Service’s biological opinion that the issuance of a new federal 10(j) rule to designate non-essential experimental population status for the black-footed ferret in the State of Wyoming in accordance with section 10(j) of the ESA is not likely to jeopardize the continued existence of

the black-footed ferret. No critical habitat has been designated; therefore, none will be affected. The reasons for this determination are:

- The proposed action is expected to result in the creation of additional reintroduction areas in Wyoming. This will result in an increase in the reproduction, numbers and distribution of the black-footed ferret, and therefore not resulting in reducing appreciably the likelihood of survival and recovery.
- Black-footed ferrets used for reintroductions in Wyoming under the NEP are not essential to the survival of the species.
- Measures to avoid and minimize the incidental take of black-footed ferrets will be implemented within reintroduced populations. This will result in an increase in the reproduction, numbers and distribution of the black-footed ferret, and therefore not resulting in reducing appreciably the likelihood of survival and recovery.
- The proposed action will likely constitute a beneficial effect for the black-tailed and white-tailed prairie dog, as it includes measures to reduce the incidence of sylvatic plague, the primary factor responsible for the decline of these two species. This will result in an increase in the reproduction, numbers and distribution of the black-footed ferret, and therefore not resulting in reducing appreciably the likelihood of survival and recovery.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the ESA and federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, would, kill trap, capture or collect, or to attempt to engage in any such conduct. Harm is defined by Service to mean “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering.” Harass is defined by the Service as “... an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering”. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement (ITS).

### **AMOUNT OR EXTENT OF TAKE ANTICIPATED**

The 10(j) rule broadly exempts from the section 9 take prohibitions any take of black-footed ferrets that is incidental to otherwise lawful activities. We provide this exemption because we believe that such incidental take associated with otherwise lawful activities is necessary and advisable for the conservation of the species. Experimental population rules contain specific prohibitions and exceptions regarding the taking of individual animals. Once the 10(j) rule becomes effective, incidental take of black-footed ferrets within the Wyoming NEP area will not be prohibited, provided that the take is in accordance with the 10(j) rule. Because incidental take



is already exempted by the 10(j) rule, the incidental take statement in this Biological Opinion does not need to exempt any incidental take. Accordingly, there are no reasonable and prudent measures or terms and conditions that are necessary or appropriate for these actions because all incidental take has already been exempted.

Incidental take in the form of harm (death or injury) and harassment from capture of black-footed ferrets could occur through anesthetizing animals for health care purposes, heat stress during transportation, marking individual black-footed ferrets and monitoring through reintroduction activities. Incidental take in the form of harm (death or injury) of black-footed ferrets may also occur from collisions with vehicles or equipment in carrying out other conservation activities, including implementing plague management, prairie dog management, and routine landowner activities including, but not limited to, livestock grazing and ranch operations. Incidental take from lethal prairie dog management authorized in reintroduction sites from accidental shooting could occur if black-footed ferrets are present. Incidental take in the form of harm (sickening) to black-footed ferrets from secondary poisoning consumption in prairie dog colonies is anticipated. Use of zinc phosphide could sicken black-footed ferrets in reintroduction sites.

We anticipate black-footed ferrets leaving a reintroduction area will perish, primarily from predation, starvation or exposure to plague. However, some ferrets that leave a reintroduction site could perish as a result of vehicle collisions or other routine ranching activities, and through prairie dog management (e.g. plugging burrows, use of poison gas or anti-coagulants).

A return to baseline may result in incidental take in the form of harm (death) of all black-footed ferrets released onto the enrolled lands because of the absence of plague management, through extensive lethal prairie dog control on all enrolled lands to the point where the prairie dog population is no longer adequate to support black-footed ferret populations, or through conversion of lands from suitable prairie dog habitat to cultivated agriculture or intensive energy development.

The extent of incidental take associated with the implementation of the 10(j) rule is difficult to quantify because we do not know how many reintroduction sites will occur in Wyoming under the 10(j) rule. Previous biological opinions for reintroduction sites have recognized up to 12 percent annually of the initial population may be lost through incidental take associated with the reintroduction effort (FWS 2008b). During the first year, we anticipate up to 45 percent at each reintroduction site will die (Biggins and Godbey 2003). Thereafter, we anticipate the incidental take of up to 12 percent of black-footed ferrets annually.

It will be difficult to determine the fate of black-footed ferrets that move off the reintroduction site. Black-footed ferrets that move away from reintroduction sites could die from natural causes or could be taken by otherwise lawful activities. For example, at previous black-footed ferret reintroductions, we have occasionally found black-footed ferrets that had moved off site and were killed by vehicle collisions. We do not expect dispersing black-footed ferrets to return to the reintroduction site and incidental take of black-footed ferrets from otherwise lawful activities may occur outside the reintroduction site.

Incidental take associated with the return to baseline is also difficult to anticipate. However, a qualitative review of the Service's reintroduction efforts 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 landowners participating in a voluntary reintroduction plan will not return their lands to baseline. However, if a landowner chooses to return to baseline, most black-footed ferrets are expected to be live-trapped and moved to other sites. Remaining black-footed ferrets that are not removed would be subject to incidental take that may occur from normal ranching activities such as rodenticide use or subject to predation, starvation, and plague. While the level of incidental take for the black-footed ferret is not explicitly limited by this BO when returning to baseline conditions of the rule, purposeful take is still prohibited.

### **EFFECT OF THE TAKE**

For the statewide 10(j) rule, we anticipate incidental take of up to 45 percent of black-footed ferrets during the first year after reintroductions and up to 12 percent of black-footed ferrets annually per reintroduction site for reintroduction efforts is not likely to jeopardize the continued existence of the black-footed ferret.

### **Reasonable and Prudent Measures and Terms and Conditions**

No reasonable and prudent measures or implementing terms and conditions are necessary or appropriate for these actions because no take is being exempted by this ITS.

### **CONSERVATION RECOMMENDATIONS**

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

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

- Monitor the effects of existing private lands management assistance programs for the black-footed ferret.
- Modify existing programs or develop new programs to provide incentives for the maintenance of prairie dog colonies on non-federal lands.
- Expand the availability of no-cost prairie dog management and plague management programs to help encourage tolerance of prairie dogs by keeping colonies confined to areas where they are tolerated or encouraged.
- Include plague management activities as cost-shareable practices within existing landowner assistance programs.

- Implement interagency public information programs to help educate the public about regulatory assurances, prairie dog management, and plague management as they pertain to black-footed ferret recovery.
- Adverse effects of possible sub-lethal exposure are unknown, and avian and mammalian reproduction studies are needed to establish a no-observable-adverse-effects concentration (i.e., "toxicity threshold") for rodenticides (Erickson and Urban (2004)).
- If prairie dog shooting will be used as a management tool in a reintroduction site, require the use of non-toxic ammunition. Furthermore, encourage the use of non-toxic ammunition if recreational shooting will be permitted on reintroduction sites.
- Limit vehicle and equipment speed to 10 miles per hour in occupied prairie dog habitat.

### **Disposition of Dead or Injured Federally Listed Species**

Upon locating dead, injured, or sick federally listed species, the animals shall be left in place, photographed if possible, and immediately reported to a local Service Law Enforcement Agent. The date, time, location, and any other relevant details shall be conveyed. Specimens (collected by authorized individuals) shall be kept cool or frozen to facilitate later examination. Sick or injured animals shall be picked up and transported by authorized individuals to a permitted local wildlife rehabilitation or veterinary facility for treatment. Care must be taken in handling sick or injured animals to ensure effective treatment.

For federally listed species located in the State of Wyoming, the local Service Ecological Services Field Office shall be notified as soon as possible at U.S. Fish and Wildlife Service, Wyoming Ecological Services Field Office, 5353 Yellowstone Road, Suite 308A, Cheyenne, WY, 82009. Phone: 307-772-2374, Fax: 307-772-2358.

The National Black-Footed Ferret Coordinator must also be notified at U.S. Fish and Wildlife Service, P.O. Box 190, Wellington, CO 80549. Phone: 970-897-2730 x 223, Fax: 970-897-2943, Mobile: 720-626-5260.

### **Reinitiation Notice**

This concludes formal consultation from the Service's Wyoming Ecological Services Field Office for a new statewide 10(j) rule to designate the black-footed ferret as a NEP in the State of Wyoming. As provided in 50 CFR § 402.16, "(R)einitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary federal involvement or control over the action has been retained or is authorized by law and:

- (a) If the amount or extent of taking specified in the incidental take statement is exceeded;
- (b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
- (c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or
- (d) If a new species is listed or critical habitat designated that may be affected by the identified action.

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**APPENDIX A. LIST OF THREATENED, ENDANGERED, CANDIDATE, AND PROPOSED SPECIES THAT OCCUR WITHIN THE ACTION AREA.**

<b>Common Name</b>	<b>Federal Status<sup>1</sup></b>	<b>Determination of Effect</b>	<b>Rationale for Determination</b>
<b>Amphibians</b>			
Wyoming toad ( <i>Bufo baxteria</i> )	E	No effect	Habitats do not overlap
<b>Birds</b>			
Greater sage-grouse ( <i>Centrocercus urophasianus</i> )	C	May affect; likely to adversely affect	See BO for more information
Least tern ( <i>Sternula antillarum</i> )	E	No effect	Habitats do not overlap
Piping plover ( <i>Charadrius melodus</i> )	T	No effect	Habitats do not overlap
Whooping crane ( <i>Grus americana</i> )	E	No effect	Habitats do not overlap
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	T	No effect	Habitats do not overlap
<b>Fish</b>			
Bonytail chub ( <i>Gila elegans</i> )	E	No effect	Habitats do not overlap
Colorado pikeminnow ( <i>Ptychocheilus lecius</i> )	E	No effect	Habitats do not overlap
Humpback chub ( <i>Gila cypha</i> )	E	No effect	Habitats do not overlap
Kendall warm spring dace ( <i>Rhinichthys osculus thermalis</i> )	E	No effect	Habitats do not overlap
Pallid sturgeon ( <i>Scaphrihynchys albus</i> )	E	No effect	Habitats do not overlap
Razorback sucker ( <i>Xyranchen texanus</i> )	E	No effect	Habitats do not overlap
<b>Flowering Plants</b>			
Blowout Penstemon ( <i>Penstemon haydenii</i> )	E	No effect	Habitats do not overlap
Colorado butterfly plant ( <i>Gaura neomexicana</i> var. <i>coloradensis</i> )	T	No effect	Habitats do not overlap
Desert yellowhead ( <i>Yermo xanthocephalus</i> )	T	No effect	Habitats do not overlap
Fremont County rockcress ( <i>Boechera pussill</i> )	C	No effect	Habitats do not overlap

Ute Ladies'-tresses ( <i>Spiranthes diluvialis</i> )	T	No effect	Habitats do not overlap
Western prairie fringed Orchid (( <i>Platanthera praeclara</i> )	T	No effect	Habitats do not overlap
Whitebark pine ( <i>Pinus albicaulis</i> )	C	No Effect	Habitats do not overlap
<b>Mammals</b>			
Black-footed ferret ( <i>Mustela nigripes</i> )	E, NEP	May affect; likely to adversely affect	See BO for more information
Canada lynx ( <i>Lynx Canadensis</i> )	T	No effect	Habitats do not overlap
Grizzly bear ( <i>Ursus arctos horribilis</i> )	T	No effect	Habitats do not overlap
Northern Long-Eared Bat ( <i>Myotis septentrionalis</i> )	E	No effect	Habitats do not overlap
Preble's meadow jumping mouse ( <i>Zapus hudsonius preblei</i> )	T	No effect	Habitats do not overlap

<sup>1</sup> T – threatened; E – endangered; C – candidate; PE - proposed endangered; PT - proposed threatened; E NEP - endangered, non-essential experimental